index page. If I push 2 – sorry, I'm going to rotate. I'm going to go to 10, but I have to remember to aim it over here. I apologize. And I select page 210, which is the stock index. I've now instructed the teletext decoder to begin looking for page 210, and when it finds page 210, it will grab that page, write it into the page memory, and in conjunction with the teletext character generator, it will display that page on the screen. And these are stock indices.

599. With respect to the UK teletext system and the structure that was eventually chosen.

A. It was determined that teletext should be structured so that:

1. There was a simple, direct relationship between the data carried on a TV line and the final display.

2. If possible one row of data was carried on a TV line.

3. The minimum number of characters on a row was 40 to achieve an acceptable amount of data to be conveyed on a page.

To achieve these conditions, the amount of address data on a TV line had to be reduced. It as decided to organize the data base in terms of:

1. Pages - a full screen of data.

2. Magazines - 100 pages.

The address information had therefore to convey the magazine number, page number and row number of the data being sent at any given time. It was also felt that page should in addition have a time code for data which was not sent cyclically.

It was clearly not possible to incorporate all this data on to every TV line, especially when field tests already indicated that an unacceptable performance would be obtained it the address information was not highly protected. Errors during the address reception could give a mixture of data from two pages. The next major step forward proposed by industry was to decide that the page and time information should be sent only on the first row (R zero–R_0) of a page of transmission.

The only essential information which had to be sent on each row was the

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> row number. However at the time the BBC believed that a more parallel transmission would be more acceptable to the users.
>
> Provision was therefore made so that, in a sequence of TV lines, data from several magazines could be transmitted. This necessitated the incorporation of the magazine number on each TV line of data. A receiver than had only to select those lines with the appropriate or selected magazine number after locating the requesting page address.
>
> In addition, it was determined that the best way to ensure proper reception of an error-free page was to require that the memory be mapped according to row number and the location of data on the row. Furthermore, there was a one-to-one relationship with the location of data on the displayed row as shown in Exhibit RX 153.
>
> If a piece of data contained an error then this data was not placed in the memory. So on first reception at a location, subject to errors, there would be some blank spaces. On the next reception it is likely that these locations with errors would be correctly received and the blanks would be filled on the second reception.
>
> There will of course be errors on the second transmission but these would not disturb the data in memory. Obviously it was possible that errors would occur at the same location two times running, but this was rare and a third transmission was rarely necessary.

(Crowther RX 142 at 12-14).

600. The paper by Bernard Marti titled, "The Concept of a Universal 'Teletext' Decoder, Microprocessor Based," from the Symposium Record of the Eleventh International Television Symposium, Session VIIA, paper 3A (the Marti paper), was published more than one year before the earliest possible effective filing date of the '277 patent. (Marti Tr at 2094 to 2058; RX 222).

601. The Marti paper refers generally to a device for decording and displaying teletext information on a standard television screen. The teletext decorder described in the Marti Paper consists of a "data acquisition unit," a "processing unit," and a "display unit." (RX 222 at 4). The data acquisition unit includes a "data demodulator" that receives a video

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signal with inserted data, a "data demodulator," and a buffer. (RX 222 at pp. 4-5). The processing unit includes a microprocessor to receive codes from the buffer and interpret them, fill the "page store" interpret inputs from the keyboard, and initialize the data demultiplexor. (RX 222 at pp. 5-6) In addition, since the purpose of the Mart device was to decode teletext information in different systems, the processing unit had the capability of running different types of teletext software (RX 222 at p. 6). Finally, the display unit contains a page store, a character generator, a display processor, and a time base (RX 222 at pp. 6-7).

602. A person with an ordinary level of skill and experience in the art is a person with a college degree in electrical engineering or computer science and several years of experience in the broadcast or cable television engineering or design field (Ciciora, Tr at 3708-09; Davis, Tr at 3115; Williams, Tr at 309).

603. A prototype of the universal decoder described in the Marti paper was built and demonstrated at a booth for one week at the Eleventh International Television Symposium in Montreux, Switzerland in mid-1979. (B. Marti, Tr at 2097-2100; RX 365; RX 392).

604. Colin Clifford published an article regarding teletext entitled "A Universal Controller For Text Display Systems" in the special issue of IEEE Transactions on Consumer Electronics, Vol. CE-25, no. 3, pp. 424-429 (RX 223), in July 1979, more than a year before the earliest possible effective filing date for the '277 patent. (RX 223).

605. Telesoftware uses the teletext system to transmit software programs to a home computer or an "intelligent" TV. (J. Hedger, RX 174 at 4, 11).

606. The telesoftware system was functional by the time John Hedger published an

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article describing the telesoftware system and basic structural elements of the prototype entitled "Telesoftware: Home Computing Via Broadcast Teletext" in IEEE Transactions on Consumer Electronics, Vol. CE-25, No. 3, pp. 279-287 (RX 175), in July 1979, more than a year before the filing date for the '277 patent. (Hedger, RX 174 at 5-6; RX 163; RX 175).

607. Hedger presented his July 1979 article to the 1979 Chicago Spring Conference of the IEEE Transactions on Consumer Electronics. (Hedger, RX 174 at 6).

608. Mr. Hedger and Ron Eason published another article describing the telesoftware system entitled "Telesoftware: Adding Intelligence to Teletext" in the Proceedings of the IEE, pp. 1412-1416 (RX 177) in December 1979, more than a year before the earliest effective filing date for the '277 patent. (Hedger, RX 174 at 7).

609. Hedger presented another paper on teletext to the 1980 Chicago Spring Conference of the IEEE Transactions on Consumer Electronics. This article entitled "Telesoftware — Value Added Teletext" was published in IEEE Transactions on Consumer Electronics, Vol. CE-26, pp. 555-567 (RX 176) in August 1980, more than a year before the earlier effective filing date for the '277 patent. (Hedger, RX 174 at 6, 7; RX 176).

610. At the 1979 and 1980 IEEE conferences there were courtesy suites where teletext systems were demonstrated. These suites were visited by television engineers and representatives of the computing industry. (Crowther, Tr at 1306-1307, 1308, 1308-1309).

611. At the 1980 IEEE conference telesoftware was demonstrated also. (Crowther Tr at 1309).

612. At the 1980 conference, Hedger demonstrated the Telesoftware prototype to the approximately 100 delegates at the conference who were mainly engineers, technicians from the industry, the set making industry, home entertainment, and electronics. (Hedger,

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RX 174 at 7, 8).

613. At the demonstration given at the 1980 conference, videotape was used to load the Telesoftware programs into the prototype unit. (Hedger, RX 174 at 8).

614. The videotape demonstrated the functionality of a number of programs which had been described in Hedger's July 1979 paper. (Hedger, RX 174 at 8, 9).

615. Hedger demonstrated the mortgage-calculation telesoftware program hundreds, perhaps thousands, of times. It was one of the more popular programs demonstrated. During his visit to the United States in 1980 alone he demonstrated it several hundred times. (Hedger, Tr at 1873-1874, RX 175 at Fig. 3, § 4; RX 176 at Fig. 3, § 4).

616. Regulations promulgated by the Federal Communications Commission concerning Radio Broadcast Services, and in particular, the vertical blanking interval of the television broadcast signal for captioning for the deaf, appear at 41 Federal Register 56321 through 56326 ("FCC Closed Captioning Regulations"). The publication date of Volume 41 of the Federal Register is December 28, 1976. (RX 219).

617. The FCC Closed Captioning Regulations appear in a printed publication that was published in this country more than one year prior to the November 3, 1981 application date of the '490 patent. (RX 219).

618. U.S. Patent No. 4,310,854 to Baer titled, "Television Captioning System" issued on January 12, 1982 with Sanders Assoc. Inc. as the named assignee ("the Baer patent). (RX 220).

619. Application Serial No. 69,483, which ultimately issued as the Baer patent, was filed on August 24, 1979. (RX 220).

620. The Baer patent was granted on an application, Serial No. 69,483, that was

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filed in the United States before the earliest claimed date of alleged invention by Harvey and Cuddihy. (RX 220).

621. The Marti system discloses the following "structure of the decoder:"

The three main parts of the decoder are:

- the data acquisition unit,
- the processing unit,
- the display unit.

3.1 - The data acquisition unit

The E B U subgroup V2 which is in charge for defining E B U recommendations in data broadcasting agreed, at its last meeting, on transmission standards which simplify the design of a multisystem decoder. The data acquisition unit is composed of three parts:

- the data demodulator receives the video signal with the data inserted in. In the case of "short prefix" systems, it receives from the data demultiplexer an information saying that it must wait for data lines only during the field blanking interval. This provision is absolutely necessary because, with a short prefix, it has been computed (see e.g. (6) or (7)) that the probability to capture at least one program line as data lines during one page transmission is 93% at the rate of 2 data lines per field. Its clock generator is adjusted to one of the values used (presently 6.2 and 6.9MHz).

  The techniques used for choosing the tuning frequency are well known as they are already used in R E demodulators.

  The output of this demodulator is a stream of demodulated serial data sliced out from the incoming video signal.

- The data demultiplexor receives the data from the demodulator and from the processing unit the following information: the value of the framing word, which indicates also, according to the E B U recommended transmission system, the kind of prefix used; the code of the data channel chosen by the user (3 bytes with the long prefix, 2 bytes for the medium prefix, 1 byte for the shortest one); when the intermediate prefix is used, an indication is necessary to say that it will be a Teletext service and, then the demultiplexor takes account of only 3 bits of the prefix. With the shortest and the longest prefix, the demultiplexor processes a format indication and transmits to the buffer from each data packets either the number of bytes indicated or the

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maximum format length if the format byte is received with a double error.

All the service bytes being Hamming protected, the demodulator checks whether they are correctly interpretable or not.

- The buffer is necessary because the instant rate of incoming data is some Mbit/s while the mean rate is some hundred times lower. The decoding unit works at a low speed and needs the incoming data flow being buffered. The capacity of this buffer, for services using only the capacity of a few lines per field may be lower than a hundred byte. But to allow a higher speed (up to the full channel) i.e. 4Mb/s to be used, a capacity of 1kbyte is preferable.

3.2 - The processing unit

The processing unit is a microprocessor with its program in a R O M (or in a R A M).

Its functions are:

- to receive the codes from the buffer,
- interpret them according to a given code table,
- to fill, consequently, the page store,
- to interpret the codes from the keypad,
- to initialize the data demultiplexor as said before.

Three different softwares may be set up:

- the Teletext software,

- The Antiope software with a general part and specific parts for handling either the data from the demultiplexor or from the modem,

- the Viewdata software.

As an example, we will give hereafter a complete description of a possible Teletext software. An Antiope software is very similar and contains in addition a processing for error correction which is out of the topic of this paper, although of a very great interest.

Other softwares may be implemented or loaded from a local memory (cassette or buble) or from the line (broadcast or telephone). Having simultaneously processing and display capabilities, such a Videotex decoder appears to be more than only that: it is a low cost communicating home terminal. In addition to their present function of providing pages, broadcasters

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and service providers of interactive data bases will be asked to provide a new king of information i.e. software. Programs for Videogames or for home computing may be thus proposed to the users. This new market will have probably a great development.

3.3 - The display unit

The display unit is composed of a page store having, as seen about 16 bits per displayed character, i.e. 16kbits, a character generator, a display processor, and a time base. The time base is able to generate 25 rows which is the smallest common basis between the two systems. The display processor receives the black and white video from the character generator and the information of the attribute bits is loaded at every character time in corresponding latches which are:

3 foreground colors,
3 background colors,
1 flash,
1 boxing,
1 conceal,
1 polarity.

The size (width and height) bits are transmitted to the time base which modify consequently its address generation process. A word of the memory (e.g. word 1001) contains information necessary for the display processor at the page level: television or Videotex mode, conceal or reveal mode.

The character generator must at least contain the union (in the sense of set theory) of the characters used by the Teletext system and of those used by the Antiope system.

In fact the addressing capability of the 16bit word as already defined in 378 different shapes plus the mosaic characters, contiguous as well as separated. It has been shown (8) that, to cover all the requirement of E B U this number is large enough and could cover as well the E B U Latin alphabets, the Greek alphabet and the Yugoslavian Cyrillic alphabets. Alternatively, some of the addressing capability could be reserved to software characters, defined by the source, whose shapes are transmitted on the line and loaded into a R A M part of the character generator.

(RX 222 at 4-7) See also Marti, Tr at 2107 - 2122).

622. Marti testified as follows regarding the disclosure of a signal with a varying location in his paper:

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Q I don't want to spend the time to go through all of the elements, but let me ask you, what did you find to be the varying location of the signal based upon which the detection of the data occurs?

A The varying location, if my interpretation of the word "location" is correct, may refer to the various lines of the television signal, some of the lines being devoted to the transport of data and some of the lines being devoted to the transport of image. And, of course, depending for instance on the mode, the VBI mode which identified a certain set of lines or the full field mode which identifies another set of lines, you have different places in the signal if I can use the word place, which I don't like, various locations if you want me to use that in the signal where you have to look for the teletext or data signals.

Q Just so I understand, why don't you like using the word place or location in this context?

A Well, because we are working on a signal and a signal is a time dependent value, not a space dependent value, and the form of the word in Latin location means space. I guess that is also a language you don't know in this court, but location comes from Latin, locus, which means a place.

(Marti, Tr at 2133).

P. Remedy And Bonding

623. James B. Ramo is Executive Vice President of DIRECTV (Ramo RX 118 at 2).

624. At the time of the September 23, 1996 residual agreement between Hitachi and DIRECTV, DIRECTV maintained approximately a 55% market share of all direct broadcasting providers. (Ramo, Tr at 1496:14-18; 1497:23-1498:17; CX 143).

625. DIRECTV has approximately 2.6 million subscribers. (Butterworth, Tr 1461).

626. William Butterworth is one of the executive vice presidents of DIRECTV (Butterworth Tr At 1461).

627. Butterworth testified (Tr at 1461):

Q Okay. Now, I believe you stated in your witness statement that DIRECTV has 2.6 million subscribers. Is that accurate?

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A Approximately, yes.

Q And approximately how much, what average number would you allocate to each of those subscribers as a monthly payment?

A Somewhere in the range of $40 probably, but that is a guess off the top of my head.

Q So, if we were to take $40 and multiply it by 2.6 million, would that be a rough estimate of how much per month?

A I guess so, yes.

628. In addition to subscription fees, DIRECTV also receives revenue from licensing its DSS trademark to IRD manufacturers. (Butterworth, Tr 1461-63).

629. When DIRECTV was launched in 1994, the average retail price for a high-end IRD was approximately $899 with the low-end IRD's selling for approximately $699. (Ramo, Tr 1517).

630. As of July 7, 1997, the average retail price of a high-end DSS IRD was approximately $299 with the low-end IRD's selling for approximately $199. (Ramo, Tr 1517).

631. {

}

(Ramo, Tr at 1505:18-1506:16; CX 135).

632. {

} (Ramo, Tr at 1516:12-1517:1).

633. USSB offers subscribers programming packages that range in price from $34.95-$7.95 a month, as well as certain promotional packages for less than those amounts. (S. Hubbard, Tr at 1824; RX 121 at 12:12-15).

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634. The average USSB subscriber pays "just under" $25 a month for USSB programming. (S. Hubbard, Tr 1824).

635. As of the end of June, 1997, there were approximately 1,450,000 USSB subscribers. (S. Hubbard, Tr 1841).

636. Stanley E. Hubbard is President and a Director of U.S. Satellite Broadcasting (USSB). (RX 121 at 2).

637. USSB grosses approximately $36.25 million dollars a month, $435 million a year, in revenue from subscription fees. (S. Hubbard, Tr 1824, 1841).

638. TCE is the main market share company for DSS receivers (Ramo Tr At 1497).

639. {

}

640. Ramo estimated that either as of July 7, 1997 date of his testimony or the September 26, 1996 date of the DIRECTV and Hitachi agreement, TCE had a 30 percent share of the total DBS market (Ramo Tr At 1496-1498).

641. Sony is second to TCE in market share of DSS IRDs. (Ramo, Tr 1504).

642. {

} (McCabe Dep., CX 325 at 81-82).

643. The FCC issued licenses to Hughes Communications Galaxy and USSB to use and operate Direct Broadcast Satellites. (RX 77; RX 78; RX 122 rev at 11; RX 90).

644. The licenses issued to Hughes Communications Galaxy and USSB by the FCC designate specific orbital positions for the satellites and the channels on which the satellites may operate. (RX 77; RX 78; RX 90).

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645. The licenses issued to Hughes Communications Galaxy and USSB by the FCC incorporate technical and performance parameter and further state that they are "[s]ubject to the provisions of the Communications Act of 1934, as amended, subsequent acts and treaties, and all regulations heretofore and hereafter made by this Commission." (RX 77 at DTV-90-4216; RX-78 at DTV-90-4221; RX 90 at USSB-90-0032, at USSB-90-0034).

646. Hughes Communications Galaxy assigned its licenses to DIRECTV with the consent of the FCC. (RX 79).

647. The royalty rate between PMC and Sony which is licensed with respect to all of PMC's issued patents and pending applications, is { }per receiver sold. (CX 12 §§ 2.1, 2.4; Metzger, Tr at 188:14-189:15). Respondents DIRECTV, Inc., United States Satellite Broadcasting Company, Inc., Hughes Network Systems and Hitachi Home Electronics (America), Inc. herein submit their objections and proposed rebuttal findings to the proposed Findings of Fact of Commission Investigative Staff.

648. As of February 23, 1997, TCE had a substantial inventory of imported DSS IRDs, which included boxes manufactured for Toshiba and Matsushita and held in inventory by TCE. (CX 255 at TCE 09000002421-2425; CX 40).

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CONCLUSIONS OF LAW

1. The Commission has in rem jurisdiction, subject matter jurisdiction and in personam jurisdiction.

2. There has been an importation of certain digital satellite system (DSS) receivers and components thereof in issue which are the subject of the unfair trade allegation.

3. An industry exists in the United States as required by subsection (a) (2) of section 337 that exploits the '277 patent in issue.

4. Respondents have failed to establish that the '277 patent is unenforceable.

5. Each of the claims in issue is invalid under 35 U.S.C. § 112, first paragraph.

6. Each of the claims in issue is invalid under 35 U.S.C. § 112, second paragraph.

7. Respondents have not established that claim 6 is invalid as anticipated under 35 U.S.C. § 102 or obvious under 35 U.S.C. § 103.

8. Respondents have established that claim 7 is invalid as anticipated under 35 U.S.C. § 102.

9. Respondents have failed to establish that claim 44 is invalid as anticipated under 35 U.S.C. § 102 or obvious under 35 U.S.C. § 103.

10. Complainant has failed to establish that users of the accused DSS receiver infringe each of the claims in issue .

11. Complainant has failed to establish contributory or induced infringement of each of the claims in issue by respondents.

12. Respondents are not in violation of section 337, based on their importation into the United States, sale for importation, and sale within the United States after important of certain

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digital satellite system (DSS) receivers and components thereof.

13. In the event the Commission finds a violation of section 337, it is recommended that a limited exclusion order issue as to accused DDS receivers imported by or on behalf of respondents TCE, HNS, Hitachi, Toshiba, and Matsushita, and cease and desist orders issue directed to TCE, HNS, Hitachi, Toshiba, and Matsushita; DIRECTV, and USSB prohibiting importations and sales after importation of accused DSS receivers and related activities.

14. In the event the Commission finds a violation of section 337, it is recommended that a bond, based upon a reasonable royalty rate, be required during Presidential review.

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ORDER

Based on the foregoing findings of fact, conclusions of law, the opinion, and the record as a whole, and having considered all of the pleadings and arguments presented orally and in briefs, as well as certain proposed findings of fact, it is the administrative law judge's final initial determination that there is no violation of section 337 in the importation into the United States, sale for importation, and the sale within the United States after importation of certain digital satellite system (DSS) receivers and components thereof. Based on the foregoing, should the Commission find a violation of section 337, the administrative law judge recommends that a limited exclusion order and certain cease and desist orders should issue and also that a bond based upon a reasonable royalty should be imposed during Presidential review.

The administrative law judge hereby CERTIFIES to the Commission his final initial and recommended determinations together with the record consisting of the exhibits admitted into evidence. The pleadings of the parties filed with the Secretary and the transcript of the hearing, including closing arguments, are not certified, since they are already in the Commission's possession in accordance with Commission rules.

Further it is ORDERED that:

1. In accordance with Commission rule 210.39, all material heretofore marked in camera because of business, financial, and marketing data found by the administrative law judge to be cognizable as confidential business information under Commission rule 201.6(a) is to be given in camera treatment continuing after the date this investigation is terminated.

2. Counsel for the parties shall have in the hands of the administrative law judge

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those portions of the final initial and recommended determinations which contain bracketed confidential business information to be deleted from any public version of said determinations, and all attachments thereto, no later than Wednesday, October 29, 1997. Any such bracketed version shall not be served by telecopy on the administrative law judge. If no such bracketed version is received from a party it will mean that the party has no objection to removing the confidential status, in its entirety, from these initial and recommended determinations.

3. The final initial determination portion of the "Initial and Recommended Determinations," issued pursuant to Commission rule 210.42(h)(2), shall become the determination of the Commission forty-five (45) days after the service thereof, unless the Commission, within forty-five (45) days after the date of such service of the initial determination portion shall have ordered review of that portion or certain issues therein or by order has changed the effective date of the initial determination portion. The recommended determination portion, issued pursuant to Commission rule 210.42(a)(1)(ii), will be considered by the Commission in reaching a determination on remedy and bonding pursuant to Commission rule 210.50(a).

Paul J. Luckern
Administrative Law Judge

Issued: October 20, 1997

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CERTAIN DIGITAL SATELLITE SYSTEM (DSS) RECEIVERS AND COMPONENTS THEREOF **Inv. No. 337-TA-392**

CERTIFICATE OF SERVICE

I, Donna R. Koehnke, hereby certify that the attached **Public Initial Determination** was served by hand upon Smith R. Brittingham, IV, Esq., and upon the following parties via first class mail, and air mail where necessary, on October 31, 1997.

Donna R. Koehnke, Secretary
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CERTAIN DIGITAL SATELLITE SYSTEM (DDS) RECEIVERS AND COMPONENTS THEREOF

Inv. No. 337-TA-392

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(PARTIES NEED NOT SERVE COPIES ON LEXIS OR WEST PUBLISHING)

The following has received notification of the issuance of an initial determination:

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OIPE JC98 MAR 07 2005 PATENT & TRADEMARK OFFICE

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C. 20436

In the Matter of

CERTAIN DIGITAL SATELLITE SYSTEM (DSS) RECEIVERS AND COMPONENTS THEREOF

Inv. No. 337-TA-392

NOTICE OF FINAL COMMISSION DETERMINATION OF NO VIOLATION OF SECTION 337 OF THE TARIFF ACT OF 1930

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has made a final determination of no violation of section 337 of the Tariff Act of 1930, as amended, in the above-captioned investigation.

FOR FURTHER INFORMATION CONTACT: Carl P. Bretscher, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-3107.

SUPPLEMENTARY INFORMATION: The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in section 210.45 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.45).

The Commission instituted this patent-based section 337 investigation on December 11, 1996, based on a complaint filed by Personalized Media Communications ("PMC") of New York, New York.[1] PMC's complaint named seven respondents: DIRECTV, Inc., United States Satellite Broadcasting Company ("USSB"); Hughes Network Systems ("HNS"); Hitachi Home Electronics (America) Inc. ("Hitachi"); Thomson Consumer Electronics, Inc. ("Thomson"); Toshiba America Consumer Productions, Inc. ("Toshiba"); and Matsushita Electric Corporation of America ("Matsushita"). DIRECTV, USSB, HNS, and Hitachi will be collectively referred to as the "broadcaster respondents" or "broadcasters," while Thomson, Toshiba, and Matsushita will be collectively referred to as the "manufacturing respondents."

At issue are PMC's allegations that the broadcaster and manufacturing respondents violated section 337 by importing into the United States, selling for importation, and/or selling

[1] Notice of Investigation, 61 *Fed. Reg.* 66,695-96 (Dec. 18, 1996).

within the United States after importation certain digital satellite system ("DSS") receivers and components thereof that infringe claims 6, 7, and/or 44 of U.S. Letters Patent 5,335,277 ("the '277 patent"), owned by PMC. Other claims originally asserted by PMC were either withdrawn (claims 3, 12, and 15) or were found to be invalid as anticipated under 35 U.S.C. § 102, on respondents' motion for summary judgment (claim 35).

The presiding administrative law judge (ALJ) held an evidentiary hearing from June 30, 1997, to July 12, 1997. On October 20, 1997, the ALJ issued his final initial determination ("ID"), in which he concluded that there was no violation of section 337, based on his findings that: (a) each of claims 6, 7, and 44 is invalid as indefinite under 35 U.S.C. § 112, ¶ 2; (b) each of claims 6, 7, and 44 is invalid as non-enabled under 35 U.S.C. § 112, ¶ 1; (c) claim 7 is invalid as anticipated under 35 U.S.C. § 102; and (d) PMC failed to show that the accused receivers and components infringed any of claims 6, 7, or 44, either directly or through contributory or induced infringement. The ALJ rejected other invalidity and unenforceability defenses raised by respondents and found that PMC satisfied the domestic industry requirement.

On October 31, 1997, PMC filed a petition for review of the ID, arguing that the ALJ erred in finding that each of claims 6, 7, and 44 is invalid as indefinite and non-enabled, and further erred in finding that the accused receivers and components do not infringe any of the claims at issue. The manufacturing and broadcaster respondents filed separate contingent petitions for review, asserting that the Commission should also review the ALJ's findings rejecting certain invalidity and inequitable conduct arguments, provided the Commission grants PMC's petition for review. The broadcaster respondents also requested that the Commission reverse the ALJ's refusal to allow the testimony of their expert witness David Stewart and his rejection of their offer of proof. The Commission investigative attorney did not file a petition for review and, in his response to the petitions for review, generally supported the major findings in the ID.

Having reviewed the record in this investigation, including the parties' written submissions, the Commission determined not to review, and thereby adopted, the ALJ's construction of each of the claims at issue, and his findings that: (1) each of claims 6, 7, and 44 is invalid as indefinite under 35 U.S.C. § 112, ¶ 2; (2) the accused receivers and components do not infringe any of the three claims at issue, either directly or through contributory or induced infringement; and (3) there is consequently no violation of section 337. The Commission took no position on the remaining issues addressed in the ID. Finally, the Commission affirmed the decision of the ALJ to refuse to allow the Stewart testimony and to reject the broadcaster respondents' offer of proof.

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Copies of all nonconfidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. Hearing impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal at (202) 205-1810.

By order of the Commission.

Donna R. Koehnke

Donna R. Koehnke
Secretary

Issued: December 4, 1997

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CERTAIN DIGITAL SATELITE SYSTEMS RECEIVERS AND COMPONENTS THEREOF 337-TA-392

PUBLIC CERTIFICATE OF SERVICE

I, Donna R. Koehnke, hereby certify that the attached Notice of Commission Determination of No Violation of Section 337 of the the Tariff Act of 1930 was served upon the following parties via first class mail, and air mail where necessary, on December 5, 1997.

Donna R. Koehnke

Donna R. Koehnke, Secretary
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PATENT & TRADEMARK OFFICE

United States Court of Appeals for the Federal Circuit

98-1160

PERSONALIZED MEDIA COMMUNICATIONS, LLC,

Appellant,

v.

INTERNATIONAL TRADE COMMISSION,

Appellees,

and

DIRECTV, INC., UNITED STATES SATELLITE BROADCASTING CO.,
HUGHES NETWORK SYSTEMS, and
HITACHI HOME ELECTRONICS (AMERICA), INC.,

Intervenors,

and

THOMSON CONSUMER ELECTRONICS, INC.,
TOSHIBA AMERICA CONSUMER PRODUCTS, INC., and
MATSUSHITA ELECTRIC CORPORATION OF AMERICA,

Intervenors.

DECIDED: November 24, 1998

Before RICH, MICHEL and LOURIE, Circuit Judges.

LOURIE, Circuit Judge.

Personalized Media Communications, LLC ("PMC") appeals from the final determination of the United States International Trade Commission ("the Commission")

that claims 6, 7, and 44 of PMC's patent are not infringed and are invalid for indefiniteness. See In re Certain Digital Satellite Sys. (DSS) Receivers & Components Thereof, No. 337-TA-392 (Int'l Trade Comm. Oct. 20, 1997) (Initial Determination), aff'd in part, (Int'l Trade Comm. Dec. 4, 1997) (Final Determination). Because the Commission erred in concluding that the asserted claims are invalid for indefiniteness and that claim 7 was not infringed, but did not err in concluding that claim 6 was not infringed, we affirm-in-part, reverse-in-part, vacate-in-part, and remand. We decline to address PMC's argument concerning infringement of claim 44.

BACKGROUND

A. The Patented Technology

PMC is the assignee of United States Patent 5,335,277, which pertains generally to systems for use in television broadcasting. The '277 patent specification is quite long; it spans 328 columns and 22 drawing sheets, and contains numerous embodiments of the claimed inventions. Only those embodiments that are necessary to understand the claims at issue are described herein.

The system of the '277 patent includes a unique receiver station that detects and manipulates digital control signals that are embedded in a complex broadcast or cablecast transmission. The specification highlights several benefits that result from the detection and use of the control signals. For example, the control signals can be detected by receiver stations and used to select a specific program from a multi-channel programming transmission. See '277 patent, col. 17, l. 63 to col. 18, l. 2. The control signals can alternatively be used to remotely control the operation of peripheral devices such as VCRs. See id., col. 10, ll. 34-39.

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As explained in the specification, a given broadcast can contain several control signals which appear at varying "locations" within the broadcast:

> In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once. They may appear in various and varying locations. In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval,[1] or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. . . . In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that [the] receiver apparatus must assemble in order to receive one complete instruction.

Id., col. 9, l. 61 to col. 10, l. 16. Because the location of a given control signal can vary within the transmission, a controller within the system can be programmed or "preinformed" with this location information or other information concerning the control signal in order to identify only the relevant control signal while disregarding other signals. This is also explained in the specification, which notes that "the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are [sic] preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly." Id., col. 9, ll. 43-47.

These aspects of the disclosure are addressed in asserted claims 6 and 7 of the '277 patent, which read as follows:

> 6. A system for identifying a predetermined signal in a television program transmission in which a plurality of signal types are transmitted[,] said signal being transmitted in a varying location or a varying timing

[1] Although the patent specification is not clear as to the meaning of the words "vertical interval," a term of art, we understand them to refer to a portion of the video broadcast that is not normally visible on a television set.

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pattern, said television program transmission being separately defined from standard analog video and audio television, said system comprising:

a digital detector for receiving said transmission and detecting said predetermined signal in said transmission based on either a specific location or a specific time; and

a controller operatively connected to said detector for causing said detector to detect said predetermined signal based on either a specific location or time, said controller being programmed with either the varying locations or the varying timing pattern of said signal.

7. A system for locating or identifying a specific signal in a television program transmission that contains digital information and for assembling information contained in said specific signal, said transmission being separately defined from standard analog video and audio television, said system comprising:

a digital detector for receiving at least some information of said transmission and detecting said specific signal at a specific location or time;

a storage device operatively connected to said digital detector for receiving detected digital information of said specific signal and assembling at least some of said digital information into either information or instruction message units; and

a controller operatively connected to said detector and said storage device for causing said detector to locate, detect or output said signal and for controlling a technique used by said storage device to assemble message units, said controller being programmed with information of the composition of said signal or with either the varying location or the varying timing pattern of said signal.

Another aspect of the disclosed system relates to the ability to create a "video overlay." In one example provided in the specification, viewers see a user-customized version of a weekly television program "Wall Street Week" in which the performance of their personal stock portfolios is shown as a video overlay on top of a graph showing the market's overall performance. The details of this procedure are explained as follows:

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> [The TV monitor] displays the conventional television image and the sound of the transmitted "Wall Street Week" program. During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. FIG. 1B shows the image of said graphic as it appears on the video screen of the TV monitor. Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by [the decoder at the receiver station], transferred to [the microcomputer,] and executed by the microcomputer [] at the system level as the statement, "GRAPHICS ON." Said signal instructs [the microcomputer] to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to [the TV monitor]. [The TV monitor] then displays the image shown in FIG. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

Id., col. 16, ll. 21-48. Other embodiments disclose the use of a "local input" that may be used by the customer to interact with the programming content in a more flexible manner. See, e.g., id., col. 161, l. 53 et seq.

These aspects of the disclosure are addressed in asserted claim 44, which reads as follows:

> 44. A television receiver system comprising:
>
> a television receiver for receiving a selected broadcast or cable cast television transmission and transferring television programming in said transmission to a television display;
>
> an input device for inputting information of the reaction of a viewer to specific television program content;
>
> a digital detector operatively connected to a mass medium receiver for detecting digital information in a mass medium transmission and transferring some of said detected information to a processor[;]
>
> a processor operatively connected to said detector and said input device for generating and outputting information of a video overlay that is related to said television programming or said reaction information; and

a television display device operatively connected to said processor for receiving and displaying said video overlay.

B. The Proceedings Before the Commission

PMC filed a complaint with the Commission asserting that the various Intervenors[2] herein were importing Digital Satellite Systems (DSSs) that infringed claims 6, 7, and 44 of PMC's '277 patent in violation of 19 U.S.C. § 1337(a) (1994) ("Section 337"). In response, the Commission instituted an investigation on December 18, 1996, see 61 Fed. Reg. 66695-96 (1996), which culminated in a 450-page Initial Determination in which the Administrative Law Judge (ALJ) recommended that the Commission conclude that Section 337 had not been violated. Specifically, the ALJ concluded that: (1) the asserted claims were invalid as indefinite under 35 U.S.C. § 112, ¶ 2; (2) the asserted claims were invalid as not enabled under 35 U.S.C. § 112, ¶ 1; (3) claim 7 is invalid as anticipated under 35 U.S.C. § 102; and (4) no asserted claim was infringed. PMC petitioned the Commission to review the Initial Determination. The Commission determined not to review, and thereby adopted, the ALJ's various claim constructions and his conclusions that the claims were indefinite and not infringed. See Final Determination at 2. However, the Commission took "no position" on the remaining issues addressed in the Initial Determination. See id. Accordingly, only the ALJ's claim construction, indefiniteness, and noninfringement determinations are before this court.[3]

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[2] Because the Intervenors and the Commission generally make the same arguments to this court in support of the Commission's decision, we refer to them collectively for convenience as "the Commission."

[3] See Beloit Corp. v. Valmet OY, 742 F.2d 1421, 1423, 223 USPQ 193, 194 (Fed. (continued . . .)

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1. Indefiniteness

The ALJ's indefiniteness determination turned upon his conclusion that the claim limitation "digital detector for . . . ," a limitation appearing in all of the asserted claims, constituted a means-plus-function limitation to be construed in accordance with 35 U.S.C. § 112, ¶ 6 (1994). The ALJ interpreted this limitation to be "a functional phrase, not limited to particular structure." Initial Determination at 82. The ALJ first consulted dictionary definitions, but found that "dictionary definitions of 'detector,' digital,' and 'digital circuit' do not resolve the question whether the entire phrase digital detector conveys specific structure to one of ordinary skill in the art." Id. at 67. The ALJ also found that the specification lacked a "specific structure" for a "digital detector," but instead merely described a digital detector in functional terms, i.e., as a device that "acts to detect the digital signal information embedded in [the information which constitutes the video transmission]." Id. at 70 (citing '277 patent, col. 21, ll. 46-47).[4] Finally, the ALJ referenced the testimony of various experts to the effect that while one of ordinary skill would understand a "digital detector" to refer to a detector of digital information, the phrase lacked a specific structure and could not be built by those of ordinary skill. See id. at 73-82.

Having concluded that the scope of the term "digital detector" was governed by § 112, ¶ 6, the ALJ consulted the specification to determine whether it contained

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Cir. 1984) (noting that the Commission may at its discretion review only certain dispositive issues resolved in the Initial Determination).

[4] Apart from similar textual descriptions, the specification does not detail the circuitry comprising a "digital detector." The relevant figures disclose "digital detectors" merely as functional blocks. See '277 patent, Fig. 2A.

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corresponding structure, but, as already mentioned, found none. Accordingly, and relying on In re Dossel, 115 F.3d 946, 42 USPQ2d 1881 (Fed. Cir. 1997),[5] the ALJ concluded that the term "digital detector" was indefinite and held the claims invalid.

2. Noninfringement

a. Claims 6 and 7

The ALJ considered two arguments concerning infringement by the accused DSSs. The first turned on PMC's proffered construction of the claim term "location." The ALJ concluded, based in large part on the portion of the specification quoted supra, that the term "location" included "a line, or lines, or portion of a line in the vertical interval of a television video transmission, or a frequency within the audio range of a television transmission." Initial Determination at 88. Accordingly, the ALJ rejected PMC's argument that the term "location" refers to the "carrier wave"[6] of the control

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[5] In Dossel, we stated that a claim containing a means-plus-function element will generally be held indefinite if the specification does not contain an adequate disclosure of structure corresponding to the function of the claims. See Dossel, 115 F.3d at 946, 42 USPQ2d at 1885 (citing In re Donaldson Co., 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) (en banc)). Despite this general rule, in Dossel we held, on "specific facts," a means-plus-function claim not invalid for indefiniteness under § 112, ¶ 2 even though the algorithmic structure corresponding to "means for reconstructing" was not specifically disclosed in the written description. See id. at 946-47, 42 USPQ2d at 1885 ("Neither the written description nor the claims uses the magic word 'computer,' nor do they quote the computer code that may be used in the invention. . . . [However, w]hile the written description does not disclose exactly what mathematical algorithm will be used to compute the end result, it does state that 'known algorithms' can be used to solve standard equations which are known in the art."). The ALJ here found Dossel's "specific facts" distinguishable from the present case. See Initial Determination at 140.

[6] Understanding PMC's argument requires a brief explanation of television broadcast technology. When a television program is broadcast, the program information or "baseband" signal is enveloped within a "carrier wave" whose frequency corresponds to a particular television channel. This process is known as "modulation." When the modulated signal is received at a given television set, the tuner of the set is (continued . . .)

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signal of the claims; and therefore that selection of a given carrier wave in a multi-channel transmission is a selection of a control signal based on its location. See id. at 93. The ALJ, inter alia, found PMC's proffered construction to conflict with the requirement of the claims that the control signal appear in a "television program transmission," which the ALJ construed as referring to a single-channel and not a multi-channel transmission. Id. at 89-90.

The second infringement argument concerned the use of Service Channel IDs (SCIDs) in the accused DSSs. The function of a SCID was explained by a witness for one of the intervenors as follows:

> [A] single data stream [comes] into the tuner, demodulator, and Forward Error Correction circuitry. After this point, the single data stream goes into the Transport IC, where the individual packets of data . . . are looked at and, if the SCID of the packet matches the SCID of the selected channel, those video and audio data packets are then [decoded]. There is no location or timing pattern associated with the data processing. These packets arrive in a[n] unpredictable order with unpredictable timing.

Id. at 228. Central to the ALJ's conclusion that the SCID does not constitute the control signal of the claims and thus does not infringe was his conclusion that the SCID is "information of the 'composition'[7] of a signal; rather than its 'location.'" Id. at 228. The

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used to select a given carrier wave in accordance with its frequency. The selected carrier wave is then "demodulated" such that the carrier wave is in essence stripped away, revealing the baseband signal, which is then used directly by the circuitry of the set to display the picture.

[7] The specification provides insight into what constitutes the "composition" of signal information. For example, one signal's composition commences with "header" information, followed by an "execution segment," a "meter-monitor segment," and an "information segment." See '277 patent, col. 27, ll. 37-47.

The ALJ concluded that the "header" information disclosed in the '277 patent was "the equivalent of" the SCID of the accused devices. See Initial Determination at 229.

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ALJ was assisted in this conclusion by the fact that claim 7 draws a distinction between a signal's composition and its location.[8] The ALJ thus concluded that the accused DSSs did not identify the SCID at a "specific location" and therefore did not infringe either claim 6 or 7. See id. at 230, 233.

b. Claim 44

PMC's theory concerning infringement of claim 44 was summarized by the ALJ as follows:

> [PMC argues] that a user of the accused DSS system may be tuned to a pay-per-view channel on which the DBS broadcast is intended to solicit the viewer to buy the program by displaying film clips from the movie as well as discussions with the director and actors; that if the viewer presses the appropriate button on the keypad of the remote control, indicating that the user wants more information about the program, the processor in the DSS receivers will generate an overlay displaying additional information about the program such as the start time, title and rating of the program; that the DSS receivers display video overlays related to "the television program" such as an information banner, which includes [similar information]; and that the DSS receivers display the Program Guide, which is a video overlay displaying [similar information] and is generated in response to the viewer pressing the appropriate button on the remote control.

Id. at 234. The ALJ found that the accused DSSs did not infringe claim 44 because they did not "have the capacity to generat[e] and output[] information of the video overlay that is related to 'said television programming' or 'said reaction information' as required by claim 44." Id. at 235 (emphasis in original). More specifically, the ALJ found that

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[8] Claim 7 reads in relevant part: "said controller being programmed with information of the composition of said signal or with either the varying location or the varying timing pattern of said signal." (emphasis added).

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> it is undisputed that when the DSS system is in use, i.e., receiving a "mass-medium transmission" and generating a "video overlay," the [portion of the DSS system that corresponds to the claimed "television receiver"] is not capable of receiving a "television transmission[" , and] therefore [cannot] transfer "television programming" from said transmission to the ["television display"].

Id. at 235-36.

PMC appealed the judgment to this court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(6) (1994).

DISCUSSION

We review factual findings of the Commission under the "substantial evidence" standard. See 19 U.S.C. § 1337(c) (1994) (stating that those adversely affected by a Section 337 determination may appeal to this court for review in accordance with chapter 7 of Title 5); 5 U.S.C. § 706(2)(E) (1994) (setting forth the "substantial evidence" standard of review); Intel Corp. v. United States Int'l Trade Comm'n, 946 F.2d 821, 832, 20 USPQ2d 1161, 1171 (Fed. Cir. 1991). Under this standard, we will not disturb the Commission's factual findings if they are supported by "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." Surface Tech., Inc. v. United States Int'l Trade Comm'n, 801 F.2d 1336, 1340-41, 231 USPQ 192, 196 (Fed. Cir. 1986). We review the Commission's legal determinations de novo. See 5 U.S.C. § 706(2)(A) (1994); YBM Magnex, Inc. v. International Trade Comm'n, 145 F.3d 1317, 1320, 46 USPQ2d 1843, 1845 (Fed. Cir. 1998).

"An infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing." Markman

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v. Westview Instruments, Inc., 52 F.3d 967, 976, 34 USPQ2d 1321, 1326 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370, 38 USPQ2d 1461 (1996). The first step, claim construction, is a question of law which we review de novo. See Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456, 46 USPQ2d 1169, 1174 (Fed. Cir. 1998) (en banc). The second step is factual. See North Am. Vaccine, Inc. v. American Cyanamid Co., 7 F.3d 1571, 1574, 28 USPQ2d 1333, 1335 (Fed. Cir. 1993). When construing a claim, a court principally consults the evidence intrinsic to the patent, viz., the claims themselves, the written description portion of the specification, and the prosecution history. See Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582-83, 39 USPQ2d 1573, 1576-77 (Fed. Cir. 1996). Whether certain claim language invokes 35 U.S.C. § 112, ¶ 6 is an exercise in claim construction and is therefore a question of law, reviewable de novo by this court. See Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1213-14, 48 USPQ2d 1010, 1016-17 (Fed. Cir. 1998) (embarking upon de novo review). Likewise, whether a claim is indefinite under 35 U.S.C. § 112, ¶ 2 is also a question of law, reviewable de novo by this court. See North Am. Vaccine, Inc. v. American Cyanamid Co., 7 F.3d 1571, 1579, 28 USPQ2d 1333, 1339 (Fed. Cir. 1993).

A. Applicability of 35 U.S.C. § 112, ¶ 6

PMC argues that the Commission erred in construing the "digital detector" limitation as a means-plus-function limitation under 35 U.S.C. § 112, ¶ 6. In support, PMC contends that the term "digital detector" recites sufficiently definite structure to prevent the application of § 112, ¶ 6 under our case law. PMC also points out that our case law makes clear that § 112, ¶ 6 should not be invoked merely because this structure takes its name in accordance with its function. Finally, PMC argues that the

lack of the term "means" in this limitation invokes a presumption that § 112, ¶ 6 does not apply. The Commission responds that the evidence of record makes it clear that one of ordinary skill in the electrical arts would not have understood the term "digital detector" to connote a definite structure, and therefore that this limitation is defined entirely by the functional language that follows the language "digital detector for . . . ." Accordingly, they contend that § 112, ¶ 6 is applicable to this limitation.

Section § 112, ¶ 6 provides that

> [a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, ¶ 6 (1994) (emphasis added). Thus, § 112, ¶ 6 operates to restrict claim limitations drafted in such functional language to those structures, materials, or acts disclosed in the specification (and their equivalents) that perform the claimed function.

We have had several recent opportunities to assess whether certain claim language has invoked § 112, ¶ 6. In Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 39 USPQ2d 1783 (Fed. Cir. 1996), we were presented with the claim language "detent mechanism defining conjoint rotation of said shafts." In deciding that § 112, ¶ 6 was not invoked, we stated

> [T]he fact that a particular mechanism—here "detent mechanism"—is defined in functional terms is not sufficient to convert a claim element containing that term into a "means for performing a specified function" within the meaning of [§ 112, ¶6]. Many devices take their names from the functions they perform. The examples are innumerable, such as "filter," "brake," "clamp," "screwdriver," or "lock." . . . .

> "Detent" (or its equivalent "detent mechanism") is just such a term. Dictionary definitions make clear that the noun "detent" denotes a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms. It is true that "detent" does not call to mind a single well-defined structure, but the same could be said of other commonplace structural terms such as "clamp" or "container." What is important is not simply that a "detent" or "detent mechanism" is defined in terms of what it does, but that the term, as the name for structure, has a reasonably well understood meaning in the art.

Greenberg, 91 F.3d at 1583, 39 USPQ2d at 1786 (citations omitted). We also made clear that use of the term "means" is central to the analysis: "the use of the term 'means' has come to be so closely associated with 'means-plus-function' claiming that it is fair to say that the use of the term 'means' (particularly as used in the phrase 'means for') generally invokes [§ 112, ¶ 6] and that the use of a different formulation generally does not." Id. at 1584, 39 USPQ at 1787.

Subsequent cases have clarified that use of the word "means" creates a presumption that § 112, ¶ 6 applies, see York Prods., Inc. v. Central Tractor, 99 F.3d 1568, 1574, 40 USPQ2d 1619, 1623 (Fed. Cir. 1996) ("In determining whether to apply the statutory procedures of [§ 112, ¶ 6], the use of the word 'means' triggers a presumption that the inventor used this term advisedly to invoke the statutory mandates for means-plus-function clauses."),[9] and that the failure to use the word "means" creates

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[9] See also Unidynamics Corp. v. Automatic Prods. Int'l, Ltd., 157 F.3d 1311, 1319, 48 USPQ2d 1099, 1104 (Fed. Cir. 1998) (holding that the claim language "spring means tending to keep the door closed" invokes § 112, ¶ 6: "the recitation of 'spring,' which is structural language, [does not take] the limitation out of the ambit of the construction dictate of § 112, ¶ 6."); Serrano v. Tellular Corp., 111 F.3d 1578, 1582, 42 USPQ2d 1538, 1541 (Fed. Cir. 1997) (holding that the claim language "determination means . . . for determining" invokes § 112, ¶ 6); Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1536, 19 USPQ2d 1367, 1369 (Fed. Cir. 1991) (holding that the claim (continued . . .)

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a presumption that § 112, ¶ 6 does not apply, see Mas-Hamilton, 156 F.3d at 1213, 48 USPQ2d at 1016. These presumptions can be rebutted if the evidence intrinsic to the patent and any relevant extrinsic evidence so warrant.[10] See, e.g., Cole v. Kimberly-Clark Corp., 102 F.3d at 524, 531, 41 USPQ2d 1001, 1006 (Fed. Cir. 1996) (noting that whether § 112, ¶ 6 is invoked involves an analysis of the "patent and the prosecution history," and consulting a dictionary definition of "perforation" to understand if one of

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language "means for joining said pluralities [of link ends] to one another so that the axes of [certain holes are arranged in certain configurations]" invokes § 112, ¶ 6: "The recitation of some structure in a means-plus-function element does not preclude the applicability of [§ 112, ¶ 6 when it] merely serves to further specify the function of the means. The recited structure tells only what the means-for-joining does, not what it is structurally.") (emphasis in original).

[10] See, e.g., Mas-Hamilton, 156 F.3d at 1214, 48 USPQ2d at 1017 (holding that the claim language "lever moving element for moving the lever" invokes § 112, ¶ 6: "even though the catch phrase ['means for'] is not used, the limitation's language does not provide any structure. The limitation is drafted as a function to be performed rather than definite structure or materials."); id. at 1215, 48 USPQ2d at 1017 (holding that the claim language "a movable link member for . . . " invokes § 112, ¶ 6); York, 99 F.3d at 1573-75, 40 USPQ2d at 1623-24 (holding that the claim language "means formed on the . . . sidewall portions including a plurality of spaced apart . . . members protruding from the . . . sidewall portions and forming load lock . . ." did not invoke § 112, ¶ 6: "The claim language does not link the term means to a function. . . Instead, the claim recites structure. . . . Without a 'means' sufficiently connected to a recited function, the presumption in use of the word 'means' does not operate."); Cole v. Kimberly-Clark Corp., 102 F.3d at 524, 531, 41 USPQ2d 1001, 1006-07 (Fed. Cir. 1996) (holding that the claim language "perforation means extending from the leg band means to the waist band means through the outer impermeable layer means" did not invoke § 112, ¶ 6: this language "describes the structure supporting the tearing function (i.e., perforations). The claim describes not only the structure that supports the tearing function, but also its location (extending from the leg band to the waist band). An element with such a detailed recitation of structure, as opposed to its function, cannot meet the requirements of [§ 112, ¶ 6]."); see also Unidynamics, 157 F.3d at 1319, 48 USPQ2d at 1105 (distinguishing Cole: "[We held that the claim limitation in Cole] did not meet the requirement of § 112, ¶ 6 because it not only described definite structure, perforations, that supported the described function, tearing, but also described the location and extent of the structure. Here, spring is the only recitation of structure . . . .") (citation omitted).

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skill in the art would understand this term to connote structure). In deciding whether either presumption has been rebutted, the focus remains on whether the claim as properly construed recites sufficiently definite structure to avoid the ambit of § 112, ¶ 6. See Sage Prods. v. Devon Indus., Inc., 126 F.3d 1420, 1427-28, 44 USPQ2d 1103, 1109 (Fed. Cir. 1997) ("[W]here a claim recites a function, but then goes on to elaborate sufficient structure, material, or acts within the claim itself to perform entirely the recited function, the claim is not in means-plus-function format" even if the claim uses the term "means").

Taking these principles into consideration, we agree with PMC that the Commission erred in construing the term "digital detector" as a means-plus-function limitation. The "digital detector" limitation does not use the word "means," and therefore this limitation is presumed not to invoke § 112, ¶ 6. Neither intrinsic nor extrinsic evidence rebuts this presumption because the term "detector" is a sufficient recitation of structure. "Detector" is not a generic structural term such as "means," "element," or "device"; nor is it a coined term lacking a clear meaning, such as "widget" or "ram-a-fram."[11] Instead, as noted by the ALJ by reference to dictionary definitions, "detector" had a well-known meaning to those of skill in the electrical arts connotative of structure, including a rectifier or demodulator.[12] No other extrinsic evidence, including the expert

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[11] The latter of these terms was creatively coined by Judge Michel at oral argument in this case.

[12] For example, the ALJ quoted the following dictionary definition of "detector": "'(1) : a device for determining the presence of a signal (2) : a rectifier of high-frequency current (as a cat whisker and crystal or a vacuum tube) (3) : a device for extracting the intelligence from a signal (4) DEMODULATOR 1.'" Initial Determination at 66 (citation to Webster's omitted).

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testimony, and no evidence intrinsic to the patent casts doubt on this conclusion. Moreover, neither the fact that a "detector" is defined in terms of its function, nor the fact that the term "detector" does not connote a precise physical structure in the minds of those of skill in the art detracts from the definiteness of structure. See Greenberg, 91 F.3d at 1583, 39 USPQ2d at 1786 (quoted supra). Even though the term "detector" does not specifically evoke a particular structure, it does convey to one knowledgeable in the art a variety of structures known as "detectors." We therefore conclude that the term "detector" is a sufficiently definite structural term to preclude the application of § 112, ¶ 6.

Much of the ALJ's analysis (and the Commission's arguments to this court) centered around the ambiguity raised by the phrase "digital detector." However, an adjectival qualification ("digital") placed upon otherwise sufficiently definite structure ("detector") does not make the sufficiency of that structure any less sufficient for purposes of § 112, ¶ 6. Instead, it further narrows the scope of those structures covered by the claim and makes the term more definite. The use of the word "digital" in conjunction with the word "detector" merely places an additional functional constraint (extraction of digital information) on a structure (detector) otherwise adequately defined. See, e.g., '277 patent, col. 21, ll. 46-47 (defining "digital detector" as a device that "acts to detect the digital signal information" in other information). Accordingly, we hold that the "digital detector" limitations in asserted claims 6, 7, and 44 recite sufficiently definite structure and therefore do not come within the ambit of § 112, ¶ 6.

B. Indefiniteness

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Having decided that § 112, ¶ 6 does not apply to the "digital detector" limitation of the asserted claims, much of the support for the ALJ's rationale for declaring the claims invalid under Donaldson and Dossel disappears: See note 5, supra. However, the Commission still contends that the term "digital detector" is indefinite irrespective of the applicability of § 112, ¶ 6. Specifically, it contends that the evidence of record, particularly the expert testimony relied on by the ALJ, shows that the term "digital detector" has no well-understood meaning in the art and is therefore indefinite. PMC disagrees with the Commission's assessment of the evidence and argues that the term "digital detector" has a well-understood meaning in the art. PMC also contends that the specification clearly apprises one of ordinary skill of the scope of the term.

As mandated by the definiteness requirement of 35 U.S.C. § 112, ¶ 2, a specification shall include claims "particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention" (emphasis added). Determining whether a claim is definite requires an analysis of "whether one skilled in the art would understand the bounds of the claim when read in light of the specification . . . . If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more." Miles Lab., Inc. v. Shandon, Inc., 997 F.2d 870, 875, 27 USPQ2d 1123, 1126 (Fed. Cir. 1993). A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims. Cf. North Am. Vaccine, Inc. v. American Cyanamid Co., 7 F.3d 1571, 1579, 28 USPQ2d 1333, 1339 (Fed. Cir. 1993) ("[W]hile the parties in the midst of a dispute have disagreed concerning the meaning of the claims, the claims are not so lacking in clarity as to be invalid [as indefinite].").

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We agree with PMC and conclude that the Commission erred in holding the asserted claims to be indefinite. Here, the written description of the specification is sufficient to inform one skilled in the art of the meaning of the claim language "digital detector." It explicitly defines a "digital detector" as a device that "acts to detect the digital signal information" in another stream of information.[13] See '277 patent, col. 21, ll. 46-47 (detection of digital signal in video transmission); id. at ll. 59-60 (detection of digital signal in audio transmission); id. at ll. 63-65 (detection of digital signal in "any other information portion of said television signal"); see also Beachcombers, Int'l, Inc. v. WildeWood Creative Prods., Inc., 31 F.3d 1154, 1158-59, 31 USPQ2d 1653, 1656-57 (Fed. Cir. 1994) (vacating jury verdict of indefiniteness in light of clear definition of disputed claim limitation in the written description); W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1557, 220 USPQ 303, 316 (Fed. Cir. 1983) ("The use of 'stretching . . . at a rate exceeding about 10% per second' in the claims is not indefinite. Infringement is clearly assessable through the use of a stopwatch.") (deletion in original).

The expert testimony relied upon by the parties does not alter this conclusion. Extrinsic evidence may not be relied upon during claim construction when the intrinsic evidence unambiguously defines the disputed claim language. See Bell & Howell Document Management Prods. Co. v. Altek Sys., 132 F.3d 701, 706, 45 USPQ2d 1033,

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[13] Because the written description clearly defines the scope of the term "digital detector," we reject PMC's proffered construction of this phrase to mean "demodulation circuitry for extracting digital information from a carrier signal." PMC's Opening Brief at 26.

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1038 (Fed. Cir. 1997). Accordingly, because the meaning of the term "digital detector" is unambiguously set forth in the specification, the expert testimony on this issue is irrelevant to the issue of indefiniteness and cannot serve to inject ambiguity where none exists.

The Commission makes much of the fact that the specification is otherwise silent concerning the structure of a "digital detector," and it notes that the "digital detectors" of the circuit diagrams do not reveal circuit elements constituting such a device, but only portray these devices as mere functional blocks. See, e.g., '277 patent, Fig. 2A. Moreover, the Commission relies on expert testimony stating generally that a "digital detector" was not adequately disclosed in the patent and could not be built by those of ordinary skill. See, e.g., Initial determination at 77 (testimony of Ciciora: "there is no clue that any engineer of ordinary skill . . . could begin to put pencil to paper and say here is how I would build the contents of [the digital detector] block. It is completely underspecified."); id. at 79 (testimony of Williams: "[The patent] shows a digital detector. It does not go into detail of how it may work . . . .").

We conclude that the evidence relied upon by the Commission does not indicate imprecision of the claims. Instead, it is relevant, if at all, only to the sufficiency of the written description to enable the practice of the invention of the claims, which is a ground of invalidity under § 112, ¶ 1.[14] See In re Borkowski, 422 F.2d 904, 909, 164 USPQ 642, 645-46 (CCPA 1970) (noting that a claim of clear scope that is not

[14] "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms (continued . . .)

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adequately supported by an enabling disclosure commensurate with that scope is objectionable under § 112, ¶ 1, not § 112, ¶ 2); In re Ehrreich, 590 F.2d 902, 906, 200 USPQ 504, 508 (CCPA 1979) ("[§ 112, ¶ 2] pertains only to claims. . . . Agreement, or lack thereof, between the claims and the specification is properly considered only with respect to [§ 112, ¶ 1]; it is irrelevant to compliance with [§ 112, ¶ 2]"); cf. Miles Labs., Inc. v. Shandon, Inc., 997 F.2d 870, 875, 27 USPQ2d 1123, 1126 (Fed. Cir. 1993) (dismissing the defendant's argument as "irrelevant to definiteness under § 112, ¶ 2. The invention's operability may say nothing about a skilled artisan's understanding of the bounds of the claim. [Defendant's] argument is possibly relevant, however, to the enablement requirement of § 112, ¶ 1, or to utility under § 101."). We are aware that the ALJ held the claims invalid under § 112, ¶ 1 for lack of enablement, specifically focusing on the "digital detector" limitation.[15] However, we express no opinion on any theory of invalidity under § 112, ¶ 1 because such a ground of decision is not before us as it was not reviewed by the Commission. See note 3, supra, and accompanying text. In any event, citation of evidence bearing solely on § 112, ¶ 1 infirmities does not aid the Commission in supporting the ALJ's indefiniteness holding under § 112, ¶ 2, and this holding is therefore reversed.

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as to enable any person skilled in the art to which it pertains . . . to make and use the same . . . ." 35 U.S.C. § 112, ¶ 1 (1994).

[15] See Initial Determination at 164 ("[T]he administrative law judge finds that the '277 specification does not provide reasonable detail for the 'digital detector' elements . . . and that the written description of the '277 patent specification does not communicate what is needed to enable one of ordinary skill in the art to understand and carry out the inventions of the claims in issue."). However, the Commission did not rely on this ground in support of its determination, and consequently PMC did not argue the merits of this ground in its appeal to us. See note 3, supra, and accompanying text.

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C. Infringement

1. Claims 6 and 7

We understand PMC to make two arguments concerning infringement of claims 6 and 7. PMC's first argument is that the ALJ erred in construing the term "location" to preclude selection of a control signal based on selection of a particular carrier wave in a multi-carrier transmission. After considering the claim language and those portions of the specification cited to us by PMC, we disagree with PMC that the ALJ misconstrued the term "location." Without going into unnecessary detail, we note that the term "location" in claims 6 and 7 refers to the position of a control signal within a "television program transmission," and that the specification uses this phrase to denote a single transmission enveloped within a single carrier wave. The specification does not suggest that a "television program transmission" can be a multi-channel transmission, as PMC contends in support of its claim construction. The ALJ correctly construed the term "location" in accordance with the examples provided in the specification, viz., a line, or lines, or portion of a line in the vertical interval of a television video transmission, or a frequency within the audio range of a television transmission, see '277 patent, col. 9, l. 61 to col. 10, l. 16, examples which involve only single channel transmissions.

PMC's second argument is that the ALJ erred in concluding that the use of SCIDs in the accused DSSs did not infringe claims 6 and 7. We understand this argument not as an attack on the ALJ's claim construction, but rather as an argument that substantial evidence does not support the finding of noninfringement. Specifically, PMC attacks the ALJ's characterization of the SCID as a "composition" and not as having a "location," and asserts that these two characterizations are not mutually

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exclusive. In other words, PMC contends that even if the SCID constitutes "composition" information, it also has a location within a given channel. The Commission responds that the ALJ's distinction between the terms "composition" and "location" is meaningful and precludes infringement of both claims.

We agree with PMC that substantial evidence does not support the ALJ's conclusion that the accused DSSs do not infringe claim 7, but disagree with PMC as to claim 6. Like PMC, we find the distinction between the terms "composition" and "location" to be irrelevant to the question whether the SCID can constitute the control signal (i.e., the "predetermined signal" of claim 6 or the "specific signal" of claim 7) of the claims. This was the ALJ's only reason for not finding infringement.[16] Moreover, the ALJ's rationale that the terms "location" and "composition" should be interpreted differently because of the separate use of those terms in claim 7, if anything, suggests that claim 7 is infringed, because that claim encompasses detection of a control signal that is facilitated by a controller that is "programmed with information of the composition of said signal or with either the varying location or the varying timing pattern of said signal." '277 patent, claim 7 (emphasis added). Once the erroneous distinction between "location" and "composition" is removed from consideration, the ALJ's conclusion that claim 7 is not infringed is left without substantial evidentiary support. However, we are not prepared on this record to conclude that this claim is infringed.

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[16] "The [ALJ] finds that the SCID of the control word packets are information of the 'composition' of a signal, rather than its 'location' as required by claim 6. Thus, the accused DSS system identifies a 'predetermined signal' based on its carrier frequency, and the composition of the predetermined signal." Initial Determination at 228; see also id. at 231-32 (discussing claim 7).

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Claim 7 contains many limitations whose relevance to the accused devices have not been made clear to us. We therefore conclude that the prudent course is not to reverse the finding of no infringement of claim 7, but rather to vacate that decision and remand it for further consideration by the Commission.[17]

Claim 6 presents a different set of facts. Unlike claim 7, the controller of claim 6 is more narrowly drawn to a controller "programmed with either the varying locations or the varying timing pattern of said signal." '277 patent, claim 6. As noted earlier, the controllers in the accused DSSs are programmed with the SCIDs, which are compared with the SCIDs of the incoming data streams to locate a match.[18] Thus, the controllers are not programmed with the "varying location or timing pattern of said signal"; they are programmed with the signal itself, and therefore do not infringe. We therefore affirm the ALJ's conclusion that claim 6 is not infringed.

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[17] We again acknowledge that the Commission has not yet reviewed the ALJ's conclusions that claim 7 is invalid as anticipated under 35 U.S.C. § 102 and as not enabled under 35 U.S.C. § 112, ¶ 1. It was the Commission's prerogative to review only the questions of indefiniteness and noninfringement, and indeed such an approach "may often save the Commission, the parties and this court substantial unnecessary effort." Beloit Corp. v. Valmet OY, 742 F.2d 1421, 1423, 223 USPQ 193, 194 (Fed. Cir. 1984). However, "[l]ike many good things, that approach carries a risk—here the risk of a reversal, and a consequent need for the Commission to revisit one or more portions of the initial determination on which it had taken no position." Id.

[18] "The microprocessor [i.e., controller] will utilize the Program Guide and obtain the transponder frequency and SCID or SCIDs of the channel that the user selected. The microprocessor will program the tuner with the frequency of the desired data stream and then program the transport chip to start filtering for data packets that contain one of those particular SCIDs. The transport chip examines the SCID of every packet and compares it to the SCID or SCIDs of the selected channel. If the SCIDs match, the transport chip will direct the data of that packet to the appropriate place . . . for further processing." Initial Determination at 228 (quoting testimony of Kepley).

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2. Claim 44

PMC's last argument is that the ALJ erred in concluding that the accused DSSs did not infringe claim 44. Specifically, PMC takes issue with the ALJ's implicit conclusion that the claimed "mass medium transmission" which creates the video overlay and the claimed "television transmission" are separate and discrete transmissions. PMC contends that the DSS broadcast meets both of these limitations when the DSS system is displaying the video overlay. PMC points out that even though the television is not receiving a traditional television broadcast at the time that the DSS broadcast is being received, the DSS broadcast is modulated at each given receiver. Accordingly, PMC contends that this internally-modulated signal constitutes the "television transmission" of the claim. The Commission responds, inter alia, that PMC cannot make this argument on appeal to this court because it was not included in its petition to the Commission.

We agree with the Commission and decline to consider PMC's "internally-modulated" argument. A review of PMC's petition reveals that its argument to the Commission centered around the following claim limitation: "a television receiver for receiving a selected broadcast or cablecast television transmission and transferring television programming in said transmission to a television display." PMC argued that the claim language following "a television receiver for" merely "defined the qualities (or capabilities) of the television receiver," PMC's Petition for Review at 29, and therefore should not limit the claim. It summarized its argument as follows: "Thus, when [the claim] is read in light of the specification, it's clear that the 'for' clauses in the claim should be interpreted as defining capabilities of the preceding structural elements, and

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not additional structural elements required by this claim." PMC's Petition for Review at 30. Nothing even remotely approaching PMC's "internally-modulated" argument appears in the petition to the Commission. Because this argument was not raised in PMC's petition, we may not consider it on appeal. See Checkpoint Sys., Inc. v. United States Int'l Trade Comm'n, 54 F.3d 756, 760, 35 USPQ2d 1042, 1045-46 (Fed. Cir. 1995). PMC is incorrect that by raising the issue of infringement in its petition that it may now assert any argument in support of its position on that issue. See id. at 760, 35 USPQ2d at 1046 (holding that this court would not address a party's claim construction argument simply because that party had included "other claim construction defects" in its petition for review). Because PMC's "internally-modulated" argument concerning infringement of claim 44 was not "specifically asserted" in its petition for review, see id., we do not consider its merits.

CONCLUSION

The Commission erred in concluding that the "digital detector" limitations in the asserted claims rendered these claims invalid for indefiniteness under § 112, ¶ 2. The Commission also erred in concluding that claim 7 was not infringed, and we vacate this ruling and remand for further consideration of this issue. The Commission, however, did not err in concluding that claim 6 was not infringed. We decline to address PMC's argument in support of infringement of claim 44 because it was not raised below. The decision of the Commission is therefore

AFFIRMED-IN-PART, REVERSED-IN-PART, VACATED-IN-PART and REMANDED.

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PATENT & TRADEMARK OFFICE

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C. 20436

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OFFICE OF THE SECRETARY

In the Matter of	Inv. No. 337-TA-392
CERTAIN DIGITAL SATELLITE SYSTEM (DSS) RECEIVERS AND COMPONENTS THEREOF	

NOTICE OF COMMISSION DECISION TO TERMINATE THE INVESTIGATION AND TO VACATE PORTIONS OF INITIAL DETERMINATION

000042

AGENCY: U.S. International Trade Commission

ACTION: Notice

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to grant complainant's motion to terminate the investigation, to grant complainant's motion to vacate the final initial determination (ID) of the presiding administrative law judge (ALJ) on the issues of invalidity for anticipation and for lack of enablement, and to deny the motion to vacate in all other respects.

FOR FURTHER INFORMATION CONTACT: John A. Wasleff, Esq., Office of the General Counsel, U.S. International Trade Commission, telephone 202-205-3094. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202-205-1810. General information concerning the Commission may also be obtained by accessing its Internet server *(http://www.usitc.gov)*.

SUPPLEMENTAL INFORMATION:

This investigation was instituted on December 18, 1996, based on a complaint filed by Personalized Media Communications, LLC (PMC). 61 Fed. Reg. 66695-96. The respondents are DirectTV, Inc., United Satellite Broadcasting Co., Hughes Network Systems, Hitachi Home Electronics (America), Inc., Thomson Consumer Electronics, Inc., Toshiba America Consumer Products, Inc., and Matsushita Electric Corporation of America. The complaint alleges, *inter alia*, that respondents engaged in unlawful activities in violation of section 337 through the unlicensed importation and sale of goods infringing claim 1-7 of U.S. Letters Patent 5,335,277.

On October 20, 1997, the presiding ALJ issued a final ID in which he concluded that the asserted claims were invalid as indefinite under 35 U.S.C. § 112 ¶2, that the asserted claims were invalid as not enabled under 35 U.S.C. § 112 ¶1, that claim 7 is invalid as anticipated under 35 U.S.C. § 102, and that no asserted claim was infringed. The Commission adopted the ALJ's claim

constructions, his finding of invalidity for indefiniteness, and his finding of no infringement, but took no position on the other invalidity findings.

The Commission's determination was appealed to the U.S. Court of Appeals for the Federal Circuit, and on November 24, 1998, the Federal Circuit issued its opinion on appeal. The Court's mandate issued on February 26, 1999. The Court upheld the Commission as to three of the four claims at issue on appeal. The Court reversed the Commission with respect to its determination that claim 7 of U.S. Letters Patent 5,335,277 is invalid for indefiniteness. The Court also vacated the Commission's determination that claim 7 is not infringed by the accused devices and remanded for further consideration by the Commission.

On March 26, 1999, complainant PMC filed a motion to terminate the investigation and vacate the ID. On April 5, 1999, several respondents filed a brief in opposition, in which the balance of the respondents joined. The Commission's Office of Unfair Import Investigations filed a response on April 7, 1999.

The Commission determined to grant the complainant's motion to terminate the investigation. The Commission further determined to grant complainant's motion to vacate the ID, but only with respect to the findings of invalidity for anticipation and lack of enablement, as to which findings the Commission took no position. The Commission determined to deny the motion to vacate in all other respects.

This action is taken under the authority of the Administrative Procedure Act (5 U.S.C. § 500 *et. seq.)*, section 337 of the Tariff Act of 1930 (19 U.S.C. § 1337), and section 210.41 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.41).

Copies of the Commission's order and all other nonconfidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street S.W., Washington, D.C. 20436, telephone 202-205-2000.

By order of the Commission.

Donna R. Koehnke

Donna R. Koehnke
Secretary

Issued: May 13, 1999

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C. 20436

In the Matter of	
CERTAIN DIGITAL SATELLITE SYSTEM (DSS) RECEIVERS AND COMPONENTS THEREOF	Inv. No. 337-TA-392

ORDER

This investigation was instituted on December 18, 1996, based on a complaint filed by Personalized Media Communications, LLC (PMC). 61 Fed. Reg. 66695-96. The respondents are DirectTV, Inc., United Satellite Broadcasting Co., Hughes Network Systems, Hitachi Home Electronics (America), Inc., Thomson Consumer Electronics, Inc., Toshiba America Consumer Products, Inc., and Matsushita Electric Corporation of America. The complaint alleges, *inter alia*, that the respondents engaged in unlawful activities in violation of section 337 through the unlicensed importation and sale of goods infringing claim 1-7 of U.S. Letters Patent 5,335,277.

On October 20, 1997, the presiding administrative law judge (ALJ) issued a final initial determination (ID) in which he concluded that the asserted claims were invalid as indefinite under 35 U.S.C. § 112 ¶2, that the asserted claims were invalid as not enabled under 35 U.S.C. § 112 ¶1, that claim 7 is invalid as anticipated under 35 U.S.C. § 102, and that no asserted claim was infringed. The Commission adopted the ALJ's claim constructions, his finding of invalidity for indefiniteness, and

his finding of no infringement, but took no position on the other invalidity findings.[1]

The Commission's determination was appealed to the U.S. Court of Appeals for the Federal Circuit, and on November 24, 1998, the Federal Circuit issued its opinion on appeal. The Court's mandate issued on February 26, 1999. The Court reversed the Commission with respect to its determination that claim 7 of U.S. Letters Patent 5,335,277 is invalid for indefiniteness. The Court also vacated the Commission's determination that claim 7 is not infringed by the accused devices and remanded the investigation to the Commission for further consideration of the issue of infringement of claim 7 by the Commission.

On March 26, 1999, complainant PMC filed a motion to terminate the investigation and vacate the ID. On April 5, several respondents filed a brief in opposition, in which the rest of the respondents joined. The Office of Unfair Import Investigations filed its response on April 7.

The Commission has determined to grant the motion to terminate the investigation. The Commission has further determined to deny the motion to vacate with respect to those findings in the ID that were affirmed by the Federal Circuit. The Commission has determined to grant the motion to vacate, however, with respect to the ALJ's findings of invalidity for anticipation and lack of enablement, as to which the Commission

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[1] *See Beloit Corp. v. Valmet OY*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (Commission may at its discretion review only certain dispositive issues resolved in the ID).

has taken no position.

Accordingly, it is hereby ORDERED THAT:

1. This investigation is terminated.

2. The motion to vacate the ID is granted as to the findings that the claims of U.S. Letters Patent 5,335,277 at issue are invalid for anticipation and for lack of enablement.

3. The motion to vacate the ID is denied in all other respects.

4. The Secretary shall serve copies of this Order on the parties of record, and publish notice thereof in the *Federal Register*.

By order of the Commission.

Donna R. Koehnke

Donna R. Koehnke
Secretary

Issued: May 13, 1999

CERTAIN DIGITAL SATELITE SYSTEMS
RECEIVERS AND COMPONENTS THEREOF

337-TA-392

PUBLIC CERTIFICATE OF SERVICE

I, Donna R. Koehnke, hereby certify that the attached **NOTICE OF COMMISSION DECISION TO TERMINATE THE INVESTIGATION AND TO VACATE PORTIONS OF INITIAL DETERMINATION** was served upon the following parties via first class mail, and air mail where necessary, on May 14, 1999.

Donna R. Koehnke

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MAR 07 2005
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

PEGASUS DEVELOPMENT CORPORATION and PERSONALIZED MEDIA COMMUNICATIONS, LLC,	)	
Plaintiffs,	)	
v.	)	C.A. No. 00-1020 (GMS)
DIRECTV, INC., HUGHES ELECTRONICS CORPORATION, THOMSON CONSUMER ELECTRONICS, INC., and PHILIPS ELECTRONICS NORTH AMERICA CORPORATION,	)	Hon. Gregory M. Sleet
Defendants, and	)	
THOMSON MULTIMEDIA INC.,	)	
Counterplaintiff,	)	
v.	)	
PEGASUS DEVELOPMENT CORPORATION, PERSONALIZED MEDIA COMMUNICATIONS, L.L.C., TVG-PMC, INC., STARSIGHT TELECAST, INC., and GEMSTART-TV GUIDE INTERNATIONAL, INC.	)	
Counterdefendants	)	

REPORT AND RECOMMENDATION
OF SPECIAL MASTER
REGARDING CLAIM CONSTRUCTION

This case involves an assertion of infringement by defendants of six U.S. patents owned or controlled by plaintiffs. The patents relate generally to communications control systems, and,

a little more specifically, to computer control of television program distribution systems. There are many, many facets to the systems disclosed in the patents in suit. Indeed, plaintiffs have filed well over 300 patent applications, each presumably claiming distinct inventions, based upon their original patent application filed in 1981, as supplemented by a continuation-in-part application filed in 1987. The 1987 application expanded the original 1981 application from 22 to over 300 columns of patent text and is, by any measure, an extremely complex document.[1] Any effort to characterize the separately patented inventions except by reference to the actual claims of the patents is not apt to prove fruitful.

In an Order dated February 5, 2003, the Court appointed the undersigned as Special Master (SM) pursuant to Rule 53, FRCP. The specific purpose of the reference was to make "recommendations to the Court regarding the construction of the claim terms at issue." The SM was directed to "conduct a Markman hearing" and to issue a "Markman report."[2] The SM was empowered to "request and consider expert testimony or other extrinsic evidence as he deems appropriate."

Pursuant to the Order, the parties on January 27, 2003 submitted claim construction charts that identified disputed claim terms and the meaning ascribed to those terms by the respective parties. Copious briefing[3] followed, with opening briefs on February 18-19 and responsive briefs on March 10, 2003. The briefs were accompanied by massive declarations and

[1] As one of the many patent examiners involved in the prosecution of these applications was moved to complain, "the amount of effort that is required to read and absorb much/most/all of applicant's original 1987 disclosure represents nothing less than an unpleasant and difficult task." Broderick Declaration ¶9.
[2] See Markman v. Westview Instr., Inc., 52 F.3d 967, 34 USPQ2d 1321 (Fed. Cir. 1995), aff'd 517 U.S. 370, 38 USPQ2d 1461 (1996).
[3] Defendants in their opening salvo filed a separate joint memorandum for each of the six patents in suit, with a total of 173 pages. Not to be outdone, at least by much, plaintiffs filed a single brief of 164 pages. In responsive briefing, the plaintiffs submitted 111 pages and the defendants 128.These 576 pages of briefs are generally cited in this report like this: Defendants' initial brief on, e.g., the '414 patent (DIB '414 p.__); defendants' reply brief (DRB '414 p.__); plaintiffs' initial (PIB p. __) and reply brief (PRB p. __).

documentary exhibits. At the request of the SM, the parties on March 3, 2003 submitted a joint claim chart setting forth their final proposed definitions for various contested claim limitations.[4]

A hearing was held in Miami, Florida on March 19-20, 2003. The parties presented the testimony of expert witnesses and attorney argument. Upon full consideration of all matters raised during those proceedings, this report is respectfully submitted in response to the Court's directive to recommend a construction of the claims of the patents in suit.

GOVERNING LEGAL PRINCIPLES

The Legal Framework for Claim Construction

Proper claim construction necessarily precedes a determination of whether the claims read on the accused devices or methods for infringement purposes.[5] Indeed, claim construction will normally control the remainder of the decisional process,[6] for it is axiomatic that the claims must be construed in the same way for infringement that they are for determining validity.[7]

In the Markman[8] case, supra, the Supreme Court held that interpretation of patent claims is a question for the court, while application of properly construed claims to determine infringement is a question for the finder of fact. In Bell v. Covad,[9] the Federal Circuit summarized its current approach to claim construction: It looks first to the claim language itself to define the scope of the patented invention. As a starting point, it gives claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art. Accordingly, a technical term used in a patent is interpreted as having the meaning a person of ordinary skill in

[4] That 65-page document is cited to herein as "Joint Chart."
[5] E.g., Fonar Corp. v. Johnson & Johnson, 821 F.2d 627, 3 USPQ2d 1109, 1112 (Fed. Cir. 1987)
[6] Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987).
[7] E.g., Intervet America, Inc. v. Kee-Vet Labs., Inc., 887 F.2d 1050, 12 USPQ2d 1474, 1476 (Fed. Cir. 1989).
[8] See note 2.
[9] Bell Atl. Network Serv. Inc. v. Covad Comm. Group Inc., 262 F.3d 1258, 59 USPQ2d 1865, 1870-71 (Fed. Cir. 2001).

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the field of the invention would understand it to mean. Generally, there is a heavy presumption in favor of the ordinary meaning of claim language as understood by one of ordinary skill in the art. This presumption is overcome: (1) where the patentee has chosen to be his or her own lexicographer, or (2) where a claim term deprives the claim of clarity such that there is no means by which the scope of the claim may be ascertained from the language used. In the first situation, a patentee may choose to be his or her own lexicographer and use terms in a manner other than their ordinary meaning. Therefore, the court must examine the intrinsic evidence to determine whether the patentees have given the term an unconventional meaning. The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication. Thus, the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term. In redefining the meaning of particular claim terms away from the ordinary meaning, the intrinsic evidence must clearly set forth or clearly redefine a claim term so as to put one reasonably skilled in the art on notice that the patentee intended to so redefine the claim term. The specification must exhibit an express intent to impart a novel meaning to claim terms. However, a claim term may be clearly redefined without an explicit statement of redefinition. Indeed, the written description of the preferred embodiments can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format. In other words, the specification may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents. Moreover, one must also examine the prosecution history to determine whether the patentee has relinquished a potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference. This history contains the

complete record of all the proceedings before the PTO, including any express representations made by the applicant regarding the scope of the claims. The prosecution history is considered to determine whether or not there were any express representations made in obtaining the patent regarding the scope and meaning of the claims. Finally, if the meaning of the claim limitation is apparent from the intrinsic evidence alone, it is improper to rely on extrinsic evidence other than that used to ascertain the ordinary meaning of the claim limitation. However, in the rare circumstance that the court is unable to determine the meaning of the asserted claims after assessing the intrinsic evidence, it may look to additional evidence that is extrinsic to the complete document record to help resolve any lack of clarity. This additional extrinsic evidence includes such evidence as expert testimony, articles, and inventor testimony. This extrinsic evidence may be used only to assist in the proper understanding of the disputed limitation; it may not be used to vary, contradict, expand, or limit the claim language from how it is defined, even by implication, in the specification or file history.

In Bell v. Covad, the court explained its attitude toward dictionaries and treatises like this:

> Dictionaries and technical treatises, which are extrinsic evidence, hold a "special place" and may sometimes be considered along with the intrinsic evidence when determining the ordinary meaning of claim terms. * * * Furthermore, we have previously cautioned against the use of non-scientific dictionaries "lest dictionary definitions ... be converted into technical terms of art having legal, not linguistic significance."[10]

More recently, however, in Texas Digital v. Telegenix,[11] the court expanded on the use of such resources: When a patent is granted, prosecution is concluded, the intrinsic record is fixed, and the public is placed on notice of its allowed claims. Dictionaries, encyclopedias and treatises, publicly available at the time the patent is issued, are objective resources that serve as reliable

[10] 59 USPQ2d at 1870.
[11] Texas Digital Sys. Inc. v. Telegenix Inc., 308 F.3d 1193, 64 USPQ2d 1812, 1818-20 (Fed. Cir. 2002).

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sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art. Such references are unbiased reflections of common understanding not influenced by expert testimony or events subsequent to the fixing of the intrinsic record by the grant of the patent, not colored by the motives of the parties, and not inspired by litigation. Indeed, these materials may be the most meaningful sources of information to aid judges in better understanding both the technology and the terminology used by those skilled in the art to describe the technology. As resources and references to inform and aid courts and judges in the understanding of technology and terminology, it is entirely proper for both trial and appellate judges to consult these materials at any stage of a litigation, regardless of whether they have been offered by a party in evidence or not. Thus, categorizing them as "extrinsic evidence" or even a "special form of extrinsic evidence" is misplaced and does not inform the analysis.

The Texas Digital opinion goes on to examine the relationship of dictionary definitions to the intrinsic patent record. Thus, because words often have multiple dictionary definitions, some having no relation to the claimed invention, the intrinsic record must always be consulted to identify which of the different possible dictionary meanings of the claim terms in issue is most consistent with the use of the words by the inventor. If more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all such consistent meanings. The objective and contemporaneous record provided by the intrinsic evidence is the most reliable guide to help the court determine which of the possible meanings of the terms in question was intended by the inventor to particularly point out and distinctly claim the invention. Moreover, the intrinsic record also must be examined in every case to determine whether the presumption of ordinary and customary meaning is rebutted.

Indeed, the intrinsic record may show that the specification uses the words in a manner clearly inconsistent with the ordinary meaning reflected, for example, in a dictionary definition. In such a case, the inconsistent dictionary definition must be rejected. In short, the presumption in favor of a dictionary definition will be overcome where the patentee, acting as his or her own lexicographer, has clearly set forth an explicit definition of the term different from its ordinary meaning. Further, the presumption also will be rebutted if the inventor has disavowed or disclaimed scope of coverage, by using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.

Finally, the Texas Digital opinion cautions against consulting the intrinsic record prior to attempting an initial determination of ordinary meaning. Consulting the written description and prosecution history as a threshold step in the claim construction process, before any effort is made to discern the ordinary and customary meanings attributed to the words themselves, invites a violation of precedent counseling against importing limitations into the claims. For example, if an invention is disclosed in the written description in only one exemplary form or in only one embodiment, the risk of starting with the intrinsic record is that the single form or embodiment so disclosed will be read to require that the claim terms be limited to that single form or embodiment. Indeed, one can easily be misled to believe that this is precisely what precedent requires when it informs that disputed claim terms should be construed in light of the intrinsic record. But if the meaning of the words themselves would not have been understood to persons of skill in the art to be limited only to the examples or embodiments described in the specification, reading the words in such a confined way would mandate the wrong result and would violate the proscription against reading limitations from the specification into the claims. By examining relevant dictionaries, encyclopedias and treatises to ascertain possible meanings

that would have been attributed to the words of the claims by those skilled in the art, and by further utilizing the intrinsic record to select from those possible meanings the one or ones most consistent with the use of the words by the inventor, the full breadth of the limitations intended by the inventor will be more accurately determined and the improper importation of unintended limitations from the written description into the claims will be more easily avoided.

As indicated, the parties, at the invitation of the SM, presented expert testimony during the Markman hearing in this case. Indeed, the SM frequently participated in the interrogation of the experts. Nonetheless, in considering the evidence adduced through these witnesses, the SM was constantly mindful of the Federal Circuit's clear direction in Bell & Howell Doc. Man. Prod. Co. v. Altek Sys., 132 F.3d 701, 45 USPQ2d 1033, 1038 (Fed. Cir. 1998):

> Once a dispute over claim construction arises, "experts" should also not be heard to inject a new meaning into terms that is inconsistent with what the inventor set forth in his or her patent and communicated, first to the patent Examiner and ultimately to the public. Patents should be interpreted on the basis of their intrinsic record, not on the testimony of such after-the-fact "experts" that played no part in the creation and prosecution of the patent. * * * Use of expert testimony to explain an invention may be useful. But reliance on extrinsic evidence to interpret claims is proper only when the claim language remains genuinely ambiguous after consideration of the intrinsic evidence, *Vitronics*, 90 F.3d at 1584, 39 USPQ2d at 1578, i.e., when the intrinsic evidence is "insufficient to enable the court to construe disputed claim terms." Id. at 1585, 39 USPQ2d at 1579. Accordingly, any expert testimony that is inconsistent with unambiguous intrinsic evidence should be accorded no weight. * * *

The court also pointed out that "the testimony of an inventor often is a self-serving, after-the-fact attempt to state what should have been part of his or her patent application." Id.[12]

[12] Although in Markman the Federal Circuit stated that "the subjective intent of the inventor when he used a particular term is of little or no probative weight in determining the scope of a claim," this statement does not disqualify the inventor as a witness, or overrule the large body of precedent that recognizes the value of the inventor's testimony. Markman did not hold that the inventor cannot explain the technology and what was invented and claimed; the Federal Circuit held only that the inventor can not by later testimony change the invention and the claims from their meaning at the time the patent was drafted and granted. Patents are written not for laymen, but for and by persons experienced in the field of the invention. An inventor is a competent witness to explain the invention and what was intended to be conveyed by the specification and covered by the claims. The testimony of the inventor may also provide background information, including explanation of the problems that existed at the time the invention was made and the inventor's solution to these problems. Though Markman and other precedent caution the

These admonitions have conditioned the methodology employed in this proceeding. The SM made every effort to ascertain the ordinary meaning of the disputed claim terms before consulting the written description and prosecution history. Only then were those intrinsic patent documents examined to determine whether there was a clear inconsistency with ordinary meaning or a clear disavowal of claim scope.

Likewise, the parties have submitted extrinsic evidence, and the SM has considered all such evidence. An important consideration in this respect was explained by the Federal Circuit in a recent case in this way:

> While reference to intrinsic evidence is primary in interpreting claims, the criterion is the meaning of words as they would be understood by persons in the field of the invention. Patent documents are written for persons familiar with the relevant field; the patentee is not required to include in the specification information readily understood by practitioners, lest every patent be required to be written as a comprehensive tutorial and treatise for the generalist, instead of a concise statement for persons in the field. Thus resolution of any ambiguity arising from the claims and specification may be aided by extrinsic evidence of usage and meaning of a term in the context of the invention.[13]

In the end, however, apart from whatever benefit this evidence may have provided in gaining an understanding of the technology at hand, and in determining whether a particular term has a well-recognized meaning in the art, it has not been relied upon in construing the claims unless specifically so indicated.[14]

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court against creative reconstruction of an invention by interested persons, courts are not novices in receiving and weighing expertise on both sides of an issue. Voice Tech. Group Inc. v. VMC Sys. Inc., 164 F.3d 605, 49 USPQ2d 1333, 1340-41 (Fed. Cir. 1999).

[13] Verve LLC v. Crane Cams Inc., 311 F.3d 1116, 65 USPQ2d 1051, 1053-54 (Fed. Cir. 2002).

[14] See Mantech Environmental Corp. v. Hudson Environmental Serv. Inc., 152 F.3d 1368, 47 USPQ2d 1732, 1737 (Fed. Cir. 1998), where the Federal Circuit held that "the district court was legally correct both in admitting and accepting the testimony of the parties' expert witnesses 'for the purpose of background in the technical area at issue,' * * * and then basing its claim construction solely upon intrinsic evidence. Although this information always may be admitted by the trial court to educate itself about the patent and the relevant technology, the claims and the written description remain the primary and more authoritative sources of claim construction. Thus, they always must be considered and where clear must be followed." See also Key Pharm. Inc. v. Hercon Labs. Corp., 161 F.3d 709, 48 USPQ2d 1911 (Fed. Cir. 1998).

The SM is also mindful of the admonition of the Federal Circuit that "claim construction is not an obligatory exercise in redundancy," and that it is unnecessary to repeat or restate every claim term in order to comply with the Markman directive that claim construction is a matter for the court.[15] Thus, where terms are expressly defined in the patent specification, it is sufficient simply to refer to that definition; the Court can decide at the time of trial whether explanatory technical testimony would be necessary or, indeed, helpful at all. And where a term is not defined or used in a special way in the specification, and is otherwise unambiguous, a jury will give the term its ordinary meaning and will presumably require no additional assistance. Certainly it is not required, for each word in a claim, to consult several dictionaries in an attempt to find a synonym that harmonizes each definition. Where the parties themselves are not able to demonstrate that dictionaries set forth conflicting or inconsistent definitions, it would not be useful for the court to expound – at the risk of confounding – the ordinary meaning of a word.

It is also important to understand that claim construction is an obligation of the court that is independent of the views asserted by the adversary parties.[16] Among them, the parties have requested consideration and construction of many, but not all, of the limitations of the claims of the patent in suit. The SM has considered each claim as a whole, and each limitation of each claim, and has recommended a specific interpretation of those terms and phrases, and only those terms and phrases, that require construction. Accordingly, to the extent various claim limitations are not addressed in this report, it may be assumed that the SM is recommending that they be grouped in the category of claim elements that need no construction. Similarly, this report is not to be viewed as reflecting an acceptance or endorsement by the SM of any proposed construction of either party, unless it expressly so states. Once again, if the report is silent as to a particular

[15] United States Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 41 USPQ2d 1225, 1236 (Fed. Cir. 1997).
[16] Exxon Chem. Patents Inc. v. Lubrizol Corp., 64 F.3d 1553, 35 USPQ 1801, 1802 (Fed. Cir. 1995).

limitation, that means only that the SM is suggesting that no construction is necessary, regardless of what a party may have offered as a proposed construction.

An additional word of explanation is in order regarding the claim construction methodology as it relates to ordinary meaning. Typically, when a claim term is given its ordinary meaning, it is neither required nor desirable to restate that meaning in different words. All too often that approach confuses rather than illuminates. In the present case, however, the parties in many instances argue vigorously and at length over what the ordinary meaning of a term really is. The SM has considered each such instance and, in a few of them, has concluded that the jury might be assisted rather than confused by expounding the ordinary meaning.

Means-Plus-Function Elements under 35 U.S.C. §112¶6

Pursuant to 35 U.S.C. §112¶6, "[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." An element of a claim described as a means for performing a function, if read literally, would encompass any means for performing the function. Section 112¶6 operates to cut back on the types of means that could literally satisfy the claim language to only the disclosed structure or acts and equivalents thereof.[17] But unless there is a clear basis for it in the record, it is improper to limit a means-plus-function claim to the particular means set forth in the specification. Patentees are required to disclose in the specification some enabling means for accomplishing the function, but there is no requirement that applicants describe or predict every possible means of accomplishing

[17] Johnston v. IVAC Corp., 885 F.2d 1574, 12 USPQ2d 1382, 1386 (Fed. Cir. 1989).

that function. The statute was written precisely to avoid a holding that a means-plus-function (MPF) limitation must be read to cover only the disclosed means.[18] Accordingly, each MPF limitation will be construed to cover the actual structure or acts shown in the specification for accomplishing the recited function, and equivalents thereof.[19]

Whether or not particular language in a claim defines, as a matter of law, a MPF element is not always easy to tell. If the word "means" appears in a claim element in association with a function, the court presumes that §112¶6 applies. This presumption collapses, however, if the claim itself recites sufficient structure, material, or acts to perform the claimed function. Without the term "means," a claim element is presumed to fall outside MPF strictures. Once again, however, that presumption can collapse when an element lacking the term "means" nonetheless relies on functional terms rather than structure or material to describe performance of the claimed function.[20]

It should be noted that neither party has addressed (at least in that context) certain terms that could arguably be regarded as MPF elements. As indicated above, it is not required that a court struggle to restate every claim element in order to discharge its claim construction duties. But one must also be mindful that the Federal Circuit regards claim interpretation as an obligation of the trial judge that is independent of the views asserted by the adversary parties. In other words, it is insufficient for the judge simply to choose between the asserted constructions

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[18] D.M.I., Inc. v. Deere & Co., 755 F.2d 1570, 225 USPQ 236, 238 (Fed. Cir. 1985). It is now clear that §112¶6 also may apply to method claims containing so-called step-plus-function language. O.I. Corp. v. Tekmar Co., 115 F.3d 1576, 42 USPQ2d 1777, 1781-82 (Fed. Cir. 1997).

[19] The determination of equivalency under §112¶6 is not part of the claim construction exercise; rather, it is a question of fact. E.g., Carroll Touch, Inc. v. Electro Mech. Sys., Inc., 15 F.3d 1573, 27 USPQ2d 1836, 1840 (Fed. Cir. 1993). See also IMS Tech. Inc. v. Haas Automation Inc., 206 F.3d 1422, 54 USPQ2d 1129, 1134 (Fed. Cir. 2000). The Federal Circuit has very recently explained that a structural equivalent under §112¶6 must have been available at the time of the issuance of the claim. An equivalent structure or act under §112¶6 cannot embrace technology developed after the issuance of the patent because the literal meaning of a claim is fixed upon its issuance. Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308, 50 USPQ2d 1161, 1168 (Fed. Cir. 1999).

[20] E.g., Micro Chem. Inc. v. Great Plains Chem. Co., 194 F.3d 1258, 52 USPQ2d 1258 (Fed. Cir. 1999).

of the parties without an independent analysis.[21] If this is so, then it must also be so that the trial judge has an obligation to identify and resolve apparent claim construction issues even if the parties do not address them. Certainly, a concession does not relieve the court of its responsibility to interpret the claims as a matter of law. To interpret the claims, the court must decide the subsidiary question of whether the claim element disputed by the parties invokes §112¶6 in the first instance. Only by undertaking this inquiry can the court ensure consistency in statutory application.[22] **Accordingly, it is recommended that there be a resolution of all potential MPF issues at this stage of the case.**

The Federal Circuit has held, unequivocally, that §112¶6 applies to method claims. As it pointed out in O.I. v. Tekmar,[23]

> The statute of course uses terms that might be viewed as having a similar meaning, namely, steps and acts. It refers to means and steps, which must be supported by structure, material, or acts. It does not state which goes with which. The word "means" clearly refers to the generic description of an apparatus element, and the implementation of such a concept is obviously by structure or material. We interpret the term "steps" to refer to the generic description of elements of a process, and the term "acts" to refer to the implementation of such steps. This interpretation is consistent with the established correlation between means and structure. In this paragraph, structure and material go with means, acts go with steps. Of course, as we have indicated, section 112, Para. 6, is implicated only when means plus function without definite structure are present, and that is similarly true with respect to steps, that the paragraph is implicated only when steps plus function without acts are present. The statute thus in effect provides that an element in a combination method or process claim may be recited as a step for performing a specified function without the recital of acts in support of the function. (Emphasis present.)

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[21] Exxon Chem. Patents, Inc. v. Lubrizol Corp., 64 F.3d 1553, 35 USPQ2d 1801, 1802 (Fed. Cir. 1995).
[22] Rodime PLC v. Seagate Tech. Inc., 174 F.3d 1294, 50 USPQ2d 1429, 1434 (Fed. Cir. 1999). In addition, claim construction of a §112¶6 limitation includes identifying the claimed function and determining the corresponding structure or act in the specification, both of which are questions of law. IMS Tech. Inc. v. Haas Automation Inc., 206 F.3d 1422, 54 USPQ2d 1129, 1133 (Fed. Cir. 2000).
[23] O.I. Corp. v. Tekmar Co., 115 F.3d 1576, 42 USPQ2d 1777, 1781-82 (Fed. Cir. 1997).

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Nonetheless, the Tekmar court concluded that the limitation in question was not in step-plus-function format and thus did not invoke §112¶6.[24] Indeed, it appears that the Federal Circuit has never applied §112¶6 to a method limitation.[25] It appears to be committed to a somewhat more rigid examination of whether a method limitation (as opposed to an apparatus limitation) is, as a matter of law, drafted in such a way that it clearly mirrors the statutory template. As it held in a very recent case,

> Where the claim drafter has not signaled his intent to invoke § 112, paragraph 6 by using the "step[s] for" language, we are unwilling to resort to that provision to constrain the scope of coverage of a claim limitation without a showing that the limitation contains nothing that can be construed as an act. Method claims are commonly drafted, as in this case, by reciting the phrase "steps of" followed by a list of actions comprising the method claimed. An application of §112, paragraph 6 in the present circumstances would render the scope of coverage of these method claims uncertain and disrupt patentees' settled expectations regarding the scope of their claims. * * * We thus hold that where a method claim does not contain the term "step[s] for," a limitation of that claim cannot be construed as a step-plus-function limitation without a showing that the limitation contains no act.[26]

In a concurring opinion in an earlier case,[27] Judge Rader observed that "[t]he difficulty of distinguishing acts from functions in step-plus-function claim elements, however, makes identifying step-plus-function claims inherently more problematic. This difficulty places a significant burden on the claim drafter to choose language with a definite and clear meaning. To invoke a presumption of Section 112, Para. 6 application, a claim drafter must use language that

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[24] The court concluded that the limitation was lacking the required function associated with the step. It observed that if it were to construe every process claim containing steps described by an "ing" verb, such as passing, heating, reacting, etc., as a step-plus-function limitation, it would be limiting process claims in a manner never intended by Congress. Also, just because method claims "parallel" apparatus claims that contain MPF elements does not necessarily mean that the method claims must also be construed that way. Each claim must be independently reviewed in order to determine if it is subject to the requirements of §112¶6. See also Epcon Gas Sys. Inc. v. Bauer Compressors Inc., 279 F.3d 1022, 61 USPQ2d 1470, 1475 (Fed. Cir. 2002); Generation II Orthotics Inc. v. Medical Tech. Inc., 263 F.3d 1356, 59 USPQ2d 1919, 1929 (Fed. Cir. 2001).

[25] Cf. Seal-Flex Inc. v. Athletic Track & Court Constr., 172 F.3d 836, 50 USPQ2d 1225, 1229 (Fed. Cir. 1999).

[26] Masco Corp. v. United States, 303 F.3d 1316, 64 USPQ2d 1182, 1189 (Fed. Cir. 2002).

[27] Seal-Flex, supra, 50 USPQ2d at 1233.

expressly signals the recitation of a function as distinguished from an act." He proposed a framework for analysis that has been cited favorably[28] in later decisions:

> In general terms, the "underlying function" of a method claim element corresponds to what that element ultimately accomplishes in relationship to what the other elements of the claim and the claim as a whole accomplish. "Acts," on the other hand, correspond to how the function is accomplished. Therefore, claim interpretation focuses on what the claim limitation accomplishes, i.e., it's [*sic*] underlying function, in relation to what is accomplished by the other limitations and the claim as a whole. If a claim element recites only an underlying function without acts for performing it, then Section 112, Para. 6 applies even without express step-plus-function language.
>
> In sum, similar to means-plus-function claims, this court employs a straightforward analysis for identifying a step-plus-function claim. If the claim element uses the phrase "step for," then Section 112, Para. 6 is presumed to apply. Because the phrasing "step for" would appear to claim every possible act for performing the recited function, in keeping with Section 112, Para. 6, such a claim covers only the specific acts recited in the specification for performing that function, and equivalent acts. On the other hand, the term "step" alone and the phrase "steps of" tend to show that Section 112, Para. 6 does not govern that limitation. Accordingly, this court has similarly denied step-plus-function treatment to method claims which use the conventional "steps of" language.

Terms in a Claim's Preamble

Generally the preamble does not limit a claim.[29] However, statements appearing in the preamble may be necessary to give meaning to the claim and properly define the invention.[30] With all respect, this is not a particularly helpful formula for analysis. Indeed, the Federal Circuit itself has remarked that "[t]o say that a preamble is a limitation if it gives 'meaning to the claim' may merely state the problem rather than lead one to the answer."[31] That court has struggled mightily to come up a workable framework for analyzing claim preambles. Its best effort to date has been to indicate that a preamble is not limiting "where a patentee defines a structurally

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[28] See Masco Corp. v. United States, 303 F.3d 1316, 64 USPQ2d 1182, 1188-89 (Fed. Cir. 2002); Epcon Gas Sys, Inc. v. Bauer Compressors Inc., 279 F.3d 1022, 61 USPQ2d 1470, 1475 (Fed. Cir. 2002).
[29] E.g., DeGeorge v. Bernier, 768 F.2d 1318, 226 USPQ 758, 761 n.3 (Fed. Cir. 1985).
[30] E.g., Bell Comm. Research v. Vitalink Comm. Corp., 55 F.3d 615, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995).
[31] Corning Glass Works v. Sumitomo Elec. U.S.A. Inc., 868 F.2d 1251, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989).

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complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention."[32]

With one exception (plaintiffs contend that a term in the preamble of claim 14 of the '243 patent is not limiting), the parties have not seemed much troubled by such concerns. They have – each side – proposed definitions for words and phrases appearing the in claim preambles, without expressed consideration as to whether those words and phrases are limitations as a matter of law. There is a great temptation for the SM to conclude that, "if it doesn't bother them, it doesn't bother me." Unfortunately, this could be viewed as a clear dereliction of the duty to construe the claims regardless of how the parties feel about them. Fortunately, on the other hand, in each instance (including '243 claim 14) that the parties are proffering definitions of preamble statements, the SM's independent analysis has led to the conclusion that the terms in question are indeed limitations, in that they either provide antecedent basis for later limitations or are necessary to understanding the remainder of the claim.

Claim Definiteness Pursuant to 35 U.S.C. §112¶2

The second paragraph of 35 U.S.C. §112 provides that the patent specification "shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the application regards as his invention." When the invention set forth in a claim is not what the patentee regarded as the invention, or is not set forth with sufficient definiteness, the

[32] Rowe v. Dror, 112 F.3d 473, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997). "Additionally, dependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention. * * * Likewise, when the preamble is essential to understand limitations or terms in the claim body, the preamble limits claim scope. * * * Further, when reciting additional structure or steps underscored as important by the specification, the preamble may operate as a claim limitation. * * * Moreover, clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention." Catalina Mktg. Int'l Inc. v. Coolsavings.com Inc., 289 F.3d 801, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002).

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claim is invalid.[33] As the parties in this case are only too aware, indefiniteness under §112¶2 is a question of law that is drawn from the court's performance of its duty as the construer of patent claims.[34] In a communication dated January 28, 2003, the SM advised the parties that such issues seemed ripe for consideration during this Markman proceeding.

The Federal Circuit has not insisted that claims be plain on their face in order to avoid condemnation for indefiniteness; rather, it has asked that the claims be amenable to construction, however difficult that task may be. If a claim is insolubly ambiguous, and no narrowing construction can properly be adopted, the claim may be held indefinite. If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, the claim may be sufficiently clear to avoid invalidity on indefiniteness grounds. By finding claims indefinite only if reasonable efforts at claim construction prove futile, the court accords respect to the statutory presumption of patent validity, and protects the inventive contribution of patentees, even when the drafting of their patents has been less than ideal.[35] As the court recently explained,

> It may of course occur that persons experienced in a technologic field will have divergent opinions as to the meaning of a term, particularly as narrow distinctions are drawn by the parties or warranted by the technology. Patent disputes often raise close questions requiring refinement of technical definitions in light of particular facts. The judge will then be obliged to decide between contending positions; a role familiar to judges. But the fact that the parties disagree about claim scope does not of itself render the claim invalid.[36]

In the context of means-plus-function claiming, however, a definite legal principle has emerged: failure to describe adequately the necessary supporting structure, material, or acts in

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[33] See, e.g., Allen Eng'g Corp. v. Bartell Indus. Inc., 299 F.3d 1336, 63 USPQ2d 1769, 1775-76 (Fed. Cir. 2002).
[34] Personalized Media Comm. LLC v. United States ITC, 161 F.3d 696, 48 USPQ2d 1880, 1888 (Fed. Cir. 1998). Nonetheless, the definiteness inquiry focuses on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the rest of the specification. Union Pac. Res. Co. v. Chesapeake Energy Corp., 236 F.3d 1625, 57 USPQ2d 1293, 1297 (Fed. Cir. 2001).
[35] See Exxon Res. & Eng'g Co. v. United States, 265 F.3d 1371, 60 USPQ2d 1272, 1276 (Fed. Cir. 2001).
[36] Verve LLC v. Crane Cams Inc., 311 F.3d 1116, 65 USPQ2d 1051, 1054 (Fed. Cir. 2002).

the written description means that the drafter has failed to comply with the second paragraph of §112.[37] For a court to hold that the specification lacks a disclosure of structure in the patent specification that performs the claimed function necessarily means that the court finds the claim in question indefinite, and thus invalid. Because the claims of a patent are afforded a statutory presumption of validity, a challenge to a claim containing a means-plus-function limitation as lacking structural support requires a finding, by clear and convincing evidence, that the specification lacks disclosure of structure sufficient to be understood by one skilled in the art as being adequate to perform the recited function.[38]

The SM is aware of this Court's order of January 13, 2003 in Pharmastem Therapeutics, Inc. v. Viacell Inc., et al. (C.A. No. 02-148 GMS) in which it declined the invitation to consider an indefiniteness defense as a part of the Markman proceeding. The SM believes that refusal to have been perfectly appropriate under the circumstances, in view of the teaching of Exxon v. United States[39] and other Federal Circuit cases. Unless it is established, in clear and convincing fashion, that a claim term is insolubly ambiguous, there is no warrant for declaring the claim invalid under §112¶2 at the Markman stage of the proceedings.[40]

THE PATENTS IN SUIT

The asserted claims are claim 4 of U.S. Patent No. 4,494,490 ('490 patent), issued September 15, 1987 on an application filed November 3, 1981; claim 17 of U.S. Patent No. 4,965,825 ('825 patent), issued October 23, 1990 on an application filed September 11, 1987 that

[37] See, e.g., In re Dossel, 115 F.3d 942, 42 USPQ2d 1881, 1884-85 (Fed. Cir. 1997). If no embodiment discloses corresponding structure, the claim is invalid for failure to satisfy the definiteness requirement of §112¶2. Cardiac Pacemakers Inc. v. St. Jude Med. Inc., 296 F.3d 1106, 63 USPQ2d 1725, 1730-31 (Fed. Cir. 2002).
[38] Budde v. Harley-Davidson Inc., 250 F.3d 1369, 58 USPQ2d 1801, 1806 (Fed. Cir. 2001).
[39] See note 35.
[40] The SM does note, however, that the terms in issue in Pharmastem do not appear to have been in MPF format.

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was a continuation-in-part tracing ultimately to the original '490 application; claims 1, 2, 5, and 7 of U.S. Patent No. 5,109,414 ('414 patent), issued April 28, 1992 on an application filed September 25, 1990 as a continuation of the '825 application; claims 10, 66, and 70 of U.S. Patent No. 5,233,654 ('654 patent), issued August 3, 1993 on an application filed March 10, 1992 as a continuation of the '414 application; claims 7, 12, 13, 17, and 18 of U.S. Patent No. 5,335,277 ('277 patent), issued August 2, 1994 on an application filed May 3, 1993 as a continuation of the '654 application; and claims 14, 21, 30 and 41 of U.S. Patent No. 5,887,243 ('243 patent), issued March 23, 1999 on an application filed June 7, 1995 as a continuation of an application (No. 08/113,329, filed August 30, 1993; never issued as a patent) tracing back to the '277 patent. As can be seen, all of the patents subsequent to '490 thus share an identical written description and have an effective filing date of November 3, 1981 for claimed subject matter supported by the original '490 application and an effective filing date of September 11, 1987 for claimed subject matter that was added by the '825 application.[41]

PROSECUTION OF RELATED PATENT APPLICATIONS

Separate patents issuing on a chain of related applications, like those described above, are not unusual. There is, however, an aspect of this in the present case that is rather unusual. According to defendants, the application that matured into the '243 patent was but one of *328 separate patent applications that were filed between March 2, 1995 and June 7, 1995 as continuations of the same parent application 08/113,329.* Thus, as of June 7, 1995 there were 329 pending patent applications (the parent and the 328 new ones) pending, all with identical specifications. The only one of these 329 applications that has issued to date, apparently, is the

[41] See Transco Prods., Inc. v. Performance Contr., Inc., 38 F.3d 551, 32 USPQ2d 1077, 1080 (Fed. Cir. 1994).

'243 patent.[42] Serious questions are sure to be encountered in this case as to whether such conduct is more than just unusual – whether it does, indeed, affect the validity or enforceability of any of the asserted patents.

For present purposes, however, it is important to recognized that the Federal Circuit has observed that, in general at least,

> [T]here is nothing improper, illegal or inequitable in filing a patent application for the purpose of obtaining a right to exclude a known competitor's product from the market; nor is it in any manner improper to amend or insert claims intended to cover a competitor's product the applicant's attorney has learned about during the prosecution of a patent application. Any such amendment or insertion must comply with all statutes and regulations, of course, but, if it does, its genesis in the marketplace is simply irrelevant * * *.[43]

Indeed, the Federal Circuit has described a patent owner's behavior in "manipulating its secret pending patent application to cover the functionally competitive structure it did not think of but deems to embody its proprietary 'inventive concept'" as "classic commercial gamesmanship under the patent system."[44]

Nonetheless, abuses of continuation practice – real or perceived – have recently been receiving increased scrutiny by the Federal Circuit. One result has been an affirmation that the doctrine of prosecution laches may intervene to rectify such abuses.[45] On a related front, that court has reemphasized that failure to find adequate support for a claim in the specification provides a free-standing defense of lack of an adequate written description under §112¶1.[46] Although one suspects that defendants intend to press these potential defenses – to say nothing of an inequitable conduct defense[47] based on the same circumstances – by way of summary

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[42] Broderick Declaration ¶¶13-18.
[43] Kingsdown Med. Cons. Ltd. v. Hollister Inc., 863 F.2d 867, 9 USPQ2d 1384, 1390 (Fed. Cir. 1988).
[44] State Industries, Inc. v. A.O. Smith Corp., 751 F.2d 1226, 224 USPQ 418, 424 (Fed. Cir. 1985).
[45] See In re Bogese, 303 F.3d 1362, 64 USPQ2d 1448 (Fed. Cir. 2002); Symbol Tech. Inc. v. Lemelson Medical, 277 F.3d 1361, 61 USPQ2d 1515 (Fed. Cir. 2002).
[46] See Enzo Biochem Inc. v. Gen-Probe Inc., 296 F.3d 1315, 63 USPQ2d 1609 (Fed. Cir. 2002).
[47] See DIB '243 p. 4: "The inequitable-conduct implications of these prosecution tactics are a topic for another day."

judgment motions or at trial, defendants attempt to use this conduct in the context of this Markman proceeding to bolster their defenses of claim indefiniteness under §112¶2. To that end, they submitted, in connection with their initial brief on the '243 patent, a massive declaration of attorney Christopher P. Broderick (Broderick I). In their responsive brief on the '243 patent, they included an appendix supported by another hefty Broderick declaration (Broderick II). They characterize these declarations as establishing that the '243 patent "contains claim verbiage (including verbiage in the claims here asserted) that is identical and virtually identical to verbiage that, in parallel cases, was rejected for indefiniteness and/or for lack of specification support – by dozens of examiners." (DIB '243 p. 4; emphasis in original) And again, that "after examination of dozens of virtually-identical claims containing [certain limitations] in conjunction with the '243 and parent specifications, by dozens of examiners in the PTO, the overwhelming consensus is that the [limitations] are not adequately explained in the specification and not understood by persons possessing ordinary skill in the art." (DRB '243 p. 27) Suffice it to say, for present purposes, that the parallel prosecution of related applications is relevant only in one respect, and that is claim construction. Questions of enablement, support, and adequacy of written description, under §112¶1, and, to the extent the claims are not "insolubly ambiguous," definiteness under §112¶2, are obviously not ripe for resolution in this Markman proceeding. Accordingly, evidence relating to prosecution of related applications has been considered, if at all, only insofar as it may have some probative value on the fundamental claim construction issues presented here.

DISCUSSION

As indicated at the outset, the patents in suit claim various aspects of an extremely long and comprehensive invention disclosure. Plaintiffs' précis is probably as good as any:

> The patent claims discussed in this brief are directed to various facets of the disclosed system. The asserted claim of the '490 patent, for example, is directed to a receiver station and the technique used by that station to process received signals to provide overlays. The asserted claims of the '825 patent are addressed to the ability of the disclosed system to control apparatus at the receiver site. The asserted '414 patent claims are directed to the intermediate transmission station of the disclosed system, that is, the facility that receives programming from various sources and retransmits it, along with digital information, to receiver stations at subscriber homes and businesses. The asserted claims of the '654 patent are directed to the ability to remotely collect data from receiver sites for billing or other purposes. The asserted '277 patent claims are directed to signal processing, data processing, and decryption techniques, among other things. And the asserted claims of the '243 patent are directed to the disclosed system's ability to provide an interactive or multimedia television experience. (PIB p.3)

The claims of these patents are not very informative, at least to the casual reader. That is to say, they give little or no hint as to what kind of commercial system might embody or infringe the various claim limitations. This is not, however, unusual in patents that claim portions of very large systems. As a consequence, the SM apologizes for not having attempted to characterize, in language understandable to those not skilled in this technology, the essential gist of the claimed inventions. As justification, the SM can only take solace in several Federal Circuit rubrics that may be thought to excuse any dereliction of duty in this respect: (1) claim construction is carried out without regard for the accused infringement,[48] (2) it is not necessary that a claim recite each and every element needed for the practical utilization of the claimed subject matter,[49] and (3) perhaps most important, there *is* no legally recognizable or protected gist or heart of the invention.[50]

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[48] E.g., Young Dental Mfg. Co. v. Q3 Special Prods., Inc., 112 F.3d 1137, 42 USPQ2d 1589, 1592 (Fed. Cir. 1997).
[49] Stiftung v. Renishaw PLC, 945 F.2d 1173, 20 USPQ2d 1094, 1100-01 (Fed. Cir. 1991). A patent may have subcombination claims drawn to only one aspect or combination of elements of an invention that has utility separate and apart from other aspects of the invention. So long as the recited structure is capable of performing its claimed purpose, greater utility or more definite claiming is not required. Id. A claim is not defective when it states fewer than all of the steps that may be performed in practice of an invention. Smith & Nephew Inc. v. Ethicon Inc., 276 F.3d 1304, 61 USPQ2d 1065, 1069 (Fed. Cir. 2001).
[50] E.g., Everpure, Inc. v. Cuno, Inc., 875 F.2d 300, 10 USPQ2d 1855, 1857 (Fed. Cir. 1989).

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It should be recognized, as well, that the asserted claims of the patents in suit are extremely broad – viewed from the standpoint of ordinary meaning – and the recommended constructions of the specific terms of those claims are likely to be correspondingly broad, absent evidence, in the intrinsic patent documents, of an unmistakable relinquishment of that breadth. That such constructions may expose the claims to attack on grounds of lack of enablement or inadequate supporting written description under §112¶1, or even invalidity for lack of novelty or obviousness under §§102 and 103, are concerns for another day. Although it is appropriate *if possible* to construe claims to preserve their validity,[51] it is not often possible to do that within the confines of a Markman proceeding, where such defenses are not, and cannot be, sufficiently developed to provide a rationale for narrower construction.[52]

Claim construction begins, as it must, with the words of the claims.[53] The claims of the patents in suit, together with the positions of the parties relative to disputed claim elements, are set out in the Joint Claim Chart that the parties have prepared for the convenience of the Court and the SM.[54] In the discussion that follows, certain claim terms or elements may be common to different claims, sometimes in different patents. It may be assumed, unless expressly stated otherwise, that the discussion applies to all occurrences of such terms or elements.[55]

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[51] Tate Access Floors Inc. v. Interface Arch. Res. Inc., 279 F.3d 1357, 61 USPQ2d 1647, 1654, 1658 (Fed. Cir. 2002).

[52] In this context, the appellate court often has the advantage over the trial court, in that the invalidity defenses may be well-developed by the time a case reaches that level. The trial court, on the other hand, usually cannot know, at the time of a Markman proceeding, whether a particular construction of a term would "save" the patent or not. Perhaps this reality argues for taking on the task of claim construction at a later stage in the proceedings, either concurrently with dispositive motions or as part of the preparations for instruction of the jury.

[53] Vehicular Tech. Corp. v. Titan Wheel Int'l, 141 F.3d 1084, 46 USPQ2d 1257, 1260 (Fed. Cir. 1998).

[54] Owing to its length, the Joint Claim Chart is not attached, but it is incorporated herein and made a part hereof.

[55] Where multiple patents have identical disclosures, it is appropriate to construe their claims in pari materia, absent some indication that the limitations should be construed differently for some claims than for others. See Ballard Med. Prods. v. Allegiance Healthcare Corp., 268 F.3d 1352, 60 USPQ2d 1493, 1500 (Fed. Cir. 2001). When multiple patents derive from the same initial application, the prosecution history regarding a claim limitation in any

A. Level of Skill in this Art

Inasmuch as the claims of the patents in suit must be considered from the viewpoint of a hypothetical person of ordinary skill in the art, both for construing[56] the claims and assessing their adequacy under §112¶2,[57] an important first step is to attempt to flesh out this phantom by assigning some values to characteristics such as education and experience. The patented systems comprehend a broad range of electronics expertise, in that they involve, in the words of the patents themselves, such fields as "computer processing, computer communications, television, radio, and other electronic communications; the fields of automating the handling, recording, and retransmitting of television, radio, computer, and other electronically transmitted programming; and the fields of regulating, metering, and monitoring the availability, use, and usage of such programming." (E.g., '825 C1L16-22) [58] The engineering of such systems is usually approached by assembling a team of workers, and the individual skills of the members of such a team are usually not extraordinary. The patent law requires, however, that we make some attempt to distill a typical profile from this amalgam of persons and skills. After hearing the testimony of the parties' experts (Tr. 41, 155) , the SM feels comfortable in recommending that **the claims be assessed and construed from the standpoint of a person having at least the equivalent of a first college degree in digital electronics or electrical engineering, and several years of post-degree experience in the engineering of communications or control systems.**

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patent that has issued applies with equal force to subsequently issued patents that contain the same claim limitation. Biovail Corp. Int'l v. Andrx Pharm. Inc., 239 F.3d 1297, 57 USPQ2d 1813, 1816 (Fed. Cir. 2001).

[56] E.g., Bell Atl. Network Serv. Inc. v. Covad Comm. Group Inc., 262 F.3d 1258, 59 USPQ2d 1865, 1870-71 (Fed. Cir. 2001).

[57] E.g., Budde v. Harley-Davidson Inc., 250 F.3d 1369, 58 USPQ2d 1801, 1806, 1809 (Fed. Cir. 2001).

[58] This citation format, used throughout this report, indicates that the material will be found at lines 16-22 of column 1 of the '825 patent.

B. The Timing of the Inquiry

The Federal Circuit has itself noted that "[o]ur decisions have not always been consistent as to whether the pertinent date [for construing the claims] is the filing date of the application or the issue date of the patent."[59] That, with all respect, is something of an understatement. In Markman itself, the court said "the focus is on the objective test of what one of ordinary skill in the art at the time of the invention would have understood the term to mean."[60] A few years later, the court remarked that an inventor cannot "by later testimony change the invention and the claims from their meaning at the time the patent was drafted and granted."[61] Shortly thereafter, the court observed that "the literal meaning of a claim is fixed upon its issuance."[62] But a year after that, it held that "this court must determine what the term meant at the time the patentee filed the [patent] application," and thus refused to consider information that had been published several months after the filing date of the application.[63] The next year, the court held that when a claim term understood to have a narrow meaning when the application is filed later acquires a broader definition, the literal scope of the term is limited to what it was understood to mean at the time of filing.[64] Finally, in a case[65] decided only months ago, we find the court telling us, in no uncertain terms, that

> When a patent is granted, prosecution is concluded, the intrinsic record is fixed, and the public is placed on notice of its allowed claims. Dictionaries,

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[59] Inverness Med. Switz. GmbH v. Princeton Biomeditech Corp., 309 F.3d 1365, 64 USPQ2d 1926, 1930 n.1 (Fed. Cir. 2002).
[60] Markman v. Westview Instr., Inc., 52 F.3d 967, 34 USPQ2d 1321, 1335 (Fed. Cir. 1995), aff'd 517 U.S. 370, 38 USPQ2d 1461 (1996).
[61] Voice Tech. Group Inc. v. VMC Sys. Inc., 164 F.3d 605, 49 USPQ2d 1333, 1341 (Fed. Cir. 1999).
[62] Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308, 50 USPQ2d 1161, 1168 (Fed. Cir. 1999).
[63] Schering Corp. v. Amgen Inc., 222 F.3d 1347, 55 USPQ2d 1650, 1654 (Fed. Cir. 2000). The court did, however, seem to leave room for the possibility that the date of invention, if it as a matter of record preceded the filing date, might be appropriate.
[64] Kopykake Inter. Inc. v. Lucks Co., 264 F.3d 1377, 60 USPQ2d 1124, 1127 (Fed. Cir. 2001). It should be noted that the court would probably have used the date of invention rather than the filing date if a prior date of invention had been established on the record. See also Plant Genetic Sys. N.V. v. DeKalb Genetics Corp., 315 F.3d 1335, 65 USPQ2d 1452, 1460 (Fed. Cir. 2003).
[65] Texas Digital Sys. Inc. v. Telegenix Inc., 308 F.3d 1193, 64 USPQ2d 1812, 1818 (Fed. Cir. 2002).

> encyclopedias and treatises, publicly available at the time the patent is issued, are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art.

In many cases, the chronological reference point for the claim construction inquiry will not be determinative, in that nothing relevant may have surfaced between the time of filing (or invention) and the date of issue. In the present case, however, that happy situation does not necessarily prevail. As discussed previously, the application that led to the '490 patent was filed in 1981, and that patent itself issued in 1987. The expanded application that led to the other patents in suit was filed in 1987, just before the '490 patent issued, and the various patents issued anywhere from 1990 to 1999. Those time periods between filing and issue leave plenty of time for relevant material to intervene, particularly in a fast-moving technology like the subject of the patents.

Consequently, the SM feels obliged to select the an appropriate chronological reference point and to recommend that selection to the Court in this case. The actual date of invention seems ill-advised as a choice, because in many cases it is not otherwise in issue, and it would not serve the interests of judicial economy to have to decide, in a large proportion of Markman proceedings, the difficult question of precisely when the invention was made. Moreover, in the absence of evidence of an actual date of invention, the filing of an application serves as a constructive reduction to practice, thus fixing the date of invention.[66] The filing date is a seemingly reasonable choice as the appropriate reference point, if for no other reason than it is not a variable date, like the issue date, that depends upon the length of the prosecution. However, in the opinion of the SM, using the filing date as the point in time as of which the meaning of the claims must be ascertained would, if rigidly observed, require the court to ignore the prosecution

[66] E.g., Hyatt v. Boone, 146 F.3d 1128, 47 USPQ2d 1128, 1130 (Fed. Cir. 1998).

itself, which of course occurs *after* the application is filed. For this reason, and for the additional reason that the most recent pronouncement of the Federal Circuit instructs that the dictionaries and treatises that are to be consulted in determining ordinary meaning are those existing as of the date the patent issues, **it is recommended that the Court construe the claims as they would have been understood by a person of ordinary skill in the art when the patent issued.**

C. System Claims – Means-Plus-Function Treatment under 35 U.S.C. §112¶6

Several of the asserted system or apparatus claims of the patents contain limitations that are presumptively in MPF format: claims 1, 2, 5, and 7 of '414, and claims 10, 66, and 70 of '654. The parties are definitely at odds with respect to the applicability of §112¶6 to many of these limitations. With respect to the claims of the '414 and '654 patents, defendants assert that all but one ("processor means") of the limitations that employ the signal "means for" are to be construed as MPF limitations. Plaintiffs, on the other hand, argue that none of those limitations in the '414 patent, despite use of the presumption-creating signal, is truly in MPF format.[67] As for the '654 patent, plaintiffs take essentially the same position, except that they do concede that two "means for" limitations ("memory means" and "recorder means") should be accorded §112¶6 treatment. In many instances both sides hedge their bets against the possibility that their asserted positions will not win out and propose alternative constructions.

In some instances, the limitations in question, in the view of the SM, clearly invoke §112¶6. These are limitations in which neither the adjective modifier preceding the "means for" signal (e.g., "input means for"; '654 claim 10) nor the recited function ("inputting member information") gives a clue as to any supporting structure. Consequently, the presumption that

[67] The SM finds plaintiffs' intractability in this regard unhelpful, to say the least. In most instances they are unable to point to any grounds in the intrinsic patent record for overcoming the presumption created by the incantation "means for."

§112¶6 applies cannot be overcome as to those limitations. In other instances, the matter is not so clear, inasmuch as either the modifier (e.g., "processor means"; '414 claim 1) or the functional recitation ("for identifying each detected control signal as having been detected by a particular detector means") provides at least some basis for structural support. In the discussion that follows, the SM has grouped the functional limitations into those that clearly invoke §112¶6 and those that at least presumptively so do. Any terms in the functional recitations that are in dispute or require construction are also discussed in this section.

Limitations that Clearly Invoke §112¶6

Receiver/Distribution Means ('414 all claims). The limitation is "a plurality of receiver/distribution means for receiving programming from a program source and for inputting said programming to a switch means and a plurality of detector means." The term "receiver/distribution" as a modifier for means conveys no information about the structure of the means – only its function: receiving and distributing. The specified function is likewise not informative in this regard. Saying that a device receives programming from a source and inputs it to a switch and a plurality of detectors says nothing about the structure of the device. **Accordingly, "receiver/distribution means" should be construed to mean the various receiver types 53-62 shown in Fig. 6A of the '414 patent, with associated antennae and conductors,[68] and equivalents that were known at the time the patent issued.[69]** The recited function needs no construction except for the terms "switch means" and "detector means" which are treated below.

[68] Plaintiffs take the position (PRB pp. 26-28) that the supporting structure does not include an antenna and conductors. But without those elements, the "receiver/distribution means" could hardly receive programming from a program source and input the programming to a switch and a plurality of detectors, as required by the functional portion of the limitation.
[69] See Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308, 50 USPQ2d 1161, 1168 (Fed. Cir. 1999).

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Storage Means ('414 claim 1), Storage/Transfer Means ('414 claims 5 and 7) and Memory Means ('654 all claims). In each instance in the '414 patent the recited function is "for receiving and storing said detected control signals." Claims 5 and 7 of that patent provide for an additional function of "transferring at least a portion of said control signals for further processing." The functional recitation of the '654 claims is "for storing said input information." Claim 10 also calls for a "second memory means for storing said data." Nothing in the words "storage," "storage/transfer," or "memory" implies any particular structure, nor do the functional recitations. In the '414 patent the elements that receive and store control signals and transfer them are a RAM or PRAM ('414 C20L23-27). **Accordingly, these limitations in the '414 patent should be construed to mean a RAM or a PRAM, and equivalents thereof that were known when the patent issued.** The functional recitations need no construction.

The parties are in essential agreement as to the elements disclosed in the '654 patent that perform the function of storing the input information and the data that is output from the processor. **Accordingly, these limitations should be construed to mean a RAM, EPROM, buffer, comparator, floppy disk, register, or computer memory, and any equivalents that were known when the patent issued.** The functional recitations require no construction.

Switch Means ('414 claims 1 and 2). Certainly the word "switch" does not imply any particular structure. From the recited functions[70] we know that the switch must be configured to receive information from any of a plurality of outputs and direct a portion of that information to an associated output device, but this really says nothing about the structure of the switch, or not

[70] The claimed functions are "receiving output from a plurality of receiver/distribution means" and "directing a selected portion * * * to an associated output device."

enough, at least, to overcome the presumption that §112¶6 should apply.[71] **Accordingly, this limitation should be construed to mean the matrix switch 75 disclosed in the specification,[72] and equivalents known at the time the patent issued.** The recited functions need no construction except for the term "receiver/distribution means" which has been addressed above.

Transmission Means ('654 all claims). The parties are agreed[73] on the construction of this limitation, and the SM believes that their agreement reflects a proper legal construction. **Accordingly, this limitation should be construed, pursuant to §112¶6, to mean a connection to a telephone network or a data transfer network, and equivalents known as of the issue date of the patent.** The functional recitation ("transmitting said data to said data collection station") requires no construction.

Input Means ('654 all claims). The parties are agreed that this is a MPF limitation and they are correct: the modifier "input" describes only a functional attribute and the accompanying functional recitation – "for inputting member information" – suggests no specific structure. Plaintiffs suggest that the corresponding structure is "local input 225." However, if the specification were truly this uninformative about the structure of the "input means," the claims might well be invalid under §112¶2 (see the foregoing discussion of claim definiteness). Fortunately, the specification is not fatally terse in this respect. In discussing the local input 225, it says:

> In the preferred embodiment, local input, 225, is actuated by keys that are depressed manually by the subscriber in the fashion of the keys of a so-called touch-tone telephone or the keys of a typewriter (or microcomputer) keyboard. As FIG. 4 shows, microcomputer, 205, also has capacity for inputting control

[71] We also know, from the last limitation of claim 1 ("a second processor means for controlling the output directing function of said switch means") that the directing function of the switch means must be externally controllable, but again this says little or nothing about the actual physical structure of the switch means.
[72] The parties are agreed that the supporting structure is the matrix switch 75 in Fig. 6A of the '414 patent.
[73] Joint Chart p. 40.

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> information to microcomputer, 205, via decoder, 203, and in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205. ('654 C160L32-44)

The specification also provides for input of information to the microcomputer 205 through a modem ('654 C248L60-C249L28). **Accordingly, "input means" should be construed to mean telephone keypads, typewriter or microcomputer keyboards, and microcomputers that are preprogrammed with information or receive it from a modem, as well as equivalents that were known when the patent issued. The functional recitation needs no construction inasmuch as its ordinary meaning is clear: member information is information from or about a member.**

Recorder Means ('654 claims 66 and 70). The word "recorder" as a modifier says nothing about structure. The recited function of this limitation is "for storing said output records on a memory medium." This is obviously the function of any "recorder means," and likewise implies no particular structure. The element in question,

> [d]igital recorder, 16, is a memory storage element of standard design that receives information from buffer/comparator, 14, and records said information in a predetermined fashion. In a predetermined fashion, recorder, 16, can determine how full it is and transmit this information to controller, 20. Recorder, 16, may inform controller, 20, automatically when it reaches a certain level of fullness. ('654 C18L53-60)

Accordingly, the §112¶6 presumption is not overcome, and this limitation should be construed to mean a memory storage device of standard design capable of recording digital information, and of determining how full the store is and of informing a controller when it reaches a certain level of fullness, together with equivalents known as of the issue date of the '654 patent.

Limitations that Presumptively Invoke §112¶6

Detector Means and Control Signal Detector Means ('414 all claims; '654 all claims). In Personalized Media Comm. LLC v. United States ITC, 161 F.3d 696, 48 USPQ2d 1880 (Fed. Cir. 1998), the Federal Circuit had occasion to construe the claims of the same '277 patent that is asserted in this case. The limitation in question was a "digital detector," and the court concluded that the ITC had erred in treating it as a MPF limitation. The court reasoned that the clause did not use the signal "means," thereby creating a presumption that it was not to be accorded §112¶6 treatment. It then concluded that

> [e]ven though the term "detector" does not specifically evoke a particular structure, it does convey to one knowledgeable in the art a variety of structures known as "detectors." We therefore conclude that the term "detector" is a sufficiently definite structural term to preclude the application of Section 112, Para. 6.
>
> Much of the ALJ's analysis (and the Commission's arguments to this court) centered around the ambiguity raised by the phrase "digital detector." However, an adjectival qualification ("digital") placed upon otherwise sufficiently definite structure ("detector") does not make the sufficiency of that structure any less sufficient for purposes of Section 112, Para. 6. Instead, it further narrows the scope of those structures covered by the claim and makes the term more definite. The use of the word "digital" in conjunction with the word "detector" merely places an additional functional constraint (extraction of digital information) on a structure (detector) otherwise adequately defined. 48 USPQ2d at 1888.

Although this holding might not have preclusive effect, at least with respect to all parties, under ordinary principles of res judicata,[74] there is no denying its powerful stare decisis impact.

[74] In affirming the Federal Circuit's Markman holding that claim construction is a question of law exclusively within the province of the court, the Supreme Court made it clear that claim construction holdings as to a particular patent will not normally result in issue preclusion against new accused infringers, even within the same jurisdiction. However, it strongly signaled an expectation that stare decisis would play a significant role in promoting uniformity in claim construction as to a given patent. Markman v. Westview Instr., Inc., 517 U.S. 370, 38 USPQ2d 1461, 1471

Accordingly, although the SM considers the matter to be a close question indeed,[75] this report later recommends that the limitation "digital detector" in the asserted claims of the '277 patent be so construed. That does not, however, end the matter for the claims of the '414 and '654 patents, for they do employ the signal "means," thereby presumptively invoking §112¶6. Indeed, defendants urge that the limitations be construed under §112¶6. (Joint Chart, pp. 7, 39)

Nonetheless, it is not clear how this circumstance can be distinguished from the Federal Circuit holding that the term "detector" connotes sufficient structure to escape MPF treatment. If the term "detector" is itself sufficiently structural, then it would seem to be sufficiently so to overcome the presumption. The additional modifier "control signal" in certain limitations, to paraphrase the Federal Circuit's analysis, merely places an additional functional constraint (detection of control signals) on a structure (detector) otherwise adequately defined. **Accordingly, this limitation should not be construed under §112¶6, but should be construed to mean a detector, as that term is generally understood by persons of ordinary skill in this art.**

The functional recitation of "detecting" was not directly addressed by the Federal Circuit in Personalized Media. It did, however, cite with approval a dictionary definition of "detector" that had been relied upon below: "(1) : a device for determining the presence of a signal (2) : a rectifier of high-frequency current (as a cat whisker and crystal or a vacuum tube) (3) : a device for extracting the intelligence from a signal (4) DEMODULATOR 1." 48 USPQ2d at 1887 n.

(1996). The Federal Circuit has since made it clear that its decisions on claim construction have a national stare decisis effect. Key Pharm. Inc. v. Hercon Labs. Corp., 161 F.3d 709, 48 USPQ2d 1911, 1916 (Fed. Cir. 1998).

[75] The SM has doubts about the correctness of the Federal Circuit's conclusion that the term "digital detector" connotes sufficient structure to remove it from the ambit of §112¶6. There are many structures that could qualify as a digital detector, and many more to be invented. The Federal Circuit itself recognized that failure to employ the signal "means" is not conclusive. "These presumptions can be rebutted if the evidence intrinsic to the patent and any relevant extrinsic evidence so warrant." 48 USPQ2d at 1888. See Mas-Hamilton Group Inc. v. LaGard Inc., 156 F.3d 1206, 48 USPQ2d 1010, 1017 (Fed. Cir. 1998) (holding that the claim language "lever moving element for moving the lever" invokes §112¶6).

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12. These definitions describe the functions of an electronic device known as a detector. Plainly, from the context of the claim as a whole, the most apt functional definition is extracting the intelligence from a signal. **Accordingly, it is recommended that "detecting" be construed to mean "extracting intelligence from a signal."**

Processor Means ('414 all claims; '654 all claims). The parties are in agreement that the term "processor means" does not invoke §112¶6.[76] The SM agrees with this assessment. Although the signal "means" raises the presumption of MPF treatment, the term "processor" is one that is well understood in the electronics and communications fields to have certain structural attributes that support its functional capability of processing information. This is sufficient to overcome the presumption and remove the limitation from the ambit of §112¶6.

Plaintiffs assert that the meaning of "processor" is "a circuit or collection of circuits that executes instructions." Defendants contend that it means "any circuit or device that performs logical step(s) on input data." (Joint Chart p. 47) The parties, in the context of various occurrences of the word "processor" in the claims of the several patents in suit, cite to many possible definitions, ranging over a wide spectrum. Too broad a definition could comprehend simple hard-wired logic elements that are far removed from the notion of a "processor." Yet too narrow a definition would not comport with the examples in the specification or the dictionary definitions, which are quite broad.[77] The SM feels that the Court should favor the center of this spectrum, according the word "processor" the breadth that it is due without reading it so broadly as to include virtually every active electronic circuit element. **Accordingly, this limitation should be construed to mean a digital electronic device that processes information by**

[76] Joint Chart p. 9.
[77] See, e.g., the definitions set forth by defendants in addressing the '277 patent (DIB '277 pp. 25-26).

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operating on data according to instructions. It is recommended that this definition be used for all occurrences of the word "processor" in the asserted claims of all the patents in suit.

The associated functional recitations need no construction except to the extent that they employ terms that are treated elsewhere in this report.

Broadcast Transmission Means ('414 claims 5 and 7). This limitation does not include a separate, freestanding functional recitation; in other words, it lacks the telltale "means for" signal. From this plaintiffs argue that it is not a MPF limitation. Nonetheless, the modifying words, "broadcast transmission" are purely functional, specifying the function of the claimed means without recitation of supporting structure. This limitation invokes §112¶6.[78] In the context of this technology, the function implied by the words "broadcast transmission" is the ordinary meaning of those words: transmitting information from one location to multiple locations. Thus, it should be a straightforward exercise to identify the structure that supports this function.

Unfortunately, this is not the case, because the parties appear to differ over the meaning of the term "broadcast." Plaintiffs argue that "the applicants acted as their own lexicographer in carefully distinguishing 'broadcast' from 'cablecast' in the '414 patent specification. * * * 'Broadcast' was specifically limited to over-the-air transmissions, while 'cablecast' referred to hard-wire transmissions." (PRB p. 34) On the surface of things, this is true. The specification tells us that the "programming may be delivered by any means including over-the-air, hard-wire, and manual means. The stations may transmit programming over-the-air (hereinafter, 'broadcast') or over hard-wire (hereinafter, 'cablecast')." ('414 C8L64-67) Defendants, however, are quick to point out that, thereafter, the specification vacillates on this usage. For example,

[78] See Signtech USA Ltd v. Vutek Inc., 174 F.3d 1352, 50 USPQ2d 1372, 1374-75 (Fed. Cir. 1999) ("Ink delivery means" is equivalent to "means for ink delivery" in the context of determining whether it should qualify for MPF treatment under §112¶6); Kemco Sales Inc. v. Control Papers Co., 208 F.3d 1352, 54 USPQ2d 1308, 1313 (Fed. Cir. 2000) ("plastic envelope closing means" held to be a MPF limitation).

some 130 columns later, it tells us that "[s]ignal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, wireless) transmission or frequency in the locality of the subscriber station of FIG. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies." ('414 C139L55-60) Thus, it introduces a new term, "wireless," and frequently employs that term in juxtaposition to cable transmissions. (See DRB '414 p. 18)

The SM personally examined each occurrence of the words "broadcast," "cablecast," and "wireless" in the '414 patent and found that there was no consistency in usage. However, when the specification turned to a description of the intermediate stations, it left little doubt as to what was meant:

> The signal processing apparatus outlined in FIGS. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously. ('414 C181L65-C182L6; emphasis added)

So too when the discussion turned to ultimate receiver stations:

> The programming so displayed (or outputted) may be any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may be received via any electronic transmission means including wireless and cable means. ('414 C218L17-22; emphasis added)

These statements leave no doubt that "broadcast transmission" as used in the claims is broader than simply wireless transmissions, and would include cable transmissions as well.

The question then becomes what is the structural means that underlies the function of transmitting information from one location to multiple locations. Certainly one such structure is

the cable field distribution system disclosed in connection with the automated intermediate transmission station. Plaintiffs point to no corresponding structure supporting a wireless broadcast transmission, but it may well be that such systems are notorious in the art and need no structural explication.

Accordingly, this limitation should be construed to mean a cable field distribution system or equivalent wireless system, known at the time the patent issued, for transmitting information from one location to multiple locations.

Buffer/Memory Storage Means ('414 claim 2). It might, at first glance, be supposed that the addition of the word "buffer" should differentiate this limitation from the "storage means" of claim 1 of the '414 patent. It is possible that the word might imply some structure to those of skill in the art. The problem, however, is that the specification is silent on the meaning of the term "buffer/memory storage." Defendants argue that the term as a consequence is ambiguous and claim 2 is invalid for indefiniteness under §112¶2. However, this misapprehends the whole point of claim construction, which is to resolve ambiguities in claim language. Indeed, construction is not required unless, when given its ordinary meaning, a term is ambiguous. Only if a claim is insolubly ambiguous, and no narrowing construction can properly be adopted, the claim may be held indefinite. If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, the claim may be sufficiently clear to avoid invalidity on indefiniteness grounds.[79]

In the context of the '414 patent, it seems clear that the term "buffer/memory storage means" was not intended to have a meaning different that the simple "storage means" of claim 1.

[79] See discussion accompanying notes 33-38.

Accordingly, this limitation should be construed to mean the same thing as "storage means" in claim 1.

Matrix Switch Means ('414 claims 5 and 7). This limitation, albeit presumptively invoking §112¶6, has a significant difference from its counterpart "switch means" in claims 1 and 2 of the '414 patent. Both clearly refer to the matrix switch 75 shown in Fig. 6A. But the claim word "matrix" implies some controllability, so that a selection may be made as to where a given input is to be directed for output. Of course, this could be accomplished by manual manipulation of mechanical switches, but the entire context of the specification (and the last limitation of each of claims 5 and 7) indicates that this control is to be achieved electronically, by a processor. An electronically controlled matrix switch appears to be a commonly understood device in the electronics field, having a reasonably generic physical structure. This is sufficient to overcome the presumption that §112¶6 applies to this limitation. **Accordingly, "matrix switch" is to be given its commonly understood meaning to those of ordinary skill in this art, which, in the context of this patent, is an electronically controllable device capable of interconnecting any given input with any given output.**

D. Method Claims – Step-Plus-Function Treatment under 35 U.S.C. §112¶6

Several of the method claims of the asserted patents contain limitations that arguably invoke §112¶6: claim 4 of '490; claims 14 and 17 of '825; and claims 14, 21, 30, and 41 of '243. In their written submissions, neither side has taken a position on whether §112¶6 should apply to these limitations. Nonetheless, the SM is obliged to examine them and recommend that they be construed in accordance with §112¶6 if that construction is warranted as a matter of law.

None of the method limitations in question uses the signal "step[s] for." Rather, each employs the term "step[s] of." Thus, "without a showing that the limitation contains nothing that

can be construed as an act," it will not be regarded as a step-plus-function limitation.[80] Moreover, in order to fall within §112¶6, the claim limitation must recite a function.[81] In determining whether a recital constitutes a supporting act for achieving a function, the emphasis will be on looking to see whether the claim language specifies *how the function is achieved* rather than simply what it is.[82]

The '490 Patent – Claim 4. Claim 4 contains two steps: "transmitting a video signal" and "transmitting an instruct-to-overlay signal." Nothing in the clause containing the first step suggests a function, nor an act for accomplishing a function. Rather, it recites merely the action of transmitting. **Accordingly, this limitation does not invoke §112¶6.**

The second step – transmitting an instruct-to-overlay signal – is more conditional in that it is required to achieve a specific functional result, namely, "to thereby cause selected ones of said computers to generate and transmit their overlay signals."[83] The bare recital of transmitting an instruct-to-overlay signal, although unquestionably the recital of an action, provides no information about how the functional goal of computer generation and transmission of overlay signals is to be achieved, and it cannot therefore be regarded as an "act" within the meaning of §112¶6. Although the signal "step for" is missing, thus raising the presumption that §112¶6 does not apply, this presumption is overcome by the fact that the step that is to produce the recited function is devoid of any supporting acts. The supporting acts are comprehended in the following portion of the specification:

> Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming

[80] See note 26 and accompanying text.
[81] See Wenger Mfg. Inc. v. Coating Mach. Sys. Inc., 239 F.3d 1225, 57 USPQ2d 1679, 1684-86 (Fed. Cir. 2001).
[82] See notes 27 and 28 and accompanying text.
[83] The treatment of the language in a "whereby" clause in Lockheed Martin Corp. v. Space Systems/Loral Inc., 249 F.3d 1314, 58 USPQ2d 1671, 1678 (Fed. Cir. 2001), is not seen to be apposite here. The language following the word "whereby" in that case was by way of describing essentially the function of the entire claimed control system. Here, the language following the word "thereby" clearly describes the functional result of the transmitting action.

> transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command. * * * [At a point in the television programming transmission], an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. ('490 C19L42-67)

This clause should be treated as a step-plus-function limitation under §112¶6 and construed to cover the acts described in the '490 specification that, as a result of the transmission of an instruct-to-overlay signal, cause selected ones of the computers to generate and transmit overlay signals, and known equivalent acts.

The '825 Patent – Claims 14 and 17. Again, neither party suggests step-plus-function treatment of any limitations in the '825 patent claims. The SM agrees with this implicit assessment, particularly in view of the lack of the telltale signal "step for" and the consequent presumption that §112¶6 does not apply. Claim 14 of the '825 patent recites a method having six steps, (a)-(f). With the exception of step (b), each step simply constitutes an action without a recital of functional result. Step (b) calls for "demodulating said carrier transmission to detect an information transmission thereon." Although detection of information does connote functionality, the function specified is simply that of any demodulation step, and that function can be achieved by any demodulation technique suitable to the claimed process as a whole. Dependent claim 17 adds the step of "decrypting an encrypted information transmission." Again, this bare recitation does not specify a function other than the action of decrypting, and there is no indication of how the encrypted information is to be decrypted. **Consequently, none of the steps of claims 14 and 17 of the '825 patent should be accorded §112¶6 status.**

The '243 Patent – Claims 14, 21, 30 and 41. The asserted method claims of the '243 patent recite a series of steps that, in each instance but two, simply recite an action without attendant functionality. The parties make no contentions about the applicability of §112¶6. Neither of the exceptions employs the signal "step for," and it is therefore to be presumed that §112¶6 does not apply. Nonetheless, the SM is obliged to carry the analysis further.

The first exception is found in the third step of claim 21, which calls for "controlling said processor to output specific information in response to said step of inputting said instruct-to-react signal." The recited action of "controlling said processor" has a specific recited function, namely, "to output specific information in response to" an earlier recited step. But there is no recital of a supporting act specifying how that function is to be achieved. The acts described in the specification that achieve this function are as follows:

> Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of particular covert control information (which is preprogrammed in said instructions) to be placed at particular control-function-invoking information memory of the controller, 39, of decoder, 145, and also at particular control-function-invoking information memory of the controller, 39, of decoder, 203. Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information. ('243 C249L4-19)

This clause should be construed according to §112¶6 to cover the acts described in the '243 specification for accomplishing the function of outputting specific information in response to the inputting step, and equivalents known as of the issue date of the '243 patent.

Similarly, claim 30, which is dependent on claim 21, adds the step of "controlling a video recorder/player to one of record and play." Again, the recited function of this "controlling" step is to record or play, but no supporting act is recited that indicates how that function is achieved.

However, as in the case of the "demodulation" step of claim 14 of the '825 patent, the functions of recording and playing are the functions of any video recorder/player and those functions are invoked by "controlling" the device. **Accordingly, this step should not receive §112¶6 treatment.**

E. The '490 Patent

According to plaintiffs, the claims of this patent are "directed to an ultimate receiver station and the techniques used by that station to process received signals to provide overlays. While the television broadcast that is sent to each subscriber is the same, the embedded signals in the transmission allow the ultimate receiver station to generate different displays for different people." (PIB p. 37) Only claim 4 is asserted.

"Computers being adapted to generate and transmit." The parties proffer similar definitions of this term. Plaintiffs say that if it is to be construed, it means "computers that locally generate overlay video signals and transmit the overlay video signals to the television receiver." (Joint Chart p. 1) Defendants add the words "from recorded data known only to the subscriber" after the first occurrence of "signals." (Id.) Thus, defendants want the claim to be construed to mean that the overlay signals that are generated by the computer be generated from "recorded data known only to the subscriber." In support of this rather restrictive interpretation, defendants point to the "Wall Street Week" example in the patent ('490 C19L35-41), and observe that the exemplary system described there uses data concerning the subscriber's stock portfolio. They also note applicants' statement during prosecution that this "unique information is generated automatically at each subscriber station by a local computer that contains recorded data (known only to the subscriber)." (FH 000134).

There are several problems with defendants' proposal. First, it is clear that the words "known only to the subscriber" cannot be taken literally; certainly others (such as a broker, financial advisor, spouse) may be aware of the recorded data. Second, and more importantly, it is not at all clear from the context of the prosecution remarks that applicants were in any sense using the possibly private nature of the data as a distinction over the prior art. Rather, they appeared to be emphasizing the user specific nature of the data. Certainly the SM is unable to conclude that a person of ordinary skill in the art would regard those prosecution remarks as a clear disavowal of claim coverage broad enough to include generation of overlay signals from recorded data that was known to persons other than the subscriber.[84] An accused infringer cannot overcome the heavy presumption that a claim term takes on its ordinary meaning simply by pointing to the preferred embodiment.[85]

The words "computer," "generate," and "transmit," are used in their ordinary sense. The parties do not identify ambiguity or conflicting dictionary definitions. **Accordingly, this term needs no construction. However, the Court may wish to instruct the jury that the word "adapted" is a term of art used in patent claiming connoting that the recited mechanism is capable of or suitable for achieving the recited functions.**

"Overlay video signals." Plaintiffs propose a complex definition requiring that the video signals be "generated from information not included in the television program transmission" and that the television receiver "combine the computer generated video signals with the television program transmission." (Joint Chart p. 1) Again, plaintiffs point to the exemplary embodiment in

[84] See York Prods., Inc. v. Central Tractor Farm & Fam. Ctr., 99 F.3d 1568, 40 USPQ2d 1619, 1624 Cir. 1996). Prosecution history statements cited as justification for narrowing claim scope must amount to a "a clear and unambiguous disclaimer of" a broader claim scope, Inverness Med. Switz. GmbH v. Princeton Biomeditech Corp., 309 F.3d 1365, 64 USPQ2d 1926, 1932 (Fed. Cir. 2002).
[85] Teleflex Inc. v. Ficosa North Am. Corp., 299 F.3d 1313, 63 USPQ2d 1374, 1382 (Fed. Cir. 2002).

the specification as supporting these extraneous requirements. But there is nothing in the specification that precludes the possibility that the overlay video signals be generated from information that is included in the television program transmission, or that the overlay video signals be combined with the television program by the computer. To import these examples from the specification into the claim to create limitations would violate the most fundamental rule of claim construction. As the Federal Circuit pointed out, sitting en banc in an early case:

> If everything in the specification were required to be read into the claims, or if structural claims were to be limited to devices operated precisely as a specification-described embodiment is operated, there would be no need for claims. Nor could an applicant, regardless of the prior art, claim more broadly than that embodiment. Nor would a basis remain for the statutory necessity that an applicant conclude his specification with "claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112. It is the claims that measure the invention.[86]

The ordinary meaning of this term is a video signal that comprises an overlay. **This term needs no construction. However, the Court may feel that it would be of assistance to the jury to explain that such a signal is generated by the computer and transmitted to its associated receiver to present simultaneous display of the overlay and the television program.**

"User specific information related to said program material." Although this phraseology is clear and unambiguous, defendants contend that certain positions taken by plaintiffs during prosecution result in a narrowing of the plain meaning, so that "user specific information" must be construed to mean information that is unique to the user and not known at the television programming source. Defendants point to a statement in the prosecution history that "this system displays user specific information that is private and unique to the subscriber and is neither known to the input source nor revealed at any other subscriber station." (FH 000134) In the

[86] SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 227 USPQ 577, 585 (Fed. Cir. 1985).

opinion of the SM, this statement does not amount to a clear disavowal of the ordinary meaning of "user specific,"[87] which is information from or about a specific user. It is clear from the context of the statement that it was describing the system disclosed in the specification rather than the language of the claims. **Accordingly, this term requires no construction.**

"Unique user application" and "each display unique to a specific user." Part of the support for defendants' position (discussed above) on the meaning of "user specific information" derives from the fact that these two phrases – both employing the word "unique" – also appear in claim 4. Thus it is not unreasonable, at least on the face of things, to suggest that the word "specific" should be construed to mean "unique" when this claim is considered in its entirety. Closer analysis of the prosecution history, however, demonstrates that this suggestion is misplaced.

During prosecution of application claim 21, which became claim 4 of the patent, the applications amended the term "particular user application" to read "unique user application," and also added the phrase "each display unique to a particular user." (FH 000129-139) In the paper that effected those amendments, the applications stated that "[u]ser specific information means information which is unique to a user." (FH 000138; emphasis present) However, in a paper dated February 12, 1987, the applicants further amended the claim (together with application claims 18 and 24) to change both occurrences of "unique" to "specific." (FH 000192) They explained the reason for the amendment as follows (FH 000193-94):

> This change is not intended to affect the scope of the claims but upon review of the application, it was realized that the term "unique" may convey the thought that the invention requires that the display at each of the subscribers must necessarily be different. Although, in the example given, this is typically the case since it is

[87] Defendants also point to additional prosecution statements to the effect that user specific information means information that is unique to a user. (See, e.g., FH 000137.) But such statements are inconsistent with, and clearly subordinate to, the circumstances surrounding the appearance and ultimate disposition of the words "specific" and "unique" during the prosecution of claim 4, as will be explained below.

> highly unlikely that any two subscribers would have the same stock portfolio, it would appear to be self-evident that the invention would nevertheless apply to a situation where some number of subscribers had exactly the same portfolio. In that case, the user specific information displayed at the subscriber's television receiver would be the same for each of such subscribers. In that sense, arguably the information might not be "unique" although it would still be "specific".
>
> Applicants believe that the Examiner will have no objection to this proposed change since clearly the invention is concerned with the display of user specific information as opposed to the display of "unique" information. In that sense, the proposed amendments may actually avoid a possible inconsistency.

There is no mistaking the clear import of this language. The applicants were telling the examiner, and potential competitors, that the claim was not to be construed as limited to information, applications, or displays that were unique to a specific user, at least in the sense that "unique" connotes "different from all others."

Apparently, this was acceptable to the examiner, for he immediately allowed the claims without comment. (FH 000198-99) In processing the amendment, the examiner duly made the changes in longhand to application claims 18, 21, and 24 (FH 000142-45), but for some inexplicable reason, the changes did not appear in claim 4 of the printed patent.[88] On October 25, 2000, the applicants filed a request for a Certificate of Correction under 37 C.F.R. §1.332 to correct this administrative error.[89] In the absence of this error, defendants' claim construction position would have very little going for it. The phrases in question would read "specific user application" and "each display specific to a specific user," and ordinary meaning would prevail. The question then becomes, how to handle the error?

Very recently, this Court had occasion to consider a similar issue in ISCO Int'l Inc. v. Conductus Inc., (No. C.A. 01-487 GMS). Its Memorandum Opinion and Order, dated February

[88] The changes do appear in claims 1 and 7 of the printed patent, which correspond to the application claims 18 and 24.
[89] Apparently that request has not been acted upon by the PTO.

10, 2003[90] and reported at 2003 WL 276250 (D. Del.), the Court held that a plain typographical error in a claim should be disregarded for purposes of determining validity and infringement. In other words, the claim should be read as though the error had been corrected. Defendants assert (albeit in the context of one of the other patents in suit), that "Judge Sleet's recent *ISCO* holding is inconsistent with Federal Circuit precedent and Congress' non-retroactivity policy." The SM disagrees. The case principally relied on by defendants held that a Certificate of Correction has only prospective effect – it cannot affect litigation pending at the time it is granted.[91] This is a far cry from holding that errors in claim language that are apparent from the prosecution history and clearly the fault of the PTO cannot be taken into account during the claim construction exercise. Judge Sleet's ISCO opinion cites, at note 5, many examples of courts, including the Federal Circuit, construing claims in a fashion that accounts for and rectifies such error.[92] Indeed, the Manual of Patent Examining Procedure (MPEP) itself provides, in §1480, that "[i]f Office mistakes are of such a nature that the meaning intended is obvious from the context, the Office may decline to issue a certificate and merely place the correspondence in the patented file, where it serves to call attention to the matter in case any question as to it subsequently arises. Such is the case, even where a correction is requested by the patentee or patentee's assignee." This is the obvious explanation – and the only one supportable on this record – for the PTO's failure to act on plaintiffs' request for a certificate.

The presumption here is that the examiner did his or her job. In this instance, that job was to see whether the change from "unique" to "specific" impacted the patentability of claim 4. The presumption is that the examiner decided that it did not, and entered the amendment. It is

[90] The decision was adhered to on motion to reconsider; see Order of March 6, 2003.
[91] See Southwest Software Inc. v. Harlequin Inc., 226 F.3d 1280, 56 USPQ2d 1161, 1172-74 (Fed. Cir. 2000).
[92] See, e.g., Lemelson v. General Mills Inc., 968 F.2d 1202, 23 USPQ2d 1284, 1285 & n.3 (Fed. Cir. 1992).

certainly open to defendants to show, by clear and convincing evidence, that the examiner was wrong, and that the substitution of the word "specific" for "unique" calls into play invalidating prior art. But that possibility does not affect the construction that this claim must receive as a matter of law. **Accordingly, these terms should be construed as though they read "specific user application" and "each display specific to a specific user," and the ordinary meaning of those words controls. The ordinary meaning of the word "application" in the context of this technology is "computer program."**

"Transmitting a video signal containing a television program signal." On the face of things, it is difficult to see how anyone could quarrel about the ordinary meaning of this term. Certainly, the ordinary meaning of the term today would include both conventional analog television and digital television. However, as we have seen, the relevant time frame for the '490 patent is when it issued, in 1987.

Defendants argue that, due to the use of the term "video signal," this limitation should be construed to mean that the television program signal is a conventional analog television signal, thus excluding digital television transmissions. (DIB '490 pp. 22-25; Joint Chart p. 2) In support of this argument, they point to a technical dictionary definition dated at about the time the '490 patent issued (DIB '490, Ex. E), which they assert demonstrates that, at that time, "video" referred to conventional analog television. This, they say, raises the presumption (apparently in reliance on the Texas Digital decision[93]) that digital television is excluded. Defendants' expert witness, Prof. Schreiber, pursued this theme. He testified that if a person of ordinary skill in the art read claim 4 in 1987, without having consulted the specification, he or she would have concluded that the limitation in question was referring to conventional analog television. The

[93] See note 11 and accompanying discussion.

specification would not have altered that conclusion, for (as plaintiffs concede) it does not describe digital television. But neither does the specification employ "expressions of manifest exclusion or restriction, representing a clear disavowal of" that claim scope.[94]

Prof. Schreiber did allow that digital point-to-point television transmissions were employed in 1987 (Tr. 158), but defendants note that claim 4 speaks in terms of "communicating television program material to a multiplicity of receiver stations" (emphasis added), thus implying broadcast transmission, either over-the-air, by cable, or by satellite. Even plaintiffs' expert, Prof. Dickinson, seemed to agree that digital television broadcasts were not a practical reality as of 1987 (Tr. 62, 68-72, 127-29).[95]

Nonetheless, Prof. Schreiber's own textbook (P-11),[96] published in 1986, casts substantial doubt upon the reliability of his conclusion that a person of ordinary skill would not, at the time the '490 patent issued, have regarded the words "video signal containing a television program signal" as comprehending digital as well as conventional analog television. Figure 1.2, appearing at page 12 of his book, purports to show a simple television system. It illustrates, as viable alternatives, a 4 megahertz analog channel and a 24 megabyte per second digital channel. This seems clearly to indicate that persons skilled in the art, and even their students, were then thinking in terms of analog and digital transmission techniques as viable alternatives for television.

Thus, the only potentially viable basis for construing this limitation to exclude digital television is the opinion of the Federal Circuit in Wang Labs. Inc. v. America Online Inc., 197

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[94] See Teleflex Inc. v. Ficosa North Am. Corp., 299 F.3d 1313, 63 USPQ2d 1374, 1381 (Fed. Cir. 2002).
[95] The problem was apparently due to the regulatory allotment of a 6 megahertz bandwidth for a television channel. Propagating a video signal at a satisfactory bitrate in such a narrow bandwidth was not then practicable, and required further improvements in signal processing techniques, modems and other hardware, etc. (Tr. 55-59)
[96] WILLIAM F. SCHREIBER, FUNDAMENTALS OF ELECTRONIC IMAGING SYSTEMS (Springer-Verlag 1986).

F.3d 1377, 53 USPQ2d 1161 (Fed. Cir. 1999). The SM has puzzled privately and publicly[97] over the meaning of that decision and is no closer now to a satisfactory explanatory rationale than he was when the case came down over three years ago. The invention there had to do with apparatus for retrieving and processing frames of information from a central videotex supplier. At the time of the invention, several protocols existed for processing and displaying computer-generated data. They were of two general types: character-based protocols and bit-mapped protocols. The patent specification disclosed only character-based protocols. The district court construed the claim term "frame" to mean a page of information encoded in a character-based protocol. Inasmuch as the accused infringing systems, like most Internet systems, utilized bit-mapped protocols, they were held not to infringe.

The Federal Circuit affirmed, concluding that the district court had correctly construed the term "frame" as limited to character-based protocols. In so doing, it systematically rejected several serious and reasonable arguments by the patentee without providing much insight as to the underlying rationale for its decision. For example, in response to the patentee's argument that the character-based protocol was simply a preferred embodiment, and that the embodiment described in the specification does not set the boundaries of the claims, the appellate court offered a rather cryptic statement:

> Although precedent offers assorted quotations in support of differing conclusions concerning the scope of the specification, these cases must be viewed in the factual context in which they arose. Whether an invention is fairly claimed more broadly than the "preferred embodiment" in the specification is a question specific to the content of the specification, the context in which the embodiment is described, the prosecution history, and if appropriate the prior art, for claims should be construed, when feasible, to sustain their validity. The usage "preferred" does not of itself broaden the claims beyond their support in the specification. * * * The only embodiment described in the '669 patent

[97] See Robert L. Harmon, "Must a Patent Describe an Accused Infringement?," J. Pat. & Tr. Off. Soc'y, Vol. 85, No. 2, pp. 153-171 (Feb. 2003).

> specification is the character-based protocol, and the claims were correctly interpreted as limited thereto. 53 USPQ2d at 1165.

How this can be squared with the court's en banc pronouncement in SRI v. Matsushita,[98] is far from clear.

The appellate court also brushed aside the patentee's argument that it was irrelevant to the construction of the claims whether the specification contained an enabling description of any bit-mapped decoder, saying:

> the claims are not properly construed to have a meaning or scope that would lead to their invalidity for failure to satisfy the requirements of patentability. * * * Although Wang is correct that a claim is not invalid simply because it embraces subject matter that is not specifically illustrated, in order to be covered by the claims that subject matter must be sufficiently described as the applicant's invention to meet the requirements of section 112. This requirement was not met as to protocols other than character-based. Id.

Again, the SM has struggled to understand the full import of this statement. Its reasoning appears circular, especially when one considers the court's more recent statement that the "question of enablement does not turn on whether the accused product is enabled. Rather, '[t]o be enabling, the specification of the patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.'"[99]

Attempting to apply the Wang v. AOL reasoning to the present circumstances is not a simple matter, largely because it is something of a chicken-and-egg proposition. We are told by defendants that claims must be construed to preserve their validity and that, consequently, we must construe the limitation in question here to exclude digital television because that technique

[98] "If everything in the specification were required to be read into the claims, or if structural claims were to be limited to devices operated precisely as a specification-described embodiment is operated, there would be no need for claims. Nor could an applicant, regardless of the prior art, claim more broadly than that embodiment. Nor would a basis remain for the statutory necessity that an applicant conclude his specification with 'claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.'" SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 227 USPQ 577, 585 (Fed. Cir. 1985).
[99] Durel Corp. v. Osram Sylvania Inc., 256 F.3d 1298, 59 USPQ 1238, 1244 (Fed. Cir. 2001).

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is not enabled. If nonenablement is the crucial factor in Wang v. AOL, then this argument has some force, for it is likely that digital television is not enabled in the '490 specification. But that question has to be decided; the SM cannot simply assume that enablement is lacking. And such an inquiry is beyond the scope of these proceedings.

What if adequacy of the written description is the crucial factor in Wang v. AOL? If a person of ordinary skill would understand from the specification that the employment of digital television signals was "sufficiently described as the applicant's invention" in the context of the claims at issue, it would be wrong to construe the claims so as to exclude it. Yet the adequacy of the written description is, like the scope of enablement, something that is beyond the charter of the SM in this proceeding.

When the Federal Circuit itself finds it necessary or desirable to distinguish Wang v. AOL, it appears to struggle. Thus, in one recent case, it offered this rationale: "Although we noted that the only system described and enabled in the specification used a character-based protocol, we also noted that the intrinsic evidence did not describe bit-mapped protocols as included in the invention, and a person skilled in the art would not have understood bit-mapped protocols to be included."[100] With all respect, this circular explanation is not very helpful. The court seems to do better when it offers to distinguish Wang v. AOL on the basis of statements in the prosecution history. As it said a few weeks ago:

> The court [in Wang v. AOL] noted that the "only system that is described and enabled" in the patent specification "uses a character-based protocol," and that the specification's references to bit-mapped protocols did "not describe them as included in the applicant's invention, and that the specification would not be so understood by a person skilled in the field of the invention." Id. at 1382, 53 USPQ2d at 1164. Importantly for our analysis, the inventors disclaimed the broader construction in a statement during prosecution. Id. at 1383-84, 53 USPQ2d at 1165-66. Again this case is distinguishable, as the claims of the '593

[100] Teleflex Inc. v. Ficosa North Am. Corp., 299 F.3d 1313, 63 USPQ2d 1374, 1382 (Fed. Cir. 2002)

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> patent were neither amended, nor was a broader construction disclaimed by argument during prosecution.[101]

This sounds reasonable until one carefully analyzes the prosecution statement in Wang v. AOL. As the court itself described it, 53 USPQ at 1165-66:

> The prosecution history also supports the limitation to character-based frames. In an Information Disclosure Statement filed by Wang during the prosecution of the parent application, Wang distinguished a reference (Fleming) describing the NAPLPS system by stating that the reference "encodes pictorial information . . . on the pel [picture element] level, rather than on the character level." Wang argues that this statement was in the parent application and does not apply to the continuation-in-part that is the '669 patent. However, this subject matter is common to the continuation-in-part application, and argument concerning the Fleming reference was correctly viewed as applying to the common subject matter. * * * This history reinforces the conclusions that the inventors focused their invention, and the description and claims directed to that invention, on a character-based system, and that a person of skill in this field reading this history would so understand the explanation of the Fleming reference.

It is hard to see how this rather innocuous statement, made in an Information Disclosure Statement – rather than in an argument or in support of an amendment seeking to overcome an actual rejection by the examiner – can be equated with a "conspicuous and unambiguous"[102] concession that the claims excluded bit-mapped protocols. Thus, the fact that applicants did not make such arguments during the prosecution of the '490 patent does not, in the view of the SM, necessarily take the patent out of the shadow cast by Wang v. AOL.

Another serious difficulty lies in deciding when Wang v. AOL applies and when it does not. If the case were to be read expansively, it could cover almost any situation where the language of a claim is broad enough to read on embodiments that are not supported and enabled by the specification. But such a reading would be wholly inconsistent with earlier cases like SRI v. Matsushita, which insists that an applicant may claim more broadly than the embodiment

[101] Alteris Inc. v. Symantec Corp., Appeal Nos. 02-1137, -1138, (Fed. Cir. 02/12/03).
[102] See Modine Mfg. Co. v. United States ITC, 75 F.3d 1545, 37 USPQ2d 1609, 1613 (Fed. Cir. 1996).

described in the specification,[103] and Teleflex v. Ficosa, that the number of embodiments disclosed in the specification is not determinative of the meaning of disputed claim terms.[104] In view of this, it is reasonable to conclude that Wang v. AOL is triggered only in certain special circumstances, as where the construction dichotomy – e.g., bit-mapped versus character-based – appears to be central to the claimed invention. In the present case, there is no denying that such a circumstance prevails. These patents are about television program transmissions, and it is essential for a competitor to know whether they cover digital television in addition to standard analog television.

Of course, this entire conundrum can be resolved by concluding that Wang v. AOL and similar cases[105] represent an anomaly in Federal Circuit jurisprudence concerning claim construction. The SM is reluctant to do that. **Accordingly, it is suggested that the Court consider whether digital television is enabled and described as the applicants' invention within the meaning of §112¶1 before construing this limitation in light of Wang v. AOL. This could be done in association with dispositive motions (if such are permitted and filed) or at the jury instruction phase. Alternatively, should the Court conclude that Wang v. AOL is inapplicable here, it is recommended that the jury be instructed that this limitation should not be construed to exclude digital television.**

"Transmitting an instruct-to-overlay signal." The ordinary meaning of these words is to transmit a signal; the signal is termed an "instruct-to-overlay" signal which in the context of the remainder of claim 4 simply means a signal that causes a computer to generate and transmit an overlay signal to an associated receiver. Defendants would limit the meaning to a specific

[103] See note 86.
[104] See note 85.
[105] See, e.g., Toro Co. v. White Consol. Indus. Inc., 199 F.3d 1295, 53 USPQ2d 1065 (Fed. Cir. 1999).

instrumentality that does the "transmitting" (i.e. the transmitter of a television signal),[106] and apparently to a process in which all overlay transmissions are simultaneous. (Joint Chart p. 2)

The first of these restrictions is simply an effort to important a limitation from the specification into the claim. Although the specification shows an example in which the television transmitter also transmits the instruct-to-overlay signal, nowhere in the specification is there an indication that the applicants intended to limit the claim to that example.[107] The claim is clearly written broadly enough to cover transmission of instruct-to-overlay signals from other sources, so long as they are not located at the receiver station.

The second restriction is not suggested in the excerpt from the prosecution history that defendants cite. (FH 000133-34) Although the patent disclosure may have contemplated virtually simultaneous transmission of overlay video signals in response to a single instruct-to-overlay signal transmitted by the television transmitter to all receiver stations, clearly this might not be the case if the instruct-to-overlay signal were generated by a source other than the transmitter of the television program material.

There is no legal warrant for limiting the clear import of this language in the manner suggested by defendants. **This limitation should be construed to mean transmission of a signal, from a source at a location other than the receiver station, that instructs a computer to generate and transmit an overlay signal to an associated receiver.**

"Related computer generated overlay." The parties differ over *what* the computer generated overlay is related *to*. Plaintiffs say it is the programming transmitted; defendants say it

[106] Indeed, defendants provide further interpretation of their proffered interpretation: "This means that the television program and instruct to overlay signal are transmitted from the same television transmitter, which is at [a] location different from the location of the receiver station." (Joint Chart p. 2)
[107] In Teleflex Inc. v. Ficosa North Am. Corp., 299 F.3d 1313, 63 USPQ2d 1374, 1381-83 (Fed. Cir. 2002), the court rejected the argument that where only one embodiment is disclosed in the specification, claim terms are limited to the embodiment disclosed.

is the programming *being* transmitted, thus implying almost a real-time relationship. (Joint Chart p. 2) In the context of the claim taken as a whole, defendants' version does not make much sense. The claim language is "to present a combined display consisting of the television program and the related computer generated overlay." To adopt defendants' proposed definition would mean that the overlay would have to vanish the instant the particular portion of the television program being broadcast became unrelated. This might well happen if the instruct-to-overlay signal were transmitted at the appropriate time by the source of the television transmission. But if the instruct-to-overlay signal were to be transmitted locally, a strict relationship between program content and overlay would be difficult, if not impossible, to maintain. **This limitation should be construed to mean that the overlay must be related to the television program in general rather than the specific portion of the program being transmitted at a given moment.**

F. The '825 Patent

Only claim 17 of the '825 patent is asserted; however, inasmuch as it depends upon parent claim 14, the limitations of claim 14 must also be construed. The disparity in position of the parties with regard to the limitations of these claims illustrates one of the very unfortunate aspects of most Markman proceedings. More often than not, the process tends to degenerate into the very exercise in redundancy that the Federal Circuit has warned against. The parties construct complex competing definitions, without real support in the intrinsic record, hoping thereby to bolster their ultimate positions on infringement and validity. It is sometimes difficult for the ultimate construer of claims – the court – to avoid the temptation of simply choosing the most plausible of these complexities, just to get the job over with and done. The SM has attempted to resist that temptation.

The parties' proffered constructions of the words of the asserted claim of the '825 patent create more problems than they solve. In particular, their suggested meanings and definitions introduce new ambiguities by adding words that themselves require construction and have no clear meaning in the context of the claim read as a whole.

"Information transmission." This term appears three times in claim 17 (by dependency on claim 14). It must of course be accorded the same definition for each use absent unusual circumstances, which are not present here. Defendants argue that these words mean

> any transmission with information content including audio, video, television, radio, computer, data, control, or any other type of transmitted information whether transmitted by wire, radio frequency, optical, physical media or any other mode of transmission. (Joint Chart pp. 3-4)

It is not immediately apparent whether this convoluted definition is meant to be restrictive or expansive. What is immediately apparent, however, is that there is no warrant in the intrinsic patent record for engrafting such definitional baggage onto the simple words "information transmission."

The ordinary meaning of this term, in its broadest sense, is a transmission that contains information. This could include such wildly disparate forms of communication as a television signal and a handwritten letter. However, inasmuch as the claim also requires that the information transmission be on a "carrier transmission," and be obtainable by demodulating the carrier transmission, it would be inappropriate to accord that broad a meaning. **Accordingly, it is clear that the term must be limited to transmission of information that is modulated upon a transmitted electromagnetic waveform, and that construction is recommended.**

It should be noted that the term "information transmission" can, in light of the specification ('825 C8), be understood to refer to the programming transmission. Accordingly, the same set of problems encountered with respect to the limitation "video signal containing a

television programming signal" in connection with claim 4 of the '490 patent is presented here. The situation differs significantly in two respects, however. The '825 patent issued in 1990 rather than 1987, and its specification is vastly expanded over that of the '490 patent. These circumstances make it all the more likely that a person of ordinary skill in the art would not read "information transmission" to exclude digital television. Nonetheless, these differences do not dispose of the potential Wang v. AOL problem. **Accordingly, it is recommended that the Wang v. AOL issue be handled in the same way for this limitation as for the '490 limitation.**

"Embedded signals on said information transmission." The term "embedded signals" is used several times in the claim. Plaintiffs seek a definition of "embedded" that is in some ways broad and in some ways narrow: "a digital signal transmitted in combination with the programming signal that can be separated from the programming signal." (Joint Chart p. 3) With all respect, this suggested definition is very confusing. Nothing in the claim suggests that the embedded signal be limited to a digital format. The claim does not use the term "programming signal." Most importantly, there is nothing in the intrinsic record to suggest that "embedded on" was intended to be synonymous with "in combination with."

> For their part, defendants want the words "embedded signals" to mean
>
> Signals enclosed within or made an integral part of the information transmission. The embedded signals cannot be separated inadvertently from the programming and must occur at precise times in the programming to synchronize the operation of the receiver station apparatus. (Joint Chart p. 3)

This definition too is confusing and unwarranted. The suggested words "enclosed within or made an integral part of" would themselves require construction, being alternatives without an immediately apparent rationale.

Nonetheless, it is clear that the term "embedded" has, in the context of an electromagnetic transmission, a technical meaning that may not accord with ordinary dictionary definitions. The question becomes what the phrase "embedded signals on said information transmission" really conveys to one of ordinary skill in the art, viewing this claim as a whole in the latter part of 1990 when it issued. Fortunately, a passage in the '825 patent goes a long way toward answering this question, because it tells us what the applicants meant to convey:

> The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
>
> In the present invention, the embedded signals contain digital information that may include addresses of specific receiver apparatus controlled by the signals and instructions that identify particular functions the signals cause addressed apparatus to perform. ('825 C8)

It seems clear that a person of ordinary skill in the art, reading the term "embedded signals" in light of this description, would conclude that it means **signals that contain digital information (but are not limited to digital information) and that are associated with the information transmission in a such a way that (1) they cannot be inadvertently separated from that transmission and (2) occur at precise times in that transmission. That construction is recommended.**

"Decrypting an encrypted information transmission." Here it is the plaintiffs who are seeking to impose an extremely narrow construction of this straightforward terminology. Plaintiffs say that it means

> to convert the information transmission into usable information in the clear by proper application of the key, which may include conventional descramblers if they are actuated by receiving digital key information. (Joint Chart p. 6)

This definition would create ambiguity not relieve it. Further construction would be required to know what is meant by "usable" and "in the clear" and "proper application of the key" and "conventional descramblers" and "digital key information." Defendants' proposal ("transforming an unintelligible information transmission into an intelligible form, such as through unscrambling, to provide the information transmission in an intelligible form"; Joint Chart p. 6), aside from its tautology, is not nearly as complex, although it does require further construction with respect to "intelligible" (intelligible to whom? or to what?) and "unscrambling."

Again, the ordinary meaning of the words prevails, as it must where the specification gives no clear indication that something else was intended. The ordinary meaning of the word "decrypt" is "decode" or "decipher" and the ordinary meaning of the term in question is "decoding an encoded information transmission." **This term needs no construction.**

G. The '414 Patent

Most of the contested limitations of the asserted claims 1, 2, 5, and 7 of this patent have already been construed in the context of §112¶6. However, there are some additional issues that must be addressed.

"A plurality of detector means" (claims 1 and 2) and "a control signal detector means" (claims 5 and 7). Claims 1 and 2 refer to "a plurality of detector means" twice; likewise for claims 5 and 7 and "a control signal detector means." The first reference is in the context of a target destination to which the programming is sent from the receiver/distribution means, and the second reference defines the detector means in terms of its function (detecting control signals). Defendants argue that all of the claims are fatally indefinite and therefore invalid under §112¶2 because a person of ordinary skill in the art would not be able to tell whether the claim is referring to a single set of detector means or two sets.

Defendants' position is somewhat convoluted, but it seems to boil down to the proposition that if the applicants had wished to limit the claim to one set of detector means, they would have used the article "said" as a modifier the second time the term was employed; on the other hand, if the claims are interpreted to require two sets of detector means, they don't make any sense for, to use defendants' words, the second set would be "drifting in space * * * a disembodied aggregation of components." (DIB '414 pp. 5-8) Despite such nice imagery, the SM believes that defendants' position is clearly mistaken.

Based upon forty years of professional experience in reading, writing, and analyzing patent claims, the SM feels justified in taking notice that patent practitioners often use the definite article "said" (or even plain old "the") to modify the second occurrence of an antecedent element that was prefaced with the indefinite article "a" or "an." But this practice is in no way mandatory; it is merely typical. The question is always whether the claim makes grammatical sense as it is written.

Were it not for this typical practice, not followed in the claims of the '414 patent, it would be difficult to understand how defendants would have any argument at all. Surely the claims are crystal clear from a grammatical standpoint. First the claim refers to the detector means as a target to which programming is input, and then it identifies the function of the detector means. It is perfectly plain to any reader not steeped in patent law that only a single set of detector means is required. Does the failure to follow the typical practice here render the claims indefinite? Certainly defendants cite no legal authority for that remarkable proposition. And certainly they have not come forward with evidence that clearly and convincingly establishes that a person of ordinary skill in the art would not understand that the claims refer to a single set of detector means, which is the only logical reading of the claim language.

These limitations should be construed to mean that the claims require only a single set of detector means (claims 1 and 2) or control signal detector means (claims 5 and 7).

"Identifying." Somewhat surprisingly, the parties assert that this word needs construction. It is used in claims 1 and 2 in this context: "processor means * * * for identifying each detected control signal as having been detected by a particular detector means." Plaintiffs say it should be construed to mean "to ascertain or establish what a given thing is." (Joint Chart p. 9) Defendants say it means "making one thing correlative with another – that is, establishing a correlation between two things." (Joint Chart p. 8) There is no warrant in the intrinsic patent record for imposing those restrictive definitions here. Undoubtedly the word can mean both of the things the parties attribute to it, and have other meanings as well. Nothing has been advanced by either party that would justify selecting a particular one from among those various meanings. "Identifying" is a broad term and should be read in a corresponding broad way. As is usually the case in this report, the SM declines the invitation to elaborate on an otherwise clear term in a way that might confuse rather than illuminate. **This term needs no construction.**

"Control signals respecting said programming." Equally surprisingly, the parties hotly contest the meaning of this simple language. Plaintiffs say that the term "control signal" means "any signal that purposely affects the recording, processing, transmission, or interpretation of data by a system element." (PIB p. 88)[108] Defendants attempt to place their definition a little more in context, asserting that control signals "are detectable physical quantities or impulses (as a voltage, current or magnetic field strength) by which digital information is transmitted in programming, to permit stations that originate programming to control the handling, generating, and display of programming at receiver stations." (Joint Chart p. 27)

[108] Plaintiffs did not include this proposed definition in the portion of the Joint Chart dealing with the '414 patent. They did, however, proffer it in connection with the '277 patent. (Joint Chart p. 59)

These proposed definitions are worse than useless, for they introduce the distinct probability of confusion. They convert few words into many. They carry the seeds of possible inadvertent narrowing of the claims, and for no reason. Claims 1 and 2 of the '414 patent say nothing about the purpose or use of the control signals, and require only that they be detected, identified as having been detected, and stored. Claims 5 and 7 add the requirement that a portion of the control signals be transferred for further processing. The control signals, according to the plain language of the claims ("control signals respecting said programming"), need only be related somehow to the programming. Nothing further is required of them in the context of these claims, and no further definition is required to enable a person of ordinary skill in the art to understand what the claims mean. **This limitation needs no construction.**

"Location." This word is used in claim 5 in this context: "configured to detect said control signals at a pre-determined location within said programming." Later in this report, the meaning of the term "location" is discussed in the context of claim 7 of the '277 patent. The parties appear to be in agreement, with which the SM concurs, that the term should receive the same construction in both patents. (See PIB p. 88; DIB '414 p. 20 n.9) **Accordingly, "location" should be construed to have the same meaning as in claim 7 of the '277 patent.**

H. The '654 Patent

The asserted claims are 10 and 70. Claim 70 is dependent upon claim 66, which is in turn dependent upon claim 63, so the limitations of those claims must be analyzed as well. The only limitations that require construction have already been addressed in the context of §112¶6.

I. The '277 Patent

As explained previously, this patent has been before the Federal Circuit on an appeal from the U.S. International Trade Commission. See Personalized Media Comm. LLC v. United

States ITC, 161 F.3d 696, 48 USPQ2d 1880 (Fed. Cir. 1998). To reiterate, although this decision may not have strict preclusive effect under traditional principles of res judicata and collateral estoppel, its effect as precedent is inescapable. **Accordingly, it is recommended that the construction given any pertinent claim limitations by the Federal Circuit be adopted here.**

"Television program transmission." The parties are not far apart in their views on this limitation. It would seem, at first look, that everyone knows what a television program transmission is. However, in Personalized Media, 48 USPQ2d at 1890, the Federal Circuit noted that "the specification uses this phrase to denote a single transmission enveloped within a single carrier wave. The specification does not suggest that a 'television program transmission' can be a multi-channel transmission * * * ." Although it is not clear that the Federal Circuit was adopting this as a claim construction, it does reflect the court's view of what those words were intended to convey in the context of the intrinsic patent record. The SM notes that a television program transmission is a composite video signal that usually has three components – monochrome information, color information, and audio information – each with its own carrier frequency, that together comprise the television "channel." (Schreiber Dec. ¶9) Thus, as defendants suggest, a more workable version of the Federal Circuit's definition would be a single-channel transmission. **Accordingly, it is recommended that "television program transmission" be construed to mean a single channel television transmission.**[109]

"Separately defined from standard analog video and audio television." The parties leave no doubt about their divide on this limitation. Defendants say it can "include analog video and audio television transmissions with digital data embedded therein." (Joint Chart pp. 44-45)

[109] The Court may also wish to instruct the jury that "channel" is not used in its secular sense, and is intended to encompass not only traditional broadcast TV channels, but modern orbital satellite channels that can, with digital compression techniques, accommodate multiple simultaneous video programming services. (See PRB p.45 & n.45 & Ex. C.)

Plaintiffs say it has to be "other than standard analog video and audio television." (Id.) The question then becomes, of course, what is standard analog video and audio television? Even a satisfactory answer to that does not end the matter, however, for one must determine the meaning of "separately defined from."

The parties appear to be in general agreement that, although "standard analog video and audio television" may have different meanings in different parts of the world (according to regulatory standards), the phrase does not include digital television. The term "separately defined from" can certainly mean, in its ordinary sense, "different from" or "other than." The specification uses the term once ('277 C21L62) in a way consistent with the ordinary meaning; thus, the "separately defined transmission" is routed to "a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency." ('277 C22L21-23) Moreover, the ordinary meaning appears to be consistent with other claims in the patent, such as claim 8, which speaks of a receiver system configured to receive both "an analog television transmission" and a "television program transmission that is separately defined from standard analog television." **Accordingly, it is recommended that this limitation be construed to mean a television program transmission that is not a standard analog video and audio television transmission.**

Defendants also request a construction of this limitation that would exclude "non-line based MPEG compressed digital television transmissions." (Joint Chart p. 45) This position is similar to their stand on the "video signal" limitation of claim 4 of the '490 patent, and the "information transmission" limitation of claim 17 of the '825 patent. There is no basis in any of the intrinsic patent documents for excluding digital television transmissions that are in "non-line based, MPEG-2 compressed" format. Indeed, those words themselves would need further

translation. But there is, in the case of the '490 and '825 patents, a question of whether the limitation can be construed broadly enough to comprehend digital television transmission of any kind. In this instance, the answer is much easier to come by. When one reads the claim as a whole, it is seen that the claimed system is for locating or identifying a specific signal. That specific signal is "in a television program transmission" and the television program transmission in question is said to be "separately defined from standard analog video and audio television." Inasmuch, as indicated above, the television program transmission in question is *not* a standard analog video and audio television transmission, it must necessarily include digital television transmissions. Thus, leaving for another day any questions of support or enablement, **it is recommended that this limitation be construed to include digital television transmissions.**

"Digital detector." As already indicated, the Federal Circuit in Personalized Media construed this limitation. It held that the term meant "a device that acts to detect the digital signal information in another stream of information." 48 USPQ2d at 1888. The parties are close to agreement that the Federal Circuit was right, but plaintiffs apparently want to substitute "a" for "another." (Joint Chart p. 45) The SM has trouble discerning what difference this would make. The use of "another" would not appear to introduce any ambiguity; the original stream of information containing the digital signal information is "another" to the stream of digital signal information. **Accordingly, "digital detector" should be construed to mean a device that acts to detect the digital signal information in another stream of information.**

"Detecting said specific signal at a specific location or time." Both sides appear to argue that the definition of "location" adopted by the Federal Circuit in Personalized Media Comm. LLC v. United States ITC, 161 F.3d 696, 48 USPQ2d 1880 (Fed. Cir. 1998) should prevail here. The problem comes in determining what that definition is. There the court clearly approved the

conclusion of the administrative law judge, found at page 88 of his Initial Determination and Recommendations, that "location, as the word is used in claim 6 [and 7] would include a line, or lines, or portion of a line in the vertical interval of a television video transmission, or a frequency within the audio range of a television transmission." The court specifically said:

> The ALJ correctly construed the term "location" in accordance with the examples provided in the specification, viz., a line, or lines, or portion of a line in the vertical interval of a television video transmission, or a frequency within the audio range of a television transmission, see '277 patent, col. 9, l. 61 to col. 10, l. 16, examples which involve only single channel transmissions. 48 USPQ2d at 490.

This seems plain enough. But the trouble is that the ALJ used the phrase "would include," which is imprecise in that it does not appear to exclude other possibilities. The cited text in the specification does not appear to describe other examples, but it does not appear to exclude them either. And none of this was of particular concern for the Federal Circuit, for its focus was on the question of whether the "ALJ erred in construing the term 'location' to preclude selection of a control signal based on selection of a particular carrier wave in a multi-carrier transmission." 48 USPQ2d at 489. It held that the ALJ's construction in that respect was correct.

Thus, the SM is unable to read the Federal Circuit decision as approving a construction of the word "location" that would preclude locations other than the recited "line, or lines, or portion of a line * * * or a frequency * * * ," so long as it is understood that alternative locations would have to be part of a single-channel transmission. **Accordingly, "location" should be construed to be a specific line or lines, or portion of a line in the vertical interval of a single-channel television video transmission, or a frequency within the audio range of a single-channel television transmission, or other location within a single-channel transmission.**

Defendants proffer a further construction that would require the specific signal to be at a predetermined or preinformed location or time. (Joint Chart p. 45) They quote a portion of the

specification ('217 C9L37-47) that, in describing one of the purposes of the invention, refers to "techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly." While this language may contemplate an embodiment of the claimed invention, it in no way suggests that the invention is to be so limited. Again, defendants' position is nothing more than an invitation to import a limitation from the specification into the claim. **Accordingly, this limitation should be construed in accordance with its ordinary meaning, except for the term "location" as discussed above.**

Both sides appear to agree that the same definition of the word "detecting" should be adopted in all the patents in suit (see PIB p. 22; Joint Chart pp 25, 39, 46) and the SM concurs. **Accordingly, "detecting" should be construed to have the same meaning as in the claims of the '414 and '654 patents: "extracting intelligence from a signal."**

"Instructions to cause said processor to cause said detector to detect different signals." Defendants argue that this limitation, appearing in claim 12 of the '277 patent, is indefinite. They ask (DIB '277 p. 22): "what are the newly detected signals different **from** (or different **than**) and in what sense are they different? Plaintiffs have a simple answer: the "different signals" are signals that would not have been detected absent the instructions. (Joint Chart p. 47) Certainly, this limitation is not insolubly ambiguous if one adopts plaintiffs' very reasonable construction. **Accordingly, "different signals" in this context means signals that would not have been detected without instructions to the processor.**

"Processing the received detected signals to identify how and where to pass said information." Plaintiffs suggest that this term needs no construction, and the SM concurs. The

terms "processor" and "detecting" have already been discussed and construed. In light of those constructions, the terms "processing" and "detected" need no further elaboration. **This limitation needs no construction.**

"Plurality of apparatus." In patent law parlance as elsewhere, "plurality" refers to two or more items, absent some indication to the contrary.[110] **The parties agree, and the SM concurs, that this limitation should be construed to mean "multiple devices, each of which might be addressed or controlled by detected digital signals."** (Joint Chart p. 49)

"Addressed." The full limitation is "transferring said detected signals to said apparatus that are addressed by said signals or to be controlled by said signals." Both sides assert that the word "addressed" should get its ordinary meaning, but they seem to disagree about what that is. Plaintiffs say it means "directed to," while defendants argue that it means "directed to or intended to be received by." (Joint Chart p. 49) With all respect, the SM has great difficulty following defendants' line of logic here. In particular, it is difficult to see how the concept of "being directed to" does not include the concept of "intended to be received by." The parties also disagree, quite remarkably, on what is being addressed, even though the claim makes it clear that it is "apparatus." Plaintiff seeks to make it "particular apparatus." Again, this jousting illustrates the futility of restating every claim term in the hopes of one side or the other gaining a real or imagined advantage from a stray word or two. The SM, though not a person skilled in the technology at hand, has no trouble in understanding the ordinary meaning of the limitation. Transferring a detected signal to the apparatus it is addressed to is self-explanatory, like delivering a letter to the house it is addressed to. But adding the parties' proposed embellishments makes the limitation less understandable, not more. If we adopt defendants'

[110] Davco Prods. Inc. v. Total Containment Inc., 258 F.3d 1317, 59 USPQ2d 1489, 1497 (Fed. Cir. 2001).

approach, we then must ask how "directed to" differs from "intended to be received by." If we adopt plaintiffs' approach, we then must ask how "apparatus" differs from "particular apparatus." Patent cases are hard enough for juries as it is, and there is nothing to be gained by making them harder, through the creation of extraneous and irrelevant word puzzles. **This limitation needs no construction.**

"Controller operatively connected to said decryptor for causing said decryptor to alter its decryption pattern or technique." The term "decryptor" is introduced in claim 17 of the '277 patent. As indicated in connection with the '825 patent, the ordinary meaning of "decrypt" is "decode" or "decipher" and the ordinary meaning of a decryptor is thus a device that decodes or deciphers, in the context of this claim, detected signals that have been encrypted. However, the remainder of the limitation invites some considerations in addition to those discussed in connection with the '825 patent.

Defendants propose a fairly elaborate definition of "decryption pattern" as "the predetermined pattern of the composition, timing and location of the embedded signal whereby the pattern is used to accomplish decryption of the embedded signal." (Joint Chart p. 51) Plaintiffs, on their side, say that the term is clear as is, but if it is to be construed, it "could include a decryption key." (Id.) Plaintiffs are right; "decryption pattern" *could* include a decryption key. But it need not, according to the plain language of the claim.

Similarly, defendants propose that "decryption technique" be interpreted to mean "an overall method used to accomplish decryption," while plaintiffs say that, although it needs no construction, it "could include a decryption algorithm." (Joint Chart p. 51) Right again. The technique *could* include an algorithm but it need not, according to the plain language of the claim.

Nonetheless, the disjunctive use of the words "pattern" and "technique" creates an ambiguity, for it is not immediately apparent whether there is a difference between the two terms and, if there is, what the difference may be. Accordingly, it is necessary to turn to the specification to determine whether the ambiguity is resolved there.

It is clear that the purpose of encryption in the context of this technology is to prevent unauthorized users from attaining access to the information content of the transmissions. As the patent explains it, "[f]lexibility must exist for varying techniques that restrict programming to duly authorized subscribers in order to identify and deter pirates of programming." ('277 C11L24-27) The specification goes on to tell us that

> In the prior art, various means and methods exist for regulating the reception and use of electronically transmitted programming. Various scrambling means are well known in the art for scrambling, usually the video portion of analogue television transmissions in such a fashion that only subscriber stations with appropriate descrambling means have capacity to tune suitably to the television transmissions and display the transmitted television image information. Encryption/decryption means and methods, well known in the art, can regulate the reception and use of, for example, digital video and audio television transmissions, digital audio radio and phonograph transmissions, digital broadcast print transmission, and digital data communications. Other techniques, well known in the art, involve controlling interrupt means that may be as simple as on/off switches to interrupt or disconnect programming transmissions at stations that lack authorizing information or are determined in other fashions not to be duly authorized. Still other techniques, also well known in the art, involve controlling jamming means that spoil transmitted programming at stations that lack authorizing information or are determined not to be duly authorized, thereby degrading the usefulness of said programming. Such other techniques include, for example, inserting so-called "noise" into the transmitted programming which noise may be, for example, overlays of one or more separate transmissions. ('277 C156L61-C157L20)

Among the purposes of the invention is to " provide a variety of means and methods for restricting the use of transmitted communications to only duly authorized subscribers. Such means and methods include techniques for encrypting programming and/or instructions and decrypting them at subscriber stations. They also include techniques whereby the pattern of the

composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly." ('277 C9L37-47) This sounds like the inventors are attempting to distinguish encrypting techniques from techniques that vary the pattern of the composition, timing, and location of embedded signals. Finally, when the specification gets down to talking about the specific embodiment, it has this to say:

> The means and methods of the present invention for regulating reception and use of programming relate, in particular, to three features of the present invention. The computer system of the present invention has capacity at each subscriber station to compute station specific information based on preprogrammed information that exists at each station and that differs from station to station. Given this capacity, any central control station of the present invention that originates a SPAM transmission can cause subscriber station apparatus to decrypt received SPAM information in different fashions with each station decrypting its received information is its own station specific fashion. A central station can cause different stations to compute different station specific decryption cipher keys and/or algorithms to use in any given step of decryption or to compute station specific key and/or algorithm identification information that differs from station to station and controls each station in identifying the key and/or algorithm to use for any given step of decrypting. A second feature of the present invention is that effective SPAM processing depends on the correspondence between the transmitted SPAM information that causes processing at the subscriber stations and the information preprogrammed at the various stations that controls the SPAM processing at each station. * * * The third feature of the present invention is an extended system of means and methods for regulating the reception and use of SPAM information – including decryption key and algorithm information – that is illustrated in FIG. 4 and discussed more fully below.
>
> By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.") ('277C157L21-C158L3)

Based upon these passages, it seems likely that the applicants intended, when they used the terms decryptor and decryption in the claims, to exclude alternative methods such as varying the pattern of the composition, timing, and location of embedded signals. It also seems likely that

they did not intend for those terms to encompass known scrambler/descrambler apparatus unless that apparatus actually works on a principle of coding and decoding according to an algorithm, using a key.[11] Indeed, the most reasonable view of the specification, considering all of the many, many occurrences of the word-forms "decrypt," "technique," and "pattern," is that the inventors were telling those skilled in the art that, when they encountered those words in the claims, they should understand them to mean respectively "decode," "algorithm," and "key." This, rather than some broader understanding.

Neither of the parties' experts will be perfectly comfortable with this definition. Prof. Dickinson suggested that "key" should be defined as some finite set, to distinguish conventional descramblers (Tr. 202-06, 214-16). This, with all respect, would be more likely to confuse the jury than assist it. Defendants' expert, Mr. Stubbs, attempted to make "technique" synonymous with an "overall method to accomplish decryption." But this broke down when he admitted that changing either the algorithm or the key, both of which he regarded as included in the "pattern," would likewise change the "technique," thus rendering the terms "pattern" and "technique" redundant. (Stubbs Declaration, ¶35: "Based on the meaning of 'decryption technique as discussed above, a change in the 'decryption technique' can be accomplished by changing any of the 'decryption pattern' (i.e., the algorithm, key, composition, timing and location of embedded signals) and/or other aspects of the overall method of decryption * * * "; Tr. 282)

Accordingly, it is recommended that this limitation be construed to mean that the controller causes the decryptor to alter its decoding algorithm or key. The Court may wish to instruct the jury that algorithm means a process or set of rules to be followed in

[11] For example, the patent refers to "conventional descramblers, well known in the art, that descramble analog television transmissions and are actuated by receiving digital key information." ('277 C174L66-C175L1; emphasis added.)

calculations or other problem-solving operations, especially by a computer, and that key, in this context, means a variable that is used in the algorithm.

J. The '243 Patent

The Related Prosecutions

At the outset, it bears repeating that defendants have made a painstaking analysis of the prosecution of many of the related applications that are pending in the PTO. The results of this analysis are reflected in the Broderick declarations and the appendix to their responsive brief on the '243 patent. The very limited role that such evidence has to play in this Markman proceeding requires some explanation.

The first paragraph of 35 U.S.C. §112 demands "a written description of the invention." The written description must be detailed enough to enable one of ordinary skill in the art to practice the invention, and it must also provide support for the limitations of the claim.[112] In evaluating a written description for claim support, "[t]he description must be sufficiently clear that persons of skill in the art will recognize that the applicant made the invention having those limitations."[113] The second paragraph of §112 requires that the claim particularly point out and distinctly claim the subject matter that the inventor regards as his invention. This "definiteness inquiry focuses on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the rest of the specification."[114] Thus, it is entirely possible that the fact that several examiners in the prosecution of related applications rejected, on grounds of indefiniteness, claims that were the same as or similar to those at issue here might have relevance to a facial attack on the '243 claims under §112¶2. Similarly, the fact that, as alleged by

[112] E.g., Enzo Biochem Inc. v. Gen-Probe Inc., 296 F.3d 1315, 63 USPQ2d 1609 (Fed. Cir. 2002).
[113] Martin v. Mayer, 823 F.2d 500, 3 USPQ2d 1333, 1337 (Fed. Cir. 1987).
[114] Union Pac. Res. Co. v. Chesapeake Energy Corp., 236 F.3d 1625, 57 USPQ2d 1293, 1297 (Fed. Cir. 2001).

defendants, the applicants have taken inconsistent positions with respect to specification support for identical or similar limitations in the course of the various prosecutions, might have relevance to an attack on the adequacy of the written description under §112¶1. But those issues are beyond the scope of the Court's reference to the SM.

Defendants make an argument that has at least some superficial appeal. Essentially, their argument is that, when required by PTO examiners in related prosecutions to identify specification support for claim limitations, the applicants repeatedly adopted positions inconsistent with their positions on support for the same or similar limitations in the present litigation. They particularly focus on certain limitations of the '243 claims. From this they argue that:

> Where, as here, a patentee (or applicant) keeps shifting his story when asked by an adverse litigant (or by the PTO) to identify his specification support for claim language identical to that which is here in issue, the fact that he fails, again and again, to give a stable, consistent answer suggests that *the alleged inventor himself does not really know what the answer is, because he does not really know what the claim reads on.* This is the very definition of claim indefiniteness -- that a person experienced in the field of the invention would *not* understand the scope of the subject matter that is claimed when the claim is read in conjunction with the specification. (*See* Plaintiffs' Opening Brief ("Pls.' Br.") at 25 and 32 n.13.) The fact that the patentee/applicant keeps changing his story about where in the specification the applicable written description lies is a damning fact -- not only because it suggests that an adequate written description does not exist, but also, and more importantly for today's purposes, because it suggests that he cannot figure out what his own claim covers. (DRB '243 pp. 2-3; emphasis present)

The deficiencies in this argument are immediately apparent. First, it presumes that there can only be a single example of support in the specification for a given claim limitation. But that would be true only if it were clear, to a person of ordinary skill in the art, that the alternative examples relied on in various prosecutions by the applicants were somehow mutually exclusive. That, obviously, is something that cannot and should not be resolved in the context of a claim construction proceeding.

Second, this argument ignores the current claim construction methodology of the Federal Circuit, which is to attempt to discern ordinary meaning without reference to the specification, and to refer to the specification only thereafter, either to resolve lingering ambiguities or to determine whether the inventor has altered or disavowed the ordinary meaning. Specification support has little to do with that exercise. For example, with respect to the "instruct-to-react signal" limitation in claim 21 of the '243 patent, defendants assert that it "is not a term of art, did not and does not have any conventionally recognized and understood meaning in the art at the relevant time period, and is not defined nor explicitly explained in the specification." (DRB '243 p. 19) From this they conclude that, "[s]ince the phrase is not commonly understood, nor defined or clearly explained in the specification, claim 21 fails as indefinite." (Id. at p. 26) But this tidy logical construct fails to take into account the possibility that the *ordinary meaning of the words themselves* – never mind the lack of any special meaning in the art, or contrary inventor lexicography in the specification – clearly informs the reader what is meant. As will be seen below, that is exactly the case with respect to the term "instruct-to-react signal."

That leaves the one issue to which the prosecution of the related applications might be relevant here: claim construction. It is of course true that, when multiple patents derive from the same initial application, the prosecution history regarding a claim limitation in any patent that has issued applies with equal force to subsequently issued patents that contain the same claim limitation.[115] But that does not describe the precise situation at bar. Here, defendants are offering evidence of prosecution transactions in applications that have not yet issued as patents. Thus, the only evidence relating to claim construction is the positions that the applicant and the PTO may have taken with respect to the meaning of claim language that is identical or similar to that being

[115] Biovail Corp. Int'l v. Andrx Pharm. Inc., 239 F.3d 1297, 57 USPQ2d 1813, 1816 (Fed. Cir. 2001).

contested in the '243 claims. Considered in this light, the real relevance is not that plaintiffs adopted a particular position regarding claim construction during related prosecution. Rather, the relevance emerges only if such a position appears to be inconsistent with a position that plaintiffs are taking here. And even then, it is difficult to see how such evidence could be regarded as conclusive, for we are again mindful that claim construction is an obligation of the court that is independent of the views asserted by the adversary parties.[116]

Nonetheless, evidence of clear inconsistency on the part of plaintiffs might well be regarded as a significant factor in arriving at a legal conclusion on claim construction, even though not determinative. The SM suspects that the Court had this in mind when it advised the parties that

> it would serve the interests of justice for the Court to know whether inconsistent positions have been taken by the plaintiff before the PTO. It may well serve the interests of all concerned in this courtroom today to have someone appointed who could devote his or her time exclusively to this issue. (Broderick II ¶9)

It seems highly likely, also, that the Court was not interested in identification of possible inconsistencies in relation to invalidity defenses like indefiniteness and lack of support, but only in relation to the task at hand: claim construction.

Plaintiffs argue that reference to these transactions from related prosecutions is inappropriate on two grounds: they are extrinsic evidence and they are hearsay. (PRB pp. 78-80) Neither of these objections has any merit. Any statements that applicants made in the related prosecutions are not being offered for their truth, because the truth of the assertion is immaterial here. They are, rather, being offered simply to show that they were in fact made, after which defendants will attempt to demonstrate that they are inconsistent with the present positions taken by plaintiffs. Thus, the statements are not hearsay. There is no question but that these statements

[116] Exxon Chem. Patents Inc. v. Lubrizol Corp., 64 F.3d 1553, 35 USPQ 1801, 1802 (Fed. Cir. 1995).

are extrinsic. As plaintiffs point out, the related prosecution histories are not part of the public patent record until the patents issue; they would be unavailable to those who might be interested in their possible impact upon construction of the claims of the patents in suit. Nonetheless, extrinsic evidence is not legally forbidden territory in claim construction. If evidence of a transaction from a related prosecution clearly demonstrates that plaintiffs are speaking from both sides of their collective mouths about the meaning of a particular claim term, it is something the Court may well want to know about, extrinsic or no. The impact of any such inconsistencies has to be dealt with on a limitation-by-limitation basis.

General Observations Regarding Patent Claim Jargon

The claims of the '243 patent are written in what might be called – in an effort to avoid a more pejorative term – "patentese." That is to say, they are not likely to be readily understood by persons unused to reading patent claims. Although this is not atypical, the problem strikes the SM as particularly acute in the case of the '243 patent. Indeed, it may well be at the heart of defendants' generalized attack on the adequacy of the claims under 35 U.S.C. §112¶2.

With the expectation that some of this "patent lawyer jargon" may confound the jury if left untranslated, the SM has in a few instances proposed plain English alternatives that the Court may wish to include in the jury instructions.

Generalized Indefiniteness Arguments.

In addition to their specific indefiniteness arguments about the typographical errors in claims 14 and 21, defendants mount a more general attack on the overall language and structure of the '243 claims. This presents a more serious question of compliance with §112¶2, for it comprehends much more than obvious misprints or typographical errors – it questions the underlying logical framework of the claims themselves, and suggests that those skilled in the art

would not understand what is being claimed. This amounts to a direct facial attack on the validity of the '243 claims.

In analyzing defendants' position on this matter, the SM has been mindful of Judge Sleet's admonition in the Pharmastem case that a Markman proceeding should not be regarded as the appropriate vehicle for dispositive rulings pursuant to §112¶2. Accordingly, the question at hand is whether the '243 claims are sufficiently definite to survive claim construction. Only if the SM should conclude, in the words of the Exxon case, that the claims are "insolubly ambiguous, and no narrowing construction can properly be adopted,"[117] would the SM be justified in recommending that the Court consider their validity, under §112¶2, in the context of an appropriate dispositive motion.

As will be seen below, the SM finds no insoluble ambiguities in any of the specific limitations of the claims. Whether the claims, read in their entirety in view of the recommended construction of those specific limitations, adequately set forth the subject matter that the applicants regarded as their invention, is quite another question, for another day. Suffice to say here that the claims can be construed, and thus meet the Pharmastem test.

One is tempted to try to illustrate the lack of insoluble ambiguity by constructing a wholesale "translation" of these claims into language that might be more understandable to laypersons who are not patent lawyers. But such an approach is inapplicable to the actual construction of the claims. It is not the function of the courts to rewrite patent claims. Courts cannot alter what the patentee has chosen to claim as the invention. No matter how great the temptations of fairness or policy making, courts do not rework claims. They only interpret them.[118]

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[117] Exxon Res. & Eng'g Co. v. United States, 265 F.3d 1371, 60 USPQ2d 1272, 1276 (Fed. Cir. 2001).
[118] Intervet Am. Inc. v. Kee-Vet Labs. Inc., 887 F.2d 1050, 12 USPQ2d 1474, 1476 (Fed. Cir. 1989).

Construction of Specific Terms

"Subscriber station information." Plaintiffs argue that this phrase is not a limitation because it appears in the preamble of claim 14. (PRB pp. 94-95) The SM disagrees, because it appears to lie at the heart of the claimed invention, which is a method of communicating subscriber station information. That said, there is no warrant for giving the words anything other than their ordinary meaning, which is information to, from, or about a subscriber station. **This limitation needs no construction.**

The parties have agreed that a "subscriber station" includes "local affiliate broadcast stations that receive and retransmit single network transmissions; cable system headends that receive and retransmit multiple network and local broadcast station transmissions; and media centers in homes, offices, theaters, etc. where subscribers view programming." (Joint Chart pp. 53-54) Although the SM is leery of using dozens of words where one or two will do, on the possibility that something may be excluded thereby, or that the jury may become confused, in this particular instance no potential for real harm is apparent. **Accordingly, the Court may wish to so instruct the jury.**

"Remote data collection stat [*sic:* station] and "process or [*sic:* processor]." It is clear from the prosecution history that the term "stat" found its way into claim 14 as a result of a typographical or printing error; it should have been printed as "station." (See FH 001733, 001932) So too with "process or" in claim 21; it should have been one word: "processor." (See FH 001936) Both sides agree. (PIB pp. 143, 159; DIB '243 p. 30) Nonetheless, defendants' initial brief on the '243 patent devotes some five pages (pp. 30-34) to the remarkable proposition that the claims must be construed with obvious errors intact and "in that form they are indefinite

under 35 U.S.C. §112¶2." (DIB '243 p. 33) The discussion earlier in this report dealing with a similar error in claim 4 of the '490 patent is fully applicable here, and disposes of this contention. **Accordingly, the word "stat" in claim 14 should be read to mean "station" and the words "process or" in claim 21 should be read to mean "processor."**

"One of a viewer's and a participant's reaction." Defendants argue vigorously and at length that a reader of this claim cannot know the difference, if any, between a "viewer" and a "participant," or even what they are. (DRB '243 pp. 9-13) They obviously feel strongly about this issue, for they employ such words as "bizarre," "grotesque," "outlandish," "farce," and "preposterous" to describe plaintiffs' efforts to illustrate how claim 14 is supported by the specification. The problem with defendants' position here, however, is just that. Whether a claim limitation is supported by the specification and what it means to a person of ordinary skill are two entirely different questions. Plaintiffs may indeed run into serious trouble if they are ever required to explain what the specification provides in the way of support for the terms "viewer" and "participant." That is a matter upon which the SM expresses no views.

But the task at hand is to determine what these ordinary words mean in the context of the claim. A viewer is one who views. A participant is one who participates. To worry about precisely what is being viewed or participated in is, in the context of claim 14, is simply not an issue, for the claim later tells us: "a mass medium program." **This limitation should be construed to mean the reaction of a viewer of a mass medium program, or of a participant in a mass medium program.**

"Information that designates one of an instruct signal to process and an output to deliver in consequence of subscriber input. Defendants' principal attack on this limitation invokes what it calls the "inoperativeness conundrum." (DIB '243 pp. 23-24) Basically this goes as follows:

The received information must designate either an instruct signal to process or an output to deliver. If it designates the former, then the 4th step of the claim ("processing said instruct signal) can be completed. If, however, the received information designates only the "output to deliver," then the 4th step cannot take place, for there is no instruct signal to process. This, according to defendants, renders the claim inoperative and, apparently, indefinite as a consequence. The SM disagrees. All that defendants are doing is pointing out that if the accused infringing system never receives (or is incapable of receiving) information that designates an instruct signal to process, *it will not constitute an infringing use of the method defined by the claim.* Nothing could be more definite than that. **This limitation needs no construction; however, the Court may wish to instruct the jury that the information designates an output to deliver or a signal that is an instruction to be processed.**

"Processing said instruct signal which is effective to coordinate presentation of at least a mass medium program segment with a predetermined presentation sequence at said subscriber station in consequence of said step of determining." The parties agree that "coordinate" may relate to "time, location (place), fashion of playing, or manner of presentation." (Joint Chart p. 57). Against, although the SM sees no ambiguity in the word, it does not appear that these embellishments are likely to confuse the jury. On the other hand, defendants propose a very complex definitional alternative to the term "predetermined presentation sequence," citing specific examples from the specification. (Id.) Although there is no reason the jury could not be advised, through testimony and argument, that these examples correspond with the claim term, it seems dangerous to adopt such examples as definitions for purposes of claim construction.

The SM does feel that it might be well to attempt to eliminate the "patentese" from this limitation. **Accordingly, it is recommended that this limitation be construed to mean that,**

after determining the presence of subscriber input, the instruct signal is processed in a way that coordinates (with relation to time, location, place, fashion of playing, or manner of presentation) the presentation at the subscriber station of a mass medium program segment with a predetermined presentation sequence (any set of presentations in a predetermined sequence).

"Detecting one of the presence and the absence of one of a broadcast and a cablecast control signal." This opening step of claim 21 is pretty straightforward, and once the arguments of the parties are analyzed, their positions seem to be converging. The only real bone of contention has to do with the juxtaposition of the words "broadcast" and "cablecast." As discussed at length in connection with the "broadcast transmission means" limitation of the '414 patent, the specification is ambivalent, sometimes appearing to use "broadcast" as a synonym for "wireless," and sometimes in a more generic sense that would encompass both wireless and cablecast transmissions. In the context of claim 21 of the '243 patent, however, there can be little doubt as to what was meant. "Broadcast" does not mean "cablecast" because the consequent redundancy would render the limitation nonsensical. How could a choice be made between them if they were one and the same thing?

The parties are in agreement that, in the context of this limitation, "detecting" means simply determining the presence or absence of a control signal, and does not invoke all of the definitional baggage accompanying the use of the term in other claims of the patents in suit. **According, it is recommended that this limitation be construed to mean determining the presence or absence, at the receiver station, of a control signal sent by wireless or cablecast transmission.**

"Instruct-to-react signal." Defendants make a vigorous attack on this term, asserting that it has no specification support, citing numerous instances of alleged evasiveness by plaintiffs and much evidence of alleged inconsistency in dealing with this term in related patent prosecution. (DRB '243 pp. 27-31) They also argue that the term is indefinite. But as indicated previously, these are matters for another day. The question at hand is whether the limitation is insolubly ambiguous, and if it is not, how it is to be construed.

In the context of claim 21 as a whole, the SM finds the term to be self-defining. Its ordinary meaning is a signal that comprises an instruction to react. The claim makes it clear that the instruction is input to the processor in response to detecting either the presence or the absence of a broadcast or cablecast control signal. In response to that input, the processor outputs specific information that causes coordination of a program segment and a presentation sequence. Thus, any signal that would have this purpose and function is an instruct-to-react signal within the meaning of the claim. **This limitation needs no construction.**

Similarly, as used in claims 14 and 41, the term "instruct signal" is a signal that comprises an instruction. **This limitation needs no construction.**

"Datum designating one of a television channel and a television program" and "one of a television channel and a television program designated by said processed datum."

Dependent claim 30 adds the following limitations to claim 21: "wherein said processor processes a datum designating one of a television channel and a television program, said method further comprising the step of controlling a video recorder/player to one of record and play one of video and audio contained in said one of a television channel and a television program designated by said processed datum." To the uninitiated, this is quite a mouthful. Although it is typical "patentese," and therefore readily understandable to those used to reading claims, it may

be a bit much for a jury to decipher. "Datum" means nothing more than a piece of information. **Accordingly, the Court may wish to instruct the jury that this phrase simply means that the processor processes a piece of information that designates either a television channel or a television program, and the video recorder/player is controlled to record or play the video or audio contained in the television channel or television program that was so designated.**

Respectfully submitted,

Robert L. Harmon
Special Master

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Applicants	:	John C. HARVEY and James W. Cuddihy
Serial No.	:	08/487,526
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	HARVEY, David E.

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

RESPONSE TO FINAL OFFICE ACTION

This reply is responsive to the final Office action mailed April 28, 2004 ("Office action"). Although no claim amendments are proposed in this response, for convenience, a complete listing of the pending claims begins on the following page. Claims 2-18, 20-30, 33-42, and 67-104 are presently pending. Applicants respectfully request that this application be reconsidered and allowed in view of the remarks presented below.

AF 2614 / 61

October 7, 2004

In re Patent Application of:
John C. Harvey and
James W. Cuddihy
Application No.: 08/487,526
Filed: June 7, 1995
Title: SIGNAL PROCESSING APPARATUS AND METHODS

Attorney Docket No.: **5634.0355**

Group Art Unit: 2614
Examiner: HARVEY, David E.

OIPE JC#17 OCT 07 2004 PATENT & TRADEMARK OFFICE

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Commissioner for Patents
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Alexandria, VA

Transmitted herewith is a Response to Final Office Action, a Petition for Extension of Time Under 37 C.F.R. § 1.136, and a Notice of Appeal.

CLAIMS AS AMENDED						
	Claims Remaining After Amendment	Highest Number Previously Paid For	Extra	Rate: Large Entity	Rate: Small Entity	Amount
Number of Claims in Excess of 20	76	76	0	$ 18.00	$ 9.00	$ 0.00
Independent Claims in Excess of 3	12	12	0	$ 88.00	$ 44.00	$ 0.00
First Presentation of Multiple Dependent Claims				$ 280.00	$ 140.00	$ 0.00
Extension Fee: a) One Month				$ 110.00	$ 55.00	$ 0.00
b) Two Months				$ 430.00	$ 215.00	$ 0.00
c) Three Months				$ 980.00	$ 490.00	$980.00
d) Four Months				$1530.00	$ 765.00	$ 0.00
e) Five Months				$2080.00	$ 1040.00	$ 0.00
Other: Notice of appeal				$340.00	$170.00	$340.00
TOTAL FEE DUE						$1320.00

☐ No additional fee is required.
☒ A check in the amount of $ **1320.00** is attached.
☐ Charge $ _____ to Deposit Account No. 06-1075.
☒ Charge any additional fees or credit any overpayment to Deposit Account No. 06-1075.

Small Entity Status Claim:
☐ is hereby requested.
☐ is of record in this application.

Respectfully submitted,

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I. CLAIM LISTING

2. (previously presented)A method of outputting a multimedia presentation at a receiver station adapted to receive a plurality of signals, said method comprising the steps of:

receiving said plurality of signals, at least a portion of said plurality of signals being received from a source external to said receiver station, said plurality of signals including at least two media;

storing information from a first of said at least two media;

determining content of a second medium received in said plurality of signals;

coordinating, at said receiver station under computer control, a presentation using said information with a presentation of said second medium based on said step of determining; and

outputting said multimedia presentation to a user at said receiver station based on said step of coordinating such that said presentation using said information has a predetermined relationship to said content of said second medium.

3. (previously presented)The method of claim 2, wherein said information from a first of said at least two media is stored in said computer.

4. (previously presented)The method of claim 3, wherein said computer performs said step of determining.

5. (previously presented)The method of claim 2, wherein each of said plurality of signals is received from an external transmitter station.

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6. (previously presented)The method of claim 5, wherein said external transmitter station is an intermediate transmitter station.

7. (previously presented)The method of claim 2, wherein said content of said second medium explains a significance of said presentation using said information.

8. (previously presented)The method of claim 7, wherein said content of said second medium explains said significance in audio.

9. (previously presented)The method of claim 8, wherein said determining step causes a tuner at said receiver station to communicate said audio to an audio output device.

10. (previously presented)The method of claim 9, wherein said second medium comprises television, including video and said audio.

11. (previously presented)The method of claim 2, wherein said plurality of signals includes a digital data channel.

12. (previously presented)The method of claim 11, wherein said receiver station receives said first of said at least two media in said digital data channel.

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13. (previously presented)The method of claim 2, wherein said step of determining comprises processing an identifier.

14. (previously presented)The method of claim 13, wherein said identifier identifies said content of said second medium.

15. (previously presented)The method of claim 14, wherein said content of said second medium includes audio.

16. (previously presented)The method of claim 14, wherein said content of said second medium includes video.

17. (previously presented)The method of claim 2, further comprising the step of storing said second medium at said receiver station.

18. (previously presented)The method of claim 17, wherein said second medium comprises television including video and audio and wherein said first medium is received in a digital data channel of a multichannel cable transmission including said second medium.

20. (previously presented)A method of outputting a multimedia presentation at a receiver station adapted to process a plurality of signals, said plurality of signals including first and second media of said multimedia presentation, said method comprising the steps of:

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receiving a first of said plurality of signals from a source external to said receiver station, said first of said plurality of signals including an identifier;

processing said first of said plurality of signals to provide said first medium of said multimedia presentation and said identifier;

identifying content of said first medium based on said identifier;

controlling said receiver station, based on said step of identifying, to enable a coordinated presentation, through execution of processor instructions, of said first medium and information based on said second medium, wherein, said information based on said second medium is generated based on identifying content of said second medium; and

outputting said multimedia presentation based on said step of controlling.

21. (previously presented)The method of claim 20, wherein said first medium comprises a television program including video and audio.

22. (previously presented)The method of claim 20, further including the step of receiving said second medium in a digital data channel.

23. (previously presented)The method of claim 20, wherein said first medium comprises a television program including video and audio and wherein said plurality of signals is included in a multichannel cable transmission and includes a digital data channel including said second medium.

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24. (previously presented)A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:

receiving a first medium including a television program;

comparing first information stored at said receiver station to second information corresponding to content of said television program to determine whether to present a second medium based on third information received from a source different from that of said first medium;

coordinating presentation, based on said determination, of said television program of said multimedia presentation with presentation of said second medium of said multimedia presentation; and

outputting said television program of said multimedia presentation at a first output device at said receiver station, and said second medium at a second output device at said receiver station.

25. (previously presented)The method of claim 24, wherein said second output device comprises a printer.

26. (previously presented)A method of outputting a multimedia presentation at a receiver station adapted to receive a plurality of media, said method comprising the steps of:

receiving, at said receiver station, at least two of said plurality of media from different sources, at least one of said different sources being a remote transmitter station;

processing said at least two of said plurality of media in order to output said multimedia presentation;

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identifying content of a first and content of a second of said at least two of said plurality of media based on said step of processing; and

outputting said multimedia presentation based on said step of identifying, said multimedia presentation comprising a presentation of information included in said first of said at least two of said plurality of media and information based on said second of said at least two of said plurality of media.

27. (previously presented)The method of claim 26, said method further comprising the step of storing said information based on said second of said at least two of said plurality of media at said receiver station.

28. (previously presented)The method of claim 27, further comprising the step of storing said first of said at least two of said plurality of media at said receiver station.

29. (previously presented)A method of outputting a multimedia presentation at a receiver station having an output device, said method comprising the steps of:

processing a control signal at said receiver station that causes execution of processor instructions to create a series of discrete video images;

identifying content of a first medium, said first medium to be output in said multimedia presentation;

causing a video image of said series of discrete video images to be output subsequent to said step of identifying; and

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combining said outputted video image into said multimedia presentation at said output device based on said step of causing to be output, said multimedia presentation comprising said first medium and said outputted video image of said series of discrete video images.

30. (previously presented)The method of claim 29, wherein said step of identifying comprises processing an identifier, said method further comprising the step of receiving said identifier from a remote transmitter station.

33. (previously presented)A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:

receiving a first signal from a remote transmitter station;

outputting said first signal at said receiver station;

receiving a user response based on said step of outputting;

comparing said user response to information corresponding to content of said first signal at said receiver station;

tuning said receiver station to receive a second signal based on said step of comparing; and

outputting information included in said second signal;

wherein said multimedia presentation comprises information included in said first signal and said information included in said second signal.

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34. (previously presented)The method of claim 33, further comprising the step of transmitting information from said receiver station based on said step of receiving said user response.

35. (previously presented)The method of claim 33, wherein said information included in said second signal is output to a printer.

36. (previously presented)The method of claim 34, wherein said transmitted information is transmitted by telephone.

37. (previously presented)A multimedia presentation apparatus comprising:

at least one receiver for receiving a plurality of signals from a source external to said multimedia presentation apparatus, said plurality of signals including at least two media;

a microcomputer that stores information from a first of said at least two media and coordinates a presentation using said information with a presentation of a received second medium of said at least two media based on determining content of said second medium; and

at least one output device operatively connected to said at least one receiver and said microcomputer for outputting a multimedia presentation to a user at said multimedia presentation apparatus based on said coordinating such that said presentation using said information has a predetermined relationship to said content of said second medium.

38. (previously presented)The apparatus of claim 37, wherein said microcomputer determines said content of said second medium by processing an identifier transmitted from said

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source external to said multimedia presentation apparatus, said multimedia presentation apparatus further comprising a detector operatively connected to said microcomputer for detecting said identifier.

39. (previously presented)The apparatus of claim 38, wherein said multimedia presentation apparatus receives a multichannel signal, said multimedia presentation apparatus further comprising a converter operatively connected to said at least one receiver for communicating a portion of said multichannel signal.

40. (previously presented)The apparatus of claim 39, further comprising a first controlled device operatively connected to said microcomputer for causing said converter to select said second medium.

41. (previously presented)The apparatus of claim 40, further comprising a storage device operatively connected to said converter for storing said second medium.

42. (previously presented)The apparatus of claim 41 further comprising a second controlled device operatively connected to said microcomputer for causing said storage device to store said second medium.

67. (previously presented)The apparatus of claim 37, wherein said second medium comprises a television program including video and audio.

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68. (previously presented)The apparatus of claim 37, wherein said microcomputer receives said first medium in a digital data channel.

69. (previously presented)The apparatus of claim 37, wherein said second medium comprises a television program including video and audio and wherein said microcomputer receives said first medium in a digital data channel of a multichannel cable transmission including said second medium.

70. (previously presented)A multimedia presentation apparatus comprising:

a receiver for receiving a first of a plurality of signals from an external source, said first of said plurality of signals including an identifier, said plurality of signals including a first medium and a second medium of a multimedia presentation;

a microcomputer for identifying content of said first medium based on said identifier, and for executing processor instructions to enable a coordinated presentation of said first medium and information based on said second medium, wherein, said information based on said second medium is generated based on identifying content of said second medium; and

an output device for outputting said coordinated presentation of said first medium and information from said second medium.

71. (previously presented)The apparatus of claim 70, wherein said first medium comprises a television program including video and audio.

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72. (previously presented)The apparatus of claim 70, wherein said microcomputer receives said second medium in a digital data channel.

73. (previously presented)The apparatus of claim 70, wherein said first medium comprises a television program including video and audio and wherein said plurality of signals is included in a multichannel cable transmission and includes a digital data channel including said second medium.

74. (previously presented)A multimedia presentation apparatus comprising:

a receiver for receiving a first medium including a television program;

a microcomputer for storing first information, comparing said first information to second information corresponding to content of said television program to determine whether to present a second medium based on third information received from a different source than that of said first medium, and coordinating presentation, based on said determination, of said television program with presentation of said second medium;

a first output device for outputting said television program; and

a second output device for outputting said second medium.

75. (previously presented)The apparatus of claim 74, wherein said second output device comprises a printer.

76. (previously presented)A multimedia presentation apparatus comprising:

a first receiver for receiving a first medium;

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a second receiver for receiving a second medium;

a microcomputer for identifying content of said first medium and identifying content of said second medium and controlling, based on said identifying content, a multimedia presentation comprising information included in said first medium and information based on said second medium; and

an output device for outputting said multimedia presentation.

77. (previously presented)The apparatus of claim 76, wherein said microcomputer controls storage of said information based on said second medium.

78. (previously presented)The apparatus of claim 77, wherein said microcomputer controls storage of said first medium.

79. (previously presented)The apparatus of claim 76, wherein said first medium comprises a television program including video and audio.

80. (previously presented)The apparatus of claim 76, wherein said second receiver receives said second medium in a digital data channel.

81. (previously presented)The apparatus of claim 76, wherein said first medium comprises a television program including video and audio and wherein a multichannel cable transmission includes said first medium and a digital data channel including said second medium.

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82. (previously presented)The method of claim 26, wherein said first of said at least two of said plurality of media comprises a television program including video and audio.

83. (previously presented)The method of claim 26, wherein said second of said at least two of said plurality of media is received in a digital data channel.

84. (previously presented)The method of claim 26, wherein said first of said at least two of said plurality of media comprises a television program including video and audio and wherein said plurality of media is included in a multichannel cable transmission including a digital data channel including said second of said at least two of said plurality of media.

85. (previously presented)A multimedia presentation apparatus comprising:

a microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal, identifying content of a first medium, and then causing a video image of said series of discrete video images to be output;

an output device at which said video image is combined into said multimedia presentation, said multimedia presentation comprising said first medium and said video image.

86. (previously presented)The apparatus of claim 85, wherein said microcomputer processes an identifier from a remote transmitter station to identify content of said first medium.

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87. (previously presented)The apparatus of claim 85, wherein said first medium comprises a television program including video and audio.

88. (previously presented)The apparatus of claim 85, wherein said microcomputer processes data received in a second medium to create said series of discrete video images.

89. (previously presented)The apparatus of claim 88, wherein said second medium is received in a digital data channel.

90. (previously presented)The apparatus of claim 88, wherein said first medium comprises a television program including video and audio and wherein a multichannel cable transmission includes said first medium and a digital data channel including said second medium.

91. (previously presented)The method of claim 29, wherein said first medium comprises a television program including video and audio.

92. (previously presented)The method claim 29, wherein said execution of processor instructions to create a series of discrete video images includes processing data received in a second medium.

93. (previously presented)The method of claim 92, wherein said second medium is received in a digital data channel.

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94. (previously presented)The method of claim 92, wherein said first medium comprises a television program including video and audio and wherein a multichannel cable transmission includes said first medium and a digital data channel including said second medium.

95. (previously presented)A multimedia presentation apparatus comprising:

a first receiver for receiving a first signal from a remote transmitter station;

a second receiver for receiving a second signal;

a microcomputer for receiving a user response based on outputting said first signal, comparing said user response to information corresponding to content of said first signal, and based on said comparison tuning said second receiver to receive said second signal;

wherein said apparatus presents a multimedia presentation comprising information included in said first signal output at a first output device and information included in said second signal output at a second output device.

96. (previously presented)The apparatus of claim 95, further comprising a transmitter for transmitting information from said microcomputer based on said user response.

97. (previously presented)The apparatus of claim 96, wherein said transmitter transmits by telephone connection.

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98. (previously presented)The apparatus of claim 95, wherein said second output device comprises a printer.

99. (previously presented)The apparatus of claim 95, wherein said first signal includes a television program including video and audio.

100. (previously presented)The apparatus of claim 99, wherein said first signal and said second signal are received in a multichannel cable transmission.

101. (previously presented)The method of claim 33, wherein said first signal includes a television program including video and audio.

102. (previously presented)The method of claim 101, wherein said first signal and said second signal are received in a multichannel cable transmission.

103. (previously presented)The method of claim 24, wherein said television program and said third information are included in first and second channels, respectively, of a multichannel cable transmission.

104. (previously presented)The apparatus of claim 74, wherein said television program and said third information are included in first and second channels, respectively, of a multichannel cable transmission.

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II. REMARKS

A. Introduction

The Examiner's prior Office action mailed July 30, 2002 ("Prior Office action") rejected all of applicants' claims under 35 U.S.C. § 112, first paragraph, for lack of written description support. The Prior Office action also rejected applicants' claim of priority under § 120 to the filing date of applicants' parent application for all of the pending claims and applied numerous intervening references against applicants' pending claims.

In response to these rejections, applicants explained in detail their position, and the legal bases thereof, regarding their compliance with §§ 112 and 120. *See* applicants' January 29, 2003, Amendment and Request for Reconsideration ("January 2003 Response"). Applicants also submitted an expert declaration of Dr. George T. Ligler ("Ligler Declaration") demonstrating how each and every claim, as amended, was supported under the requirements of § 112, first paragraph, in both applicants' 1981 and 1987 specifications.

In the Office action, the Examiner has withdrawn all of the § 112, first paragraph, rejections asserted in the Prior Office action. Accordingly, applicants have effectively overcome the § 112, first paragraph, rejections asserted in the Prior Office action. In the instant Office action, the Examiner makes one new § 112, first paragraph, rejection, based on the claim recitation of "determining content" (or similar "content" limitations), which is applied against all of the pending claims. But for this rejection to this one claim recitation, applicants understand that the Examiner does not object to applicants' position that each and every pending claim is fully supported under § 112, first paragraph, by applicants' instant 1987 specification.

In the Office action, the Examiner also has withdrawn all of the rejections asserted in the Prior Office action based on intervening references under 35 U.S.C. §§ 102 and 103. Accordingly, applicants have effectively overcome the §§ 102 and 103 rejections based on the intervening references applied in the Prior Office action. In the instant Office action, the Examiner applies only one intervening reference in a § 103 rejection against claims 2, 3, 4, 7, 10, 13-15 and 17. Accordingly, the issue of whether applicants' claims are entitled to priority under

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§ 120 is moot with respect to claims 5, 8, 9, 12, 16, 20-30, 33-42 and 67-104. *See* Office action p. 57 ("The examiner understands that applicants' claim to the 1981 priority date needs only be addressed and resolved for those claims which are properly rejected under sections 102 and 103 via intervening prior art. Thus when applicant elects to amend the claims to overcome the intervening prior art, the section 120 priority issue becomes moot."). Further, as the Examiner only objects to an alleged lack of written description support for the claim recitation "determining content" (or similar "content" limitations), applicants understand that there is now only one issue regarding written description support under § 112, first paragraph with respect to applicants' 1987 specification.

B. Response To § 120 Issues

1. Response to The Examiner's General Discussion Of § 120 Issues

Notwithstanding the fact that the Examiner and applicants agree that the § 120 priority issue is relevant only with respect to the intervening reference applied against claims 2, 3, 4, 7, 10, 13-15 and 17, several sections of the Office action are devoted to a generic discussion of § 120 priority issues. *See* Office action Sections A, B, D, E1, and Appendices I-V. As the § 120 issue is now limited to the subject matter of a single independent claim (claim 2) and eight claims depending from claim 2, there is no reason to address the application of § 120 in the abstract or hypothetically as the Examiner has in great length in the Office action. Applicants maintain that they have accurately and comprehensively set forth the requirements of § 120 in their prior filings including the January 2003 response. Further, applicants have demonstrated support in both the instant specification and the 1981 specification for the subject matter of claims 2, 3, 4, 7, 10, 13-15 and 17. Accordingly, applicants do not address the abstract and hypothetical examples of the application of § 120 contained in the Office action. Applicants do not concede that the abstract and hypothetical examples in the Office action are correct. Rather, applicants assert that there is no showing that claims 2, 3, 4, 7, 10, 13-15 and 17 are not entitled

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to the benefit of the November 3, 1981, filing date under § 120. Applicants reserve their right to fully address and respond to any argument, assertion, issue contained in Sections A, B, D, E1, and Appendices I-V of the Office action, if and when any such issue, argument or assertion is applied against claimed subject matter.

The Ligler Declaration, filed with the January 2003 Response, demonstrates that both the 1981 specification and the 1987 specification contain a written description of the subject matter of claim 2 (and claims 3, 4, 7, 10, 13-15 and 17 depending therefrom). In paragraph 21 of his declaration, Dr. Ligler identifies support for each limitation of claim 2 in both specifications. In paragraphs 22-26, Dr. Ligler explains how the disclosures of both specifications support the subject matter of claim 2. In paragraph 26, Dr. Ligler opines "that the claimed subject mater of . . . claim 2 is disclosed in sufficient detail, in both the 1981 and 1987 specifications, that a person of ordinary skill in the relevant time frames would reasonably understand that the inventor possessed the subject matter of amended claim 2 at the time of the filing of those specifications." In paragraph 42, Dr. Ligler also opined that the subject matter of claims 3, 4, 7, 10, 13-15 and 17 is sufficiently described in both the 1981 and 1987 specifications based on the support identified at Tab F. The Office action identifies no errors whatsoever with the specific reasoning or opinion of Dr. Ligler.

At page 56 of the Office action, the Examiner recognizes that applicants have submitted arguments showing that the claims find support in both specifications. The Examiner however requests further clarification:

> [I]t is unclear from these arguments what 'standard' of proof applicants and applicants' expert have adopted in support of their conclusions. That is, it is unclear whether applicants and their expert are alleging that the respective 1981 and 1987 disclosures being relied upon for 'proof' of priority do in fact describe the 'same invention' and therefore constitute 'common subject matter' as is required under section 120 or, alternatively, whether applicants and their expert continue to base their arguments on the premise that 'the same invention'/'common subject matter' is not a requirement of section 120 and are therefore continue [sic] to

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> improperly base their conclusions of adequate 'dual' support based on nothing more than alleged 'correlated' 1981 and 1987 subject matter.

Office action at 56. Applicants maintain that the *subject matter of independent claim 2* is sufficiently described in the 1981 specification and is sufficiently described in the 1987 specification. The Examiner has failed to provide any reason why either the 1981 specification or the 1987 specification fails to support the subject matter of independent claim 2, and dependent claims 3, 4, 7, 10, 13-15 and 17, under *any* interpretation of the requirements of § 120. Applicants' proper application of the requirements of § 120 on a claim-by-claim basis is presented below where relevant. *See* Section H.12.a below addressing the rejection based on the intervening reference to Fujino.

C. Response To Appendix VI

In Appendix VI of the Office action, the Examiner repeats a list of more than 30 "Examples"/"Issues" all of which except number 33, were included in prior Office actions. The "Examples"/"Issues" discuss miscellaneous issues arguably related to §§ 112 and 120. This is the third time in which the vast majority of these "Examples"/"Issues" have appeared in an Office action in this application. In the Prior Office action, the Examiner stated that the list of "Examples" would be maintained by the Patent Office in all of applicants' related applications "in an attempt to ensure consistency in the way that these issues are handled between applications in the future." Prior Office action, p. 56. Notwithstanding the Examiner's attempt to ensure consistency, the list of Examples is an ever-changing "list" with numerous additions, deletions, and other changes appearing over time.[1] It appears that the only "entirely" new "Example"/"Issue" is number 33. While the Examiner has taken time to correct minor

[1] For example, prior to the Office actions received in 2004 in the instant application and application serial number 08/470,571, the most recent "List of Examples" appeared in the Office action mailed on July 30, 2003, in application serial number 08/444,788. While many of the changes between the list appearing in the Office action mailed on July 30, 2003 and the instant Office action are trivial and grammatical corrections, the Examiner has deleted several "Examples" (e.g., "Examples 22, 24, and 26 have been removed) and inserted substantive additions to others.

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grammatical errors and make substantive revisions to many of these "Examples"/"Issues," the Examiner has not commented on, or even acknowledged, applicants' prior responses to the "Examples"/"Issues."

Applicants have previously responded to all but one of the 33 "Examples"/"Issues,"[2] and continue to believe that all of these "Examples"/"Issues" should be withdrawn in their entirety. Applicants reserve their right to further address any issue raised in the "Examples"/"Issues" if the Examiner makes an actual rejection or objection based on any of the issues raised in the "Examples"/"Issues."

Regarding Example 33, the Examiner addresses applicants' arguments from the Response filed January 9, 2003, in application number 08/470,571 regarding a specific rejection in the July 17, 2002, Office action. The Examiner withdrew this rejection in the subsequent Office action mailed April 28, 2004. Applicants maintain that the claimed invention is patentable over the references cited by the Examiner. Applicants fully set forth the distinctions between the claimed invention and art related to viewdata whenever the Examiner applies such art.

D. Response to Rejections Under § 112, First Paragraph

In Section E2 the Examiner rejects all of applicants' pending claims under 35 U.S.C. § 112, first paragraph, for lack of written description support. Specifically, the Examiner alleges that applicants' 1987 specification does not support the step in claim 2 of "determining content of a second medium received in said plurality of signals." The Examiner's rejection under § 112, first paragraph, should be withdrawn for several reasons.

First, the Examiner has failed to satisfy his burden to sustain the rejection under § 112, first paragraph. In the Prior Office action, claim 2 was rejected for failure to satisfy the written description requirement of § 112, first paragraph. In rejecting claim 2 under § 112, first paragraph, the Examiner stated that "[i]t is not clear where the disclosure as originally filed

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[2] *See, e.g.*, applicants' January 2003 Response filed in the instant application and applicants' January 30, 2004 Response filed in application serial number 08/444,788.

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disclosed the 'content' of the second medium that is determined in line 9. Clarification is needed." Prior Office action, at p. 98. In response to this rejection, applicants submitted the Ligler Declaration in accordance with 37 C.F.R. § 1.132, which accompanied applicants' January 2003 Response.

The Ligler Declaration demonstrates that the subject matter of claim 2 is sufficiently described in both the 1981 and the 1987 specifications such that a person of ordinary skill in the art would conclude that applicants invented the invention of claim 2 as of the filing date of applicants' 1981 specification. The Ligler Declaration provides citations to applicants' 1981 and 1987 specifications precisely pointing out the portions of those specifications that support each and every recited limitation of claim 2. The Ligler Declaration indicates that the step of "determining content of a second medium received in said plurality of signals" is supported by the disclosure of the 1981 specification at e.g., col. 19, ll. 12-23 and the disclosure of the 1987 specification at e.g., p. 435, l. 23 to p. 436, l. 1. Ligler Declaration, at p. 7. Additionally, the Ligler Declaration provides a narrative explanation detailing how claim 2 is supported by the disclosure of each specification. Regarding the "determining content" step, the Ligler Declaration states that "[i]n both the 1981 and 1987 specifications a program identifier received in advance of the exemplary Wall Street Week broadcast is used to determine content of the Wall Street Week television program." Ligler Declaration, at pp. 8-9.

The law is clear that examiners must take into account and analyze a declaration submitted by an applicant in response to a rejection under the first paragraph of 35 U.S.C. § 112.

> Upon reply by applicant, before repeating any rejection under 35 U.S.C. 112, para. 1, for lack of written description, review the basis for the rejection in view of the record as a whole, including amendments, arguments, and any evidence submitted by applicant. If the whole record now demonstrates that the written description requirement is satisfied, do not repeat the rejection in the next Office action. If the record still does not demonstrate that the written description is adequate to support the claim(s), repeat the rejection under 35 U.S.C. 112, para. 1, fully respond to applicant' s rebuttal arguments, and properly treat any further showings submitted by applicant in the reply. When a rejection is

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> maintained, any affidavits relevant to the 35 U.S.C. 112, para. 1, written description requirement, must be thoroughly analyzed and discussed in the next Office action.

MPEP § 2163.04. *See also In re Alton*, 76 F.3d 1168, 1176, 37 U.S.P.Q.2d 1578, 1584 (Fed. Cir. 1996).

The Examiner has failed to follow the guidelines set forth in the MPEP. First, the Examiner does not challenge, refute, or even acknowledge the Ligler Declaration with respect to this issue. Second, it is clear that the Examiner did not even consider the Ligler Declaration because the Examiner incorrectly asserts that applicants rely on "the described 'act of detecting' the overlay command signal" to support the "determining content" step of claim 2. The Ligler Declaration identifies the use of the *program identifiers* described in both specifications to support the "determining content" step of claim 2. As the Examiner has failed to acknowledge, analyze or discuss the Ligler Declaration's reasons why the subject matter of claim 2 is adequately supported in applicant's specifications, the Examiner has not met the burden required to sustain his rejection of claim 2 under § 112, first paragraph. Accordingly, applicants respectfully request that the Examiner withdraw this rejection.

Without elaboration, the Examiner asserts that "support for the 'content' terminology in the context of claims 8-10 and 14-16 is, for similar reasons not apparent and/or not understood" and that "clarification regarding support for the 'content' terminology is needed as recited in the context of claims 20, 24, 26, 29, 30, 33, 37, 38, 70, 74, 76, 85, and 95."[3] The Ligler Declaration identifies the written description support contained in both of applicants' specifications for each of these claims. Accordingly, for at least the same reasons discussed above with respect to claim 2, the Examiner's rejections of claims 8-10, 14-16, 20, 24, 26, 29, 30, 33, 37, 38, 70, 74, 76, 85, and 95 should be withdrawn.

[3] As discussed in Section II.F, the Examiner has misconstrued the "determining content" step of claim 2. In contrast, Dr. Ligler's analysis is entirely consistent with the proper interpretation of this term.

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E. Response to Rejections Under § 112, Second Paragraph

In Section E3, the Examiner rejects claims 70-73, and the claims dependent therefrom, as being indefinite for failing to particularly point out and distinctly claim the subject matter applicants regard as their invention. The Examiner asserts that claim 73 is directed to an apparatus, but that the claim includes the following "functional language . . . that is not supported by recitations of corresponding structure":

> wherein said information based on said second medium is generated based on identifying content of said second medium.

Office action, p. 60. The Examiner further states that the "structure for providing the recited generation and structure for providing the recited identification of content has not been positively recited as required of an apparatus claim." *Id.* Contrary to the Examiner's assertion it is not improper or otherwise objectionable under § 112, second paragraph, to include descriptions of functions performed by apparatus recited in a claim directed to such apparatus. M.P.E.P. § 2173.05(g). Notwithstanding this fact, applicants note that the recitation that the Examiner objects to is contained in the claim limitation directed to a microcomputer. Accordingly, applicants include in claim 70 (and the claims depending from claim 70) a structure for performing the recited generation and identification in claim 70.

F. Response To Prior Art Rejections

Before turning to the specific claim rejections under 35 U.S.C. §§ 102 and 103, applicants wish to address a claim interpretation error that is repeated by the Examiner throughout the Office action. In particular, the Examiner has erroneously construed the term "content." The phrases "determining content" and "identifying content" of media are thus misconstrued by the Examiner in a manner that invites rejections based on references that simply disclose detecting portions of transmission signals. For example, many of the rejections are based on television references, with the Examiner taking the position that television synchronization signals constitute "content" of a medium that is determined or identified. For the reasons set forth below, these rejections are based on an *unreasonable* interpretation of

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"determining content" and "identifying content." The rejections based on this unreasonable interpretation should be withdrawn.

MPEP § 2111 clearly sets forth the manner by which the Examiner should interpret claims during examination. Specifically, the pending claims must be "given their broadest *reasonable* interpretation consistent with the specification." *In re Hyatt*, 211 F.3d 1367, 1372, 54 U.S.P.Q.2d 1664, 1667 (Fed. Cir. 2000) (emphasis added). This means that the words of the claim must be given their plain meaning unless applicants have provided a clear definition in the specification. *Id.*; *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372, 69 U.S.P.Q.2d 1857 (Fed. Cir. 2004). The MPEP further points out that "plain meaning" refers to the ordinary and customary meaning given to the term by those of ordinary skill in the art. *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302, 67 U.S.P.Q.2d 1438, 1441 (Fed. Cir. 2003); *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 67 U.S.P.Q.2d 1132, 1136 (Fed. Cir. 2003). The ordinary and customary meaning of a term may be evidenced from a variety of sources, including dictionaries. *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202, 64 U.S.P.Q. 2d 1812, 1818 (Fed. Cir. 2002).

Applying this procedure, an appropriate place to start is with the definition of "content." Webster's Ninth New Collegiate Dictionary (1985) defines "content" as follows:

> 1**con•tent** \kən-'tent\ *adj* [ME, fr. MF, fr. L *contentus*, fr. pp. of *continēre* to hold in, contain — more at CONTAIN] (15c): CONTENTED, SATISFIED
>
> 2**content** *vt* (15c) **1:** to appease the desires of **2:** to limit (oneself) in requirements, desires, or actions
>
> 3**content** *n* (1579): CONTENTMENT <ate to his heart's ~>
>
> 4**con•tent** \'kän-ˌtent\ *n* [ME, fr. MF, fr. L *contentus*, pp. of *continēre* to contain] (15c) **1 a:** something contained — usu. used in pl. <the jar's ~s> <the drawer's ~s> **b:** the topics or matter treated in a written work <the table of ~s> **2 a:** SUBSTANCE, GIST **b:** MEANING, SIGNIFICANCE **c:** the events, physical detail, and information in a work of art — compare FORM 10c **3 a:** the matter dealt with in a field of study **b:** a part, element, or complex of parts **4:** the amount of specified material contained : PROPORTION

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The MPEP provides guidance on what to do when there are several definitions for a term. Specifically, the intrinsic record must be consulted to identify which of the different possible definitions is most consistent with applicants' use of the term. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250, 48 U.S.P.Q.2d 1117, 1122 (Fed. Cir. 1998).

Applicants' invention is in the field of telecommunications. The specification notes that for mass media, program content is the same for every viewer. Spec. p. 1, ll. 26-32. It is this information content of programming that is viewed at the receiver station. Spec. p. 390, ll. 14-23.

Given this field of the invention, the logical choice for the definition of "content" in this context is "substance," "gist," "meaning" or "significance." Accordingly, "content" is properly construed to mean "substance" in contrast to "form" or "structure." This definition is in accord with the use of the term "content" with the terms "medium" and "media" which connote a channel of communications. Accordingly, the "content" of a medium should be interpreted to mean the substance of a channel of communications. The specification provides examples of determining or identifying the substance, gist, meaning or significance of a channel of communications. For instance, program identifiers are used to determine which television program is being transmitted on a particular channel. Spec. p. 435, l. 23 - p. 436, l. 1; p. 252, ll. 31-35. Similarly, other content, such as the closing prices of particular stocks, is identified in other communications. Spec. p. 449, ll. 13-35.

The prior art rejections in the Office action strongly suggest that the Examiner has construed the term "determining content" to simply mean "detecting a portion of a transmission signal." As properly construed, the synchronization signals of a television video signal are not "content" of a medium. Rather the synchronization signals are part of the structure of the underlying electromagnetic signal. In other words, the substance of what is communicated over the television video signal is independent from the synchronizing pulses. Isolating the line synchronizing pulses does not determine or identify the substance, gist, meaning or significance of the medium (e.g., they do not signify what television program is being provided via the

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television broadcast). For at least this reason, all rejections premised on the notion that synchronization signals constitute "content" should be withdrawn.

G. Response To § 102 Prior Art Rejections

Under 35 U.S.C. § 102, the Office bears the burden of presenting at least a *prima facie* case of anticipation. *Chester v. Miller*, 906 F.2d 1574, 15 U.S.P.Q.2d 1333 (Fed. Cir. 1990). Anticipation requires that a prior art reference disclose, either expressly or under the principles of inherency, each and every element of the claimed invention. *See e.g., Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565, 1571, 230 U.S.P.Q. 81, 84 (Fed. Cir. 1986) ("[A]bsence from the reference of any claimed element negates anticipation."). "In addition, the prior art reference must be enabling." *Akzo N.V. v. U.S. Int'l Trade Comm'n*, 808 F.2d 1471, 1479, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986). That is, the prior art reference must sufficiently describe the claimed invention so as to have placed the public in possession of it. *In re Donohue*, 766 F.2d 531, 226 U.S.P.Q. 619 (Fed. Cir. 1985). "Such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his own knowledge to make the claimed invention." *Id.*

1. Rejection Based On Turner

Claims 2-6 and 11-16 stand rejected as being anticipated by British patent 1 486 424 naming Simon Royce Turner as inventor ("Turner"). Turner relates to a television transmission system for transmitting additional data within the normal television video signal.

a. Independent Claim 2

In section E-4 of the Office action, claim 2 is rejected as being anticipated by Turner. In claim 2, a multimedia presentation is output through the coordination of a presentation, under computer control, using information from a first medium with a presentation of a second medium, whereby the presentation using information in the first medium has a predetermined relationship to the content of the second medium.

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In particular, claim 2 sets forth a step of determining content of the second medium. Turner does not teaching determining the content of any medium. As described in both the 1981 specification and the 1987 specification, a program identifier is received in advance of the "Wall Street Week" broadcast and is used to identify the information content of the broadcast. The content (the "Wall Street Week" program) of the television broadcast (second medium) is identified.

In contrast, Turner displays character data. Turner p. 2, ll. 29-44. Turner may also display a television picture. Turner p. 2, ll. 38-49. Turner does not teach determining the content of either the character data or the television picture. Turner uses the line synchronizing pulses of the television signal to clock the data bits representing characters into the line blanking interval in the television signal at a rate of only one data bit per television line. Turner, p. 1, ll. 74-91. In the Office action, a synchronising pulse separator 37 is cited as "determining a sync signal 'content' of a second video media." However as discussed in Section F above, the line synchronizing pulse is not the content of either the character data or the television video, nor is it used to determine the content of the character data of the television video.

Claim 2 sets forth coordinating a presentation using the information from the first medium with a presentation of the second medium based on the step of determining. As Turner fails to teach a step of determining as set forth by claim 2, Turner does teach coordinating a presentation based on the step of determining. The applied art simply does not show coordinating a presentation based on determining the content of a television program. There is no teaching to coordinate based on a step of identifying the substance of the television program.

Claim 2 sets forth outputting the multimedia presentation based on the step of coordinating such that the presentation using the information from the first medium has a predetermined relationship to the content of the second medium. The Office action is silent regarding the relationship between the character data and the content of the television picture of Turner. In addition, as Turner does not show a step of coordinating as claimed, Turner does not teach outputting based on the step of coordinating.

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b. Claims 3-6 And 11-16

Claims 3-6 and 11-16 depend from claim 2. In Section E-5 of the Office action, these claims are rejected as being anticipated by Turner. The Office action provides no reasons whatsoever for the rejections of claims 3-5, 11 and 12. Accordingly, a *prima facie* case of anticipation has not been established against these claims. As each of these claims depends from claim 2 and, thus, includes the limitations of claim 2, these claims are not anticipated by Turner for at least the reasons set forth above with regard to claim 2.

Additionally, claim 13 sets forth that the step of determining comprises processing an identifier. Claim 14 depends from 13 and further sets forth that the identifier identifies the content of the second medium. Claim 15 and 16 depend from claim 14 and set forth that the content of the second medium includes audio and video respectively. In the Office action, it is asserted, "Sync signals are inherently 'identifiers' of a specific timing content of the TV signal." The content of a television program is not identified by sync signals for the reasons set forth in Section F above.

2. Rejection Based On Yoshino

Claim 2 stands rejected under 35 U.S.C. § 102(b) as being anticipated by British patent 1 405 141 naming Hirokazu Yoshino et al. as inventor ("Yoshino"). Yoshino is directed to an electronic calculator that outputs a multiple row display in superposition with television video. Yoshino, like Turner, is merely directed to the display of character data with television video. Yoshino does not anticipate claim 2 for reasons similar to those set forth above with respect to Turner.

As discussed above, claim 2 sets forth a step of determining content of a second medium. Yoshino fails to teach this step. The Office action asserts that Yoshino comprised "Circuitry (@ 14) for determining a timing 'content' of the received TV signal by detecting sync signals contained therein." Yoshino includes a synchronizing circuit 14 for supplying the horizontal and vertical synchronizing signals for the display control circuit. As discussed in Section F above,

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detecting sync signals is not determining content of a TV program. For at least this reason, Yoshino does not teach a step of determining content of second medium.

Yoshino does not teach the steps of coordinating and outputting for reasons similar to those set forth above with respect to Turner. As Yoshino does not teach a step of determining as set forth by claim 2, Yoshino does not teach coordinating based on the step of determining. As Yoshino does not teach a step of coordinating as set forth by claim 2, Yoshino does not teach a step of outputting based on the step of coordinating. Furthermore, claim 2 sets forth that the presentation using the information from the first medium has a predetermined relationship to the content of the second medium. Yoshino teaches no predetermined relationship between the image data of the computed information and the television program.

3. Rejections Based On Zaboklicki

Claims 2, 3-18, 20, 21-23, 26, 27, 37-42, 67-69, and 82-84 are rejected under 35 U.S.C. § 102(b) as being anticipated by German patent application 29 04 981 naming Edward Zaboklicki as inventor ("Zaboklicki").

The teaching of Zaboklicki is obscure. The Examiner continues to summarize the alleged showing of Zaboklicki at pp. 65-66 of the Office action. Applicants do not accede to the Examiner's assertion of the teachings of Zaboklicki. Zaboklicki does not disclose each and every limitation of the claims. Applicants' maintain that Zaboklicki is not enabling. The Examiner has provided a summary of his interpretations of various references deemed related to interactive television in Section D-3 of the response. This summary seems to be considered necessary by the Examiner to clarify the teaching that the Examiner desires to find in Zaboklicki: it is not, however, the actual teaching of Zaboklicki nor is the summary prior art. Zaboklicki does not sufficiently describe the claimed invention so as to have placed the public in possession of it as is required to be applicable as prior art. M.P.E.P. § 2121.01.

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a. Claim 2

Section E-7 of the Office action rejects claim 2 as being anticipated by Zaboklicki. Zaboklicki, like Turner and Yoshino, fails to teach a step of determining content of a second medium. Further demonstrating the obscurity of the teaching of Zaboklicki, the Office action offers two interpretations of the applied reference against claim 2. Teletext decoder 56 is relied upon to show determining content in both interpretations. In the first interpretation, it is asserted that the teletext decoder is "for determining 'content' of other media [i.e., for detecting the page number content of the teletext media; for detecting the control signal content of the teletext media, for detecting program segment/fragment identifier content of the primary and secondary video/audio components, etc. . . .]" In the second interpretation, it is asserted that the teletext decoder is "for determining 'content' of other media [i.e., for detecting a 'telesoftware' content of the program segments/fragments; for detecting program segments/fragment identifier content of the primary and secondary video/audio components, etc.]" The fundamental flaw with both interpretations is that the Zaboklicki reference itself provides no support for these assertions. The Examiner does not point to any teaching of Zaboklicki that ascribes these functions to the teletext decoder 56.

With regard to determining content of teletext media, Zaboklicki fails to anticipate claim 2. First, the Office action points to no teaching by Zaboklicki that the teletext decoder 56 detects any page numbers, control signal content, or program segment/fragment identifier content. Zaboklicki includes no teaching of this function of decoder 56. Furthermore, in this interpretation, the Office action relies on memory 7 to show storing "telesoftware." Zaboklicki fails to teach that any telesoftware is stored by memory 7. Furthermore, the Office action is unclear regarding the presentations that are alleged to be coordinated and output when the first interpretation of Zaboklicki is used. Zaboklicki fails to teach that teletext is coordinated with audio or television programming based on determining the content of the teletext.

With regard to determining content of "telesoftware," there is no teaching in Zaboklicki that any "telesoftware" is a communications medium. When using this alternate interpretation,

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the Office action relies on teletext data, audio components and television components to show coordinated presentations. This is inconsistent with the reliance in the Office action of the "telesoftware" to show a second medium. Zaboklicki fails to teach determining content of a second medium which is coordinated with stored information from a first medium, where the presentation using the information has a predetermined relationship to the content of the second medium as set forth in claim 2.

b. Claims 3-18

In Section E-8, claims 3-18 are rejected as being anticipated by Zaboklicki. Claims 3-18 depend from claim 2 and are thus allowable over Zaboklicki for at least the reasons set above with respect to claim 2. The Office action briefly addresses a few selected limitations from certain ones of these dependant claims. Not all the claims are specifically addressed. Furthermore, except for the rejection of claims 3 and 4, it is unclear whether these rejections rely on the first interpretation of Zaboklicki or the second alternative interpretation of Zaboklicki set forth with respect to claim 2. For example, claim 7 sets forth that the content of the second medium explains a significance of the presentation using the information from the first medium. The Office action does not address this claim. Claim 8 sets forth that the content of the second medium explains the significance in audio. The Examiner relies on the secondary audio signal content to show "explanations." This appears to be inconsistent with the rejection of claim 2 as neither interpretation of Zaboklicki seems to rely on the secondary audio as the second medium. It is unclear what "explanations" the Office action relies upon, as it is unclear what is relied upon to show a first medium from which first information is stored. The Office action merely points to a number of vague features in Zaboklicki, such as audio "explanations," and attempts to assemble these features in a manner not taught by Zaboklicki. Accordingly these rejections based on Zaboklicki are improper.

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c. Claim 20

Section E-9 of the Office action rejects claim 20 as being anticipated by Zaboklicki. Claim 20 sets forth that a multimedia presentation is output through the coordination of a presentation of a first medium and information based on a second medium, whereby the content of the first and second media are identified. The Office action does not assert that Zaboklicki teaches each limitation of claim 20. Instead, the Office action asserts that the identifiers and step of identification of claim 20 are inherent in Zaboklicki. The teaching of Zaboklicki is vague -- there are no details regarding how any of the features touched upon are actually implemented. There is no evidence that Zaboklicki describes an operable system and there is no basis to assert that any particular characteristic is necessary to the Zaboklicki system.

Zaboklicki fails to teach identifying content of a first medium based on an identifier. Zaboklicki fails to teach controlling a receiver station, based on the step of identifying, to enable a coordinated presentation of the first medium and information generated based on identifying content of a second medium. The Office fails to identify first and second media in Zaboklicki as set forth in claim 20. Applicants submit, therefore, that the Office action fails to establish that Zaboklicki teaches each limitation of claim 20.

d. Claims 21-23, 26, 27, 37-42, 67-69 And 82-84

In Section E-10 of the Office action, claims 21-23 are rejected as being anticipated by Zaboklicki for the same reasons that were set forth for claim 20. In Section E-11 of the Office action, claims 26, 27, 37-42, 67-69 and 82-84 are rejected as being anticipated by Zaboklicki for the same reasons that were set forth for claim 20. No basis for these rejections is set forth in the Office action. As the Office action includes no attempt to show how Zaboklicki teaches the limitations of these claims, the rejection of these claims is improper. As discussed above, the teaching of Zaboklicki is obscure. The Office action relies on alternate "interpretations" of the reference and relies on matter not set forth in the reference but deemed to be inherent. Accordingly, there is no reasonable way for applicants to discern why the Examiner considers

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Zaboklicki to teach the elements of claims 21-23, 26, 27, 37-42, 67-69 and 82-84. Accordingly, the rejections of these claims over Zaboklicki are entirely improper.

4. Rejections Based On Morchand

In section E-12 of the Office action, claim 33 is rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,008,000 to Charles A. Morchand ("Morchand").

In claim 33, a multimedia presentation of information included in a first signal received from a remote transmitter station and information included in a second signal is output, whereby a user response is compared to information corresponding to content of the first signal in order to tune the receiver station to receive the second signal.

Morchand contemplates providing an information transfer system that comprises a plurality of sources of information. Selection means at the receiver are operable by the viewer in response to the presented information so that the viewer may select one of the sources. Control means controls the selection means only when the received control function is related to the source selected by the subject. Morchand col. 1, l. 69 - col. 2, l. 10. The control means of Morchand includes photocells 40 in a control unit 26 disposed over predetermined areas of the display tube 42. Morchand col. 2, ll. 59-62. Each photocell is connected to a switch 44 in a selection unit 28 operable by the viewer. Morchand col. 2, ll. 64-68. The output of the switch controls a solenoid 50 in a switching unit 30 that moves a switch 32 of a channel selector 18B. Morchand col. 2, l. 69 - col. 3, 1. Accordingly, a viewer response in Morchand is merely holding a selected switch closed at a designated time. During the designated time, flashes of light are incorporated in parts of the picture under the photocells. The channel selector is moved a number of times equal to the number of flashes at the photocell associated with the selected switch.

Claim 33 sets forth comparing the user response to information corresponding to content of the first signal. Morchand fails to teach such a step. To the contrary, Morchand teaches that a particular portion of the video is converted to electrical impulses by a photocell 40 associated

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with a switch selected by a user. These pulses in an amplified form are used to change the channel of the device. The user merely selects the desired switch that transfers the associated pulses to the channel selector. No information is compared in the Morchand device. The user never has any reason to input or even to know the number of flashes that are broadcast at the appropriate photocell site.

H. Response To § 103 Prior Art Rejections

To establish a *prima facie* case of obviousness under § 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference to combine the teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references combined) must teach or suggest all of the claim recitations. M.P.E.P. § 706.02(j) (8th ed. 2001). Further, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not based on applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

In order to support a § 103 rejection based on the modification of a single reference, the Examiner must provide specific evidence to show *why* one of ordinary skill would be motivated to modify the reference in such a way to incorporate all of the claimed elements. *See In re Kotzab*, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d 1313, 1316-17 (Fed. Cir. 2000) ("Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference.") (emphasis added). Broad conclusory statements concerning motivation to modify, standing alone, are not sufficient to support an obviousness rejection. *See In re Freed,* 425 F.2d 785, 787, 165 U.S.P.Q. 570, 571-72 (C.C.P.A. 1970) (an obviousness rejection must be based on facts, "cold hard facts"); *In re Kotzab*, 217 F.3d at 1370, 55 U.S.P.Q.2d at 1317 ("Broad, conclusory statements standing alone are not 'evidence.'"). Accordingly, a statement that a modification would be an "obvious design

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choice," without factual support, is insufficient as a matter of law. *In re Dembiczak,* 175 F.3d 994, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999), *abrogated on other grounds by In re Gartside*, 203 F.3d 1305, 53 U.S.P.Q.2d 1769 (Fed. Cir. 2000). Finally, as the absence of a suggestion to modify a reference is dispositive in an obviousness determination, a rejection which fails to provide specific evidence as to *why* one of ordinary skill would be motivated to modify the relevant reference is insupportable, as a matter of law. *See Gambro Lundia AB* v. *Baxter Healthcare Corp.,* 110 F.3d 1573, 42 U.S.P.Q.2d 1378 (Fed. Cir. 1997).

In order to support a § 103 rejection based on a combination of references, the Examiner must provide a sufficient motivation for making the relevant combinations. *See* M.P.E.P. §§ 2142 and 2143.01; *see also In re Rouffet*, 149 F.3d 1350, 1355, 47 U.S.P.Q.2d 1453, 1456 (Fed. Cir. 1998) ("When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references."). It is well-settled that an Examiner can "satisfy [the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness] only by showing some *objective teaching* in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (emphasis added); *see also In re Lee*, 277 F.3d 1338, 1344, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir 2002) ("'deficiencies of the cited references cannot be remedied by the Board's general conclusions about what is 'basic knowledge' or 'common sense'"). As with rejections based on the modification of a single reference, "[b]road conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence [of a motivation to combine]'" and thus do not support rejections based on combining references. *In re Dembiczak*, 175 F.3d at 999, 50 U.S.P.Q.2d at 1617. Without objective evidence of a motivation to combine, the obviousness rejection is the "essence of hindsight" reconstruction, the very "syndrome" that the requirement for such evidence is designed to combat, and without which the obvious rejection is insufficient as a matter of law. *Id.* at 999, 50 U.S.P.Q.2d at 1617-18.

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As set forth in greater detail below, the Examiner has failed to follow these requirements when making the § 103 rejections of the claims of the instant application. For this reason alone, the § 103 rejections should be withdrawn.

1. Rejection Based On Barnaby, Okada, And Betts

Claims 24, 25, 74, 75, 103 and 104 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,982,064 to Barnaby ("Barnaby") in view of Japanese patent publication 56-8975 naming Yashuhito Okada et al. as inventors ("Okada"). Claims 74 and 75 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the three reference combination of Barnaby in view of Okada and further in view of British patent specification 1 556 366 naming William Robert Betts as inventor ("Betts").

In claim 24, a multimedia presentation of a television program and a second medium is output, whereby information stored at a receiver station is compared to content of a television program to determine whether to present the second medium based on information received from a source different from that of the television program. Claims 25 and 103 depend from claim 24. Claim 74 is an apparatus claim that corresponds substantially to claim 24. Claims 75 and 104 depend from claim 74.

Barnaby sets forth a system in which data is transmitted during the vertical blanking interval of a television signal. In Barnaby, each data line is transmitted during a single line scan period. A first line identifies a page number. In subsequent blanking intervals, data lines are transmitted with a start signal and line address. Barnaby col. 2, ll. 24-34. The Office action has provided only a brief English abstract of the Okada reference. It appears that the Office action relies only on this abstract and the figures of the Okada reference. The abstract asserts that the purpose of Okada is to "obtain a television multiplex character broadcast receiver which can obtain the hard copy of a character broadcast picture without reference to whether the character broadcast picture is projected on a screen." Betts is directed to a teletext display system for displaying pages of data.

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The Examiner's reliance on the abstract of Okada, rather than a translation of the underlying document, is improper. "If the document is in a language other than English and the examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection." M.P.E.P. § 706.02 II. The rejections based on Okada should be withdrawn or the Examiner should provide a translation of Okada.

Claim 24 sets forth a step of comparing first information stored at a receiver station to second information corresponding to content of a television program. Claim 74 likewise sets forth a microcomputer for storing first information and comparing the first information to second information corresponding to content of a television program. In the Office action, it is acknowledged that Barnaby does not suggest these limitations. "Barnaby does not state that the page number input (@ 22) 'corresponds to content' of the received TV programming." Office action at 73.

The Examiner takes Official Notice that it was notoriously well known to those of ordinary skill in the art at the time of applicants' invention for a user to enter page numbers that pertain to "program-related" teletext pages. The Office action includes footnote 33 citing to "Oracle on Independent Television" by Green et al. and PCT publication WO 81/02961. Applicants are uncertain as to whether the casual reference to these publications was intended to form a four or five reference obviousness combination. In any event, these two citations demonstrate that systems implementing "program-related" teletext pages were not well known. Both of these references merely contain aspirational statements that text may supplement television programs. No details are provided in either reference. There is no suggestion that the material is output with the television programming in a coordinated presentation. Accordingly, applicants traverse the Official Notice taken by the Examiner. None of the cited references suggest outputting related content at a second output device. There is no suggestion in the applied art to compare stored first information to second information corresponding to content of a television program.

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Claim 24 further sets forth outputting the television program at a first output device and the second medium at a second output device. Claim 74 likewise sets forth a first output device for outputting the television program and a second output device for outputting the second medium. The Office action acknowledges that Barnaby does not suggest separate output devices for first and second media. Okada is relied upon to show a printing device. The Office action fails to identify any suggestion or motivation to combine the teachings of Barnaby and Okada. The limited English abstract of Okada relied upon by the Examiner fails to support the broad conclusion that Okada demonstrates that it was known and desirable to those of ordinary skill to have added appropriate selection and switching circuitry to conventional teletext receiving stations to enable users to selectively output received teletext images to a separate output printing device. The Examiner merely asserts that the Okada system is desirable. There is no suggestion to modify the Barnaby system using teachings from Okada.

There is simply no showing or suggestion in the applied art of a user selecting program related teletext pages for printing as suggested by the Office action. The Examiner resorts to relying on an untranslated Japanese application and Official Notice to show these elements of claims 24 and 74. The only suggestion to combine the above features to result in a user selection of program related teletext pages for printing is found in applicants' specifications.

Claims 25 and 103 depend from claim 24 and, thus, are patentable over Barnaby in view of Okada for the above reasons. Similarly, claims 75 and 104, depending from claim 74 are patentable over Barnaby in view of Okada. Furthermore, claims 103 and 104 set forth that the television program and the third information are included in first and second channels, respectively, of a multichannel cable transmission. In section E-15 of the Office action, it is merely asserted that it would have been obvious to convey broadcast TV signals of Barnaby and Okada using a multichannel cable system. Even if this unsupported statement was true, it is insufficient to support a rejection of claims 103 and 104. The mere use of a cable transmission system does not suggest that television programming is included in a first channel while third

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information providing the basis for a second medium to be coordinated with the television program is included in a second channel.

2. Rejection Based On Komori And Long

Claims 26, 27 and 82 stand rejected as being unpatentable over Japanese published application 52-22423 naming Atsushi Komori as inventor ("Komori") in view of U.S. Patent No. 4,081,990 to Long ("Long").

In claim 26, a multimedia presentation of information included in one medium and information based on another medium is output, where content of each of the two media is identified and where one of the media is received from a remote transmitter station and the other medium is received from a different source. Claims 27 and 82 depend from claim 26.

The Examiner has provided an untranslated copy of Komori with a brief English abstract. The summary states that the purpose of Komori is to combine a binary video signal and another video signal by matching their phases. Long is directed to synchronizing unrelated video signals by converting the signals to digital form, storing the digital signals, and then reading out the signals by clocking the signal to a local sync generator.

The Examiner's reliance on the abstract of Komori, rather than a translation of the underlying document, is improper. "If the document is in a language other than English and the examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection." M.P.E.P. § 706.02 II. The rejections based on Komori should be withdrawn or the Examiner should provide a translation of Komori.

Claim 26 sets forth identifying content of a first and content of a second of a plurality of media. Neither Komori nor Long address identifying content of any television program. The Office action relies on the sync separation circuits of Komori and the clock units of Long to show a video processing device which "[i]dentified . . . a sync signal 'content' of the . . . video signal media." As discussed in Section F above, sync signals are not content of media.

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Accordingly, Komori and Long both fail to suggest identifying content of a first medium and content of a second medium as set forth by claim 26.

Claims 27 and 82 depend from claim 26 and thus include each limitation of claim 26. Claims 27 and 82 are patentable over Komori and Long for at least the reasons set forth above with respect to claim 26. Claim 82 sets forth that the first medium comprises a television program including video and audio. The Office action asserts, "One of ordinary skill in the art would have understood the fact that the respective video signals included an audio component processed therewith in a like manner." There is no such teaching in the applied art. The Komori abstract refers only to video signals. Long relates to "processing video type signals" Long col. 1, l. 6. The Examiner relies specifically on the "sync signal 'content'" of video signals in Long and Komori. There is no suggestion to process an audio component in a like manner.

3. Rejection Based On Kashigi, Komori And Long

In section E-18 of the Office action, claims 26-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the three reference combination of U.S. Patent No. 4,218,710 to Kazuo Kashigi and Toshitake Koyama ("Kashigi") in view of Komori and Long.

Kashigi is directed to a digital video effects system. Kashigi discusses combining different television signals by converting analog signals to digital form and then producing a combined signal from the digital data using a reference timing signal.

As discussed above with respect to Komori and Long, claim 26 includes a step of identifying content of a first and content of a second of a plurality of media. Kashigi fails to suggest this step. In the Office action, it is asserted that the Kashigi system identifies a sync signal "content" of "video signal media." For the reasons set forth in Section F above, the mere separation of video sync signals fails to identify the content of the communication medium. The secondary references to Komori and Long are deficient for the same reasons as discussed above with respect to the rejection based solely on these two references.

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Claims 27 and 28 depend from claim 26 and thus include each limitation of claim 26. Claims 27 and 28 are patentable over Komori and Long for at least the reasons set forth above with respect to claim 26.

4. Rejection Based On Marsden, Germany, Diederich, Schloss And Chiddix

Claims 2-6, 11-16, 20-23, 29, 30, 76-81 and 85-94 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over any one of British patent specification 871,238 naming Bernard Marsden as inventor ("Marsden"), British patent specification 959,274 naming Leslie Walter Germany as inventor ("Germany"), and German unexamined application 23 59 969 naming Werner Diederich as inventor ("Diederich") in view of the publication "Controlling Cable TV Head Ends and Generating Messages by Means of a Micro Computer" by Robert E. Schloss et al. ("Schloss"). Claims 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the three reference combination of any one of Marsden, Germany and Diederich in view of Schloss and further in view of the article "Automated Videotape Delay Of Satellite Transmissions" by Jim Chiddix ("Chiddix").

The Office action relies on automated insertion of advertising at local television stations. The Office action describes the Examiner's understanding of such automated systems. It is asserted that such a "conventional automated" system is illustrated by any one of Marsden, Germany or Diederich. Applicants disagree with the Examiner's summary of the features of "conventional automated" systems for the reasons set forth below and request that the Examiner demonstrate where in the applied prior art the features relied upon in the rejections can be found. Marsden is directed to a means for producing a cue or warning signal for insertion in a television signal. Germany is directed to a cueing system for television. Diederich is directed to an electronic image and tone return apparatus.

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a. Claim 29

In claim 29, a multimedia presentation of a first medium and a video image is output through processing a control signal at a receiver station which causes execution of processor instructions to create a series of discrete video images, whereby a video image of the series of discrete images is caused to be output after the identification of the first medium.

Particularly, claim 29 sets forth a step of identifying content of a first medium. In the Office action it is asserted that the conventional "automated system" necessarily comprised "[c]ircuitry for receiving and decoding the 'instruction signal' that are [sic] embedded within the received network TV programming to '***identify content***' of the network TV programming; i.e., to identify portions/segments of the network TV programming that are to be replaced with local/regional advertising." The Examiner has failed to give meaning to the term "content" in claim 29. It is not clear what signals in the cited art the Examiner relies upon to show "instruction signals." Regardless, the cited references do not suggest cue signals that identify content of a first medium. As discussed in Section F above, the "content" of a medium should be interpreted to mean the substance of a channel of communications. The Examiner asserts that the "instruction signals" "identify portions/segments of the network TV programming that are to be replaced with local/regional advertising." The Examiner does not suggest that the content (i.e., the substance) of these portions/segments is identified. To the contrary, as shown in Marsden, the cue signal may indicate a break after which no content is transmitted. "[I]n commercial television programmes . . . it is necessary for the various stations to be advised when a break is about to occur in the programme, during which the various advertisements are radiated from the various stations, so that no undesirable pauses occur between the programme and the advertisements during which *a viewer is left with a blank screen* on his television receiver." See Marsden p. 1, ll. 30-46 (emphasis added). There is no suggestion in the applied art that any cue signal identifies *content* of a television program.

Claim 29 further sets forth processing a control signal that causes execution of processor instructions to create a series of discrete video images. The Office action acknowledges that the

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cue signal systems of Marsden, Germany and Diederich do not create a series of discrete video images by processing a control signal. Schloss is relied upon to show this step. Schloss is directed to the use of a microcomputer to control certain functions at the head end of a cable system. The functions include channel switching and character generation. The Office action asserts that the "modified system would have utilized the control 'computer' to generate all, or at least some, of the local/regional advertisements that replace the identified portion of the network programming." There is no such suggestion in the applied art. Schloss does not suggest a control computer that generates local advertisements. Rather, the microcomputer of Schloss merely controls switches which may route advertisements to the proper output channel at a designated time. Schloss does not suggest the creation of local advertisements as suggested in the Office action. Schloss fails to show or suggest processing any control signal that causes execution of processor instructions to create a series of discrete video images. Furthermore, the Examiner relies on the Marsden, Germany and Diederich to show events triggered by cue signal. Schloss uses an event handling program to control switches based on an event file. There is no suggestion that these teachings are interchangeable or combinable. Moreover, neither system identifies content of any medium.

b. Claims 30 And 91-94

Claims 30 and 91-94 depend from claim 29. Claim 30 is rejected in Section E-19 as being unpatentable over any one of Marsden, Germany and Diederich in view of Schloss. Claims 91-94 are rejected in Section E-21 of the Office action as being unpatentable over any one of Marsden, Germany and Diederich in view of Schloss for the same reasons that were set forth for claims 29 and 30. These dependant claims are patentable over Marsden, Germany and Diederich in view of Schloss for at least the reasons set forth above with respect to claim 29. The rejections of claims 30 and 91-94 are improper as the Office action does not address the additional limitations of claims 30 and 91-94. Claim 30 sets forth that the step of identifying comprises processing an identifier. The applied art fails to suggest processing an identifier.

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Claim 92 sets forth that the execution of processor instructions to create a series of discrete video images includes processing data in a second medium. The applied art suggests no such execution of processor instructions including processing data in a second medium. Claim 93 depends from claim 92 and sets forth that the second medium is received in a digital data channel. Claim 94 depends from claim 92 and sets forth a multichannel cable transmission that includes the first medium and a digital data channel including the second medium. The Office action identifies no medium received in a digital data channel and identifies no multichannel cable transmission that includes a digital data channel.

c. Claims 85-90

Section E-21 of the Office action rejects claims 85-90 over any one of Marsden, Germany and Diederich in view of Schloss for the same reasons that were set forth for claims 29 and 30. Claim 85 is an apparatus claim that is generally analogous to method claim 29. Claims 86-90 correspond generally to claims 30 and 91-93 respectively. These claims are patentable over Marsden, Germany and Diederich in view of Schloss for at least the reasons set forth above with respect to claim 29.

Claim 85 sets forth a microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal, identifying content of a first medium, and then causing a video image of the series of discrete video images to be output. The applied art suggests no microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal for the reasons set forth above with respect to claim 29. The applied art suggests no microcomputer for identifying content of a first medium for the reasons set forth above with respect claim 29. Claims 86-90 are patentable over Marsden, Germany and Diederich in view of Schloss for at least the reasons set forth above with respect to claims 30 and 91-93.

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d. Claims 2-6, 11-16, 20-23, And 76-81

Claims 2-6, 11-16, 20-23 and 76-81 are rejected in Section E-21 of the Office action as being unpatentable over any one of Marsden, Germany and Diederich in view of Schloss for the same reasons that were set forth for claims 29 and 30. Claims 2, 20 and 76 are independent claims. Claims 3-6 and 11-16 depend from claim 2. Claims 21-23 depend from claim 20. Claims 77-81 depend from claim 76. The Office action presents no explanation of the rejection based on Marsden, Germany, Diederich and Schloss against these claims. Accordingly, the Office action fails to establish a *prima facie* case of obviousness against these claims. As the Office action fails to provide any reasoning demonstrating how Marsden, Germany, Diederich and Schloss render these claims obvious, it is impossible to point out the errors in the Examiner's reasoning. This rejection should be properly set forth or withdrawn.

Applicants note that at least the following elements of these claims are not suggested by the applied references.

With regard to claim 2, the applied references fail to suggest determining content of a second medium. The applied references also fail to suggest storing information from a first medium. The applied references further fail to suggest a presentation using stored information from a first medium that has a predetermined relationship to the content of the second medium.

With regard to claim 20, the applied references fail to suggest receiving a first signal including an identifier or identifying content of a first medium based on the identifier. The applied references also fail to suggest controlling the receiver station to enable a coordinated presentation of the first medium and information based on the second medium, wherein, the information based on the second medium is generated based on identifying content of the second medium.

With regard to claim 76, the applied references fail to suggest a microcomputer for identifying content of a first medium and identifying content of a second medium.

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e. Claims 17 And 18

Claims 17 and 18 are rejected in Section E-22 of the Office action as being unpatentable over the three reference combination of any one of Marsden, Germany and Diederich in view of Schloss and further in view of Chiddix. Claim 17 depends from claim 2 and sets forth storing the second medium at the receiver station. Claim 18 depends from claim 17 and sets forth that the second medium comprises television and the first medium is received in a digital data channel of a multichannel cable transmission including the second medium.

The Office action apparently acknowledges that Marsden, Germany, Diederich and Schloss do not suggest the additional limitations set forth in claims 17 and 18. The Office action asserts that Chiddix is cited to show recording TV programming for delayed rebroadcast. However, there is no showing of how the cited art teaches or suggests the elements of claim 2 as discussed above. Accordingly, it is unclear how the use of tape delayed broadcasts show the elements of claims 17 and 18. For example, as the Office action fails to identify a first medium and second medium as recited in claim 2, applicants cannot reasonably ascertain how the Examiner applies Chiddix in combination with the four other applied references to show a step of storing a second medium as set forth by claim 17. Similarly, applicants cannot reasonably ascertain how the Examiner applies Chiddix to show a digital data channel of a multichannel cable transmission including the second medium as set forth by claim 18.

5. Rejection Based On Morchand And Zaboklicki

Claims 34-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Morchand in view of Zaboklicki. Claims 34-36 depend from claim 33. Morchand fails to suggest each element of claim 33 for the reasons set forth in Section G.4 above. Zaboklicki fails to correct the deficiencies of Morchand as applied against claim 33. Claims 34-36 are patentable over Morchand and Zaboklicki for at least this reason.

The Office action acknowledges that the limitations set forth in claims 34-36 are not suggested by Morchand. The Office action merely asserts that these features are present in the Zaboklicki reference and thus it would have been obvious to modify the Morchand system to

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include these features. There is no suggestion or motivation found in the prior art to modify Morchand based on the obscure teachings of Zaboklicki.

Claim 34 sets forth transmitting information from the receiver station based on the step of receiving the user response. Claim 36 depends from claim 34 and sets forth that the transmitted information is transmitted by telephone. The Office action notes that figure 4 of Zaboklicki shows conveying user responses to a remote location via the telephone line. However, there is no suggestion that such transmission would benefit the Morchand system in any manner. In the Morchand system, alternative programming is transmitted on alternate channels. The user input is used to tune to the appropriate channel. There is no suggestion of how the user input *if* transmitted to a remote location would be used by the Morchand system. There is no benefit or reason to modify Morchand to transmit the user response from the receiver station. Accordingly, there is no motivation to combine any teaching of Zaboklicki with the teaching of Morchand as suggested in the Office action.

Claim 35 sets forth that the information in the second signal is output to a printer. The Office action asserts that "Zaboklicki evidences the fact that it was known to have been desirable to provided [sic] the receiver in such systems a printing capability." Applicants maintain that at best, Zaboklicki asserts the desirability of a host of features, but fails to provide the details to enable a system that actually provides the features relied upon in the Office action. Furthermore, there is no suggestion to combine any printing capability that may be shown in Zaboklicki with the teaching of Morchand. Morchand is directed to switching from one television channel to another television channel based on switches activated by the viewer. A printing capability would have no function in the Morchand system, which merely outputs television programs.

6. Rejection Based On Thonnart And Zaboklicki

Claims 76-81 and 85-90 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,413,281 to Paul Thonnart ("Thonnart") and Zaboklicki.

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Thonnart is directed to the creation of a series of text, images, and voice commentaries through a composition device at a studio. The text pages, image scans and voice commentaries are transmitted for successive reproduction at a point of reception. Thonnart col. 2, ll. 25-46.

a. Claim 76

Section E-25 of the Office action sets forth a rejection of claim 76 as being unpatentable over Thonnart and Zaboklicki. Claim 76 sets forth a multimedia presentation apparatus. The apparatus as claimed includes two receivers for receiving a first and a second medium, respectively. The claimed apparatus also includes a microcomputer for identifying content of the first medium and identifying content of the second medium and controlling, based on the identified content, a multimedia presentation comprising information included in the first medium and information based on the second medium. The claimed apparatus further includes an output device for outputting the multimedia presentation. Neither Thonnart nor Zaboklicki show or suggest a microcomputer as set forth by claim 76.

The Office action acknowledges that Thonnart does not show or suggest such a microcomputer. However, neither Zaboklicki nor Thonnart show a microcomputer for identifying content of a first medium and identifying content of a second medium. The Office action asserts that the interactive systems of Thonnart and Zaboklicki include "added program segment/fragment identifiers to transmitted program segments/fragments in order to have allowed the receiver station to find and identify those of the transmitted segments/fragments that it needs for its given user specific presentation." This assertion is insufficient to demonstrate identifying content of both a first and a second media and controlling, based on identifying the content, a multimedia presentation.

The Office action points to no teaching from Zaboklicki or Thonnart where "program segment/fragment identifiers" are used to identify content of multiple media received on multiple receivers and controlling a multimedia presentation based on the identification. Zaboklicki fails to show or suggest multiple media received on multiple receivers. Thonnart discloses

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transmission of a presentation of a series of pages of teletext, images, and audio commentaries arranged together in a fixed format by a composition device, 6, at a studio. Thonnart, col. 2, ll. 27-36, fig. 1. Thonnart discloses that the preset identifying messages are used to detect image and sound components of the presentation for transmission to memory. Thonnart col. 3, ll. 39-49. As acknowledged in the Office action, Thonnart includes no microcomputer for identifying content of multiple media and controlling, based on identifying content, a multimedia presentation. In Thonnart, the teletext, images, and audio commentaries are simply passed to memory to be reconstituted in the form composed at the studio. Thonnart discloses no apparatus equivalent to the microcomputer set forth in claim 76. There is no suggestion in Thonnart to control a multimedia presentation at the point of reception based on identifying content of multiple media. There is, therefore, no suggestion to modify Thonnart to include a microcomputer for controlling a multimedia presentation based on identifying content of multiple media.

There is no suggestion or motivation to modify Thonnart to include a microcomputer that identifies the content of multiple media and controls a multimedia presentation based on such identification. There is no showing or suggestion of such a microcomputer by Zaboklicki as asserted in the Office action. There is, therefore, no suggestion to modify Thonnart to include a microcomputer as suggested by the Examiner. For at least these reasons, the combination of Zaboklicki and Thonnart fails to show or suggest a microcomputer as set forth by claim 76.

b. Claims 77-81

Claims 77-81 depend from claim 76 and are referenced in Section E-25 of the Office action, which sets forth the rejection of claim 76. However, the additional limitations set forth by claims 77-81 are not addressed in Section E-25. Accordingly, the Office action fails to set forth a *prima facie* case of obviousness against these dependent claims. Claims 77-81 are patentable over Thonnart and Zaboklicki for at least the reasons set forth above with respect to claim 76.

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Furthermore, claim 78 sets forth that the microcomputer controls storage of the first medium. Claim 78 depends from claim 77, which sets forth that the microcomputer controls storage of the information based on the second medium. Thonnart and Zaboklicki fail to show or suggest a microcomputer that controls storage of a first medium and storage of information from a second medium and controls a multimedia presentation comprising information included in the first medium and information based on the second medium.

Claim 79 sets forth that the first medium includes a television program including video and audio. Claim 79 depends from claim 76. As discussed above, claim 76 sets forth a microcomputer for identifying content of the first medium. Neither Zaboklicki or Thonnart shows or suggests identifying content of a first medium including a television program including video and audio.

c. Claims 85-90

Section E-26 rejects claims 85-90 as being unpatentable over Thonnart and Zaboklicki for the same reasons that were set forth for claims 76-81. No explanation is provided to support this rejection. Claim 85 is an independent apparatus claim. Claims 86-90 depend from claim 85. As the Office action fails to consider any of the limitations set forth by these claims, a *prima facie* case of obviousness has not been established.

Claim 85 sets forth a microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal, identifying content of a first medium, and then causing a video image of the series of discrete video images to be output. The Office action is wholly silent regarding where the applied art shows a microcomputer for creating a series of discrete video images based on processing a control signal. For at least the above reasons, the Office action fails to demonstrate that each element of claim 85 and claims 86-90 dependent therefrom are shown or suggested by Thonnart or Zaboklicki either singly or in any proper combination.

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7. Rejections Based On Zaboklicki, Field, Laviana And Soejima

Claims 33, 34, 36, 95-97 and 99-102 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the three reference combination of Zaboklicki in view of U.S. Patent No. 4,398,216 to Robert W. Field et al. ("Field") and U.S. Patent No. 3,245,157 to Donald W. Laviana ("Laviana"). Claims 35 and 98 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the four reference combination of Zaboklicki in view of Field and Laviana for the same reason as set forth for claim 95, further in view of the publication "A Television Facsimile System" by Sueyoshi Soejima ("Soejima").

a. Claim 95

In Section E-27 of the Office action, claim 95 is rejected over Zaboklicki in view of Field and Laviana. Claim 95 sets forth a multimedia presentation apparatus. The apparatus presents a multimedia presentation of information included in a first signal received at first receiver at a first output device and information received in a second signal at a second output device. A microcomputer receives a user response and compares the response to information corresponding to content of the first signal in order to tune the second receiver to receive the second signal.

In the Office action, it is asserted that claim 95 differs from Zaboklicki in that circuit 43 of Zaboklicki does not explicitly show an audio tuner. Applicants assert that this is not the sole difference between claim 95 and Zaboklicki.

Zaboklicki fails to show or suggest a microcomputer for receiving a user response based on outputting a first signal, comparing the user response to information corresponding to content of the first signal, and based on the comparison tuning the second receiver to receive the second signal. The Office action asserts that elements 6, 7, 34, 39 and 49 of Zaboklicki inherently compare user entered responses to information of an interactive programming script. This assertion is insufficient to establish a *prima facie* case of obviousness.

As discussed above, the teaching of Zaboklicki is obscure. This obscure teaching includes no inherent teaching of a microcomputer that performs a comparison as set forth by

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claim 95. In claim 95, a receiver receives a first signal and the microcomputer receives a user response based on outputting the first signal. The user response is compared to information corresponding to content of this first signal. The Examiner asserts that various components of Zaboklicki, the functions of which are not discussed, together form a microcomputer that inherently functions to compare user entered responses to information of an interactive programming script. It is unclear what the term "interactive programming script" refers to in the Office action. However, Zaboklicki shows no signal that is received and output that includes content to which a user response is compared.

Zaboklicki fails to show both a first receiver for receiving a first signal and a second receiver for receiving a second signal, where the first signal is output at a first output device and the second signal is output at a second output device. The Office action relies on receiver 54 to show all of these elements. There is simply no showing of multiple devices for outputting different received signals in Zaboklicki. The Office action relies on the "portion of TV receiver (54) . . . of Zaboklicki that receives the multi-channel TV signals" to show the first receiver. The CRT and speaker of the receiver 54 is relied upon to show first and second output devices. However, there is no suggestion in Zaboklicki that "multi-channel TV signals" are output by the CRT and not the speaker. The CRT and speaker of receiver 54 are not multiple independent output devices as suggested by Office action. Even if the speaker and CRT are considered to be independent output devices, there is no suggestion that the user response is based on outputting a first signal *at the CRT.* As discussed above, there is no suggestion that the user response is compared to information corresponding to content of the signal *output at the CRT.* Zaboklicki simply does not suggest first and second receivers as set forth by claim 95.

The secondary references to Field and Laviana fail to correct for the deficiencies of Zaboklicki as applied to claim 95 set forth above. The Office action relies on the secondary references to show tuning to an audio channel. However, even if it is assumed that Zaboklicki can be modified to tune to selected audio channels, Zaboklicki does not show every element of claim 95 for the reasons set forth above.

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b. Claims 96, 97, 99 And 100

In Section E-28 of the Office action, claims 96, 97, 99 and 100 are rejected as being unpatentable over Zaboklicki in view of Field and Laviana for the same reasons that were set forth for claim 95. Claims 96, 97, 99 and 100 depend from claim 95. The Office action fails to present a *prima facie* case of obviousness against these claims. The Office action does not address any of the limitations set forth by these claims. The Office action merely states, "With respect to the claims 96 and 97, note figure 4 of Zaboklicki." These claims are patentable over Zaboklicki in view of Field and Laviana for at least the reasons set forth above with respect to claim 95.

c. Claims 33, 34, 36, 101 And 102

Section E-29 rejects claims 33, 34, 36, 101 and 102 as being unpatentable over the three reference combination of Zaboklicki in view of Field and Laviana for the same reasons set forth for claims 96, 97, 99 and 100. There is no explanation provided setting forth any of the elements of a proper rejection under § 103 with respect to these claims. Accordingly, the Office action fails to establish a *prima facie* case of obviousness against these claims. Claim 33 sets forth a method that could be performed by the apparatus of claim 95. Claims 34, 36, 101 and 102 depend from claim 33. Zaboklicki fails to suggest all the elements of these claims for reasons similar to those set forth above with respect to claim 95. For example, Zaboklicki does not include sufficient details to suggest comparing a user response to information corresponding to content of a first signal as set forth in independent claim 33.

d. Claims 35 And 98

Section E-30 of the Office action rejects claim 98 as being unpatentable over the four reference combination of Zaboklicki in view of Field and Laviana for the same reason that was set forth for claim 95, further in view of Soejima. Claim 98 depends from claim 95 and sets forth that the second output device comprises a printer. Section E-31 of the Office action rejects claim 35 as being unpatentable over the four reference combination of Zaboklicki in view of

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Field and Laviana for the same reason that was set forth for claim 33, further in view of Soejima. Claim 35 sets forth that the second signal is output at a printer. Soejima is relied upon to show transmission of a facsimile signal on the television sound signal.

There is no motivation in the cited art to combine the applied references in the manner suggested in the Office action. Laviana is applied to show tuning to alternate audio channels. Soejima is applied to show transmitting facsimile data in an audio channel. There is no suggestion in either reference to selectively tune an audio channel to receive text data. The reception of facsimile data is not compatible with the audio visual teaching system of Laviana. Soejima does not suggest the selective output of facsimile data with a presentation of television programming. The vagueness of the primary reference of Zaboklicki does not serve to salvage this rejection. A prime example of the non-enabling disclosure of Zaboklicki is the operation of printer 37. Zaboklicki includes a single sentence that notes that numeral 37 designates a printer. There is no further disclosure regarding the operation or function of the printer within the Zaboklicki system. There is simply no teaching in Zaboklicki regarding what the printer outputs. The numerous voids in the disclosure of Zaboklicki are not an invitation to the Examiner to use applicants' claims as a guide to attempt to explain how the Zaboklicki system may have functioned. None of the applied art suggests printing information from a second signal received based on a user response to content of a first signal. The only motivation to ascribe such a function to printer 37 is found in the applicants' specifications.

8. Rejection Based On Tsuboka And Robinson

Claims 2, 3, 5-8, 11-16, 20, 21-23, 37 and 67-69 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese patent publication 55-45248 naming Hidekazu Tsuboka et al. as inventors ("Tsuboka") in view of the article "'Touch-Tone' Teletext A Combined Teletext - Viewdata System" by Gary Robinson and William Loveless ("Robinson"). Tsuboka is directed to a character data receiving unit. Robinson proposes a teletext system in which a viewer can request a page over the telephone and receive the page over the air on a television set.

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a. Claim 2

As discussed above, claim 2 sets forth that a multimedia presentation is output through the coordination of a presentation, under computer control, using information from a first medium with a presentation of a second medium, whereby the presentation using information in the first medium has a predetermined relationship to the content of the second medium.

The Office action asserts that claim 2 differs from the showing of Tsuboka only in that Tsuboka did not indicate a process in which the coordinated display of teletext/viewdata and video was produced based on a determined content of the TV programming. This is not the only difference between claim 2 and Tsuboka. For example, claim 2 sets forth outputting the multimedia presentation to a user based on the step of coordinating such that the presentation using the information from the first medium has a predetermined relationship to the content of the second medium. Tsuboka includes no suggestion to coordinate presentations to output a multimedia presentation such that any text data has a predetermined relationship to the content of any TV program.

There is no suggestion in Tsuboka of a step of determining content of a second medium. The Office action takes Official Notice that it was notoriously well known to those of ordinary skill in the art for conventional teletext services to have carried "program-related" teletext pages. The Examiner has taken similar Official Notice in the rejection based on Barnaby in view of Okada and Betts discussed above. The art referred to by the Examiner demonstrates that systems implementing "program-related" teletext pages were not well known, but rather were merely at the beginning stages of being considered. No details of such a system are provided in the cited art. The Office action, however, does not rely on this Official Notice in this rejection, rather, the rejection relies on Robinson. Applicants traverse the Official Notice to the extent that the Examiner seeks to establish details of distributing "program-related" teletext not disclosed by Robinson.

Robinson states, "Viewers could get the latest details on breaking stories or more detail on stories that interest them. News programs on television could refer a viewer to these pages to

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get the detail that is cut out due to time limitations." Robinson at 300. The Examiner asserts that in accessing such a page, the user inherently selected the program-related videotex page by determining content of the TV program medium. It is asserted, "the user determines that the content of the TV programming contains explicit reference to (i.e., an 'identifier' of) the program-related teletext page that was to be selected by the user." There is no such teaching in Robinson. Robinson includes no teaching that news programs would include individual references to page identifiers of related content. The TV news program rather refers generically to the teletext system where additional detail is available. There is no teaching that the viewer uses an explicit reference to an identifier to access the material in the teletext system. Accordingly, there is no suggestion by Tsuboka or Robinson of a step of determining content as set forth by claim 2.

b. Claims 3, 5-8 And 11-16

Claims 3, 5-8 and 11-16 are rejected in Section E-33 of the Office action as being unpatentable over Tsuboka and Robinson for the same reasons that were set forth for claim 2. The Office action fails to address the limitations of these claims and, thus, the Office action fails to set forth a *prima facie* case of obviousness against these claims. As claims 3, 5-8 and 11-16 depend from claim 2, these claims include each limitation of claim 2 and are patentable over Tsuboka and Robinson for at least the reasons set above with respect to claim 2.

c. Claim 20

Section E-34 rejects claim 20 as being unpatentable over Tsuboka in view of Robinson. Claim 20 sets forth that a multimedia presentation is output through the coordination of a presentation of a first medium and information based on a second medium, whereby the content of the first and second media are identified.

Tsuboka and Robinson fail to suggest a step of receiving a first signal including an identifier. The Office action asserts that claim 20 is rejected for the same reason set forth for claim 2. As discussed above with respect to claim 2, the Office action erroneously asserts that

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Robinson discloses a TV program having an identifier therein. There is no teaching in Robinson that any TV program includes an explicit reference to a particular program-related videotext image as asserted in the Office action.

Claim 20 further sets forth identifying content of the first medium based on the identifier. The Office action asserts that the user "processed the identifier to identify 'content' of the TV programming (i.e., the user processed the explicit reference contained therein to identify the page number of the program-related videotext page that is to be inputted/selected by the user.)" Neither Tsuboka nor Robinson suggest page numbers transmitted in TV programming as suggested by the Office action. Furthermore, there is no suggestion that any such page numbers would identify content of the TV programming as asserted in the Office action.

Claim 20 sets forth that information based on a second medium is generated based on identifying content of the second medium. The Office action fails to address this limitation. Tsuboka and Robinson fail to show or suggest such information.

d. Claims 21-23

Claims 21-23 are rejected in Section E-35 of the Office action as being unpatentable over Tsuboka and Robinson for the reasons set forth for claim 20. Claims 21-23 depend from claim 20. The Office action fails to address the limitations of these claims and, thus, fails to establish a *prima facie* case of obviousness against these claims. Tsuboka and Robinson fail to suggest each limitation of these claims for at least the reasons set forth above with respect to claim 20.

e. Claims 37 And 67-69

Claims 37 and 67-69 are rejected in Section E-35 of the Office action as being unpatentable over Tsuboka and Robinson for the reasons set forth for claim 20. The Office action fails to address the limitations of these claims and, thus, fails to establish a *prima facie* case of obviousness against these claims. Claim 37 is an apparatus claim that is generally analogous to method claim 2. Claims 67-69 depend from claim 37. Tsuboka and Robinson fail to show or suggest each limitation of claim 37 for the reasons set forth above with respect to

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claim 2. Tsuboka and Robinson at least fail to suggest a microcomputer that stores information from a first medium and coordinates a presentation using the information with a presentation of a received second medium based on determining content of the second medium. Claims 67-69 depending from claim 37 are also patentable over Tsuboka and Robinson for at least this reason.

9. Rejection Based On Betts And "MODE II" Captioning

Claims 2-8, 11-18, 37-41, 67-72 and 85-90 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over British patent specification 1 556 366 naming Betts as inventor in view of the "MODE II" captioning feature of the "ANTIOPE" teletext standard as discussed in: the article "Development & Applications of the Antiope-Didon Technology" by J. Guillermin ("Guillermin"); the "CBS/CCETT North American Broadcast Teletext Specification (Extended Antiope)" ("CBS/CCETT Spec."); and the article "Antiope Teletext Captioning" by Claude Sechet ("Sechet").

As an initial matter, applicants note that there is no indication in the cited art that MODE II captioning is prior art against applicants' claims. The Examiner, at pages 93-96 of the Office action, includes a summary of his understanding of MODE II captioning. This summary is also not itself prior art. The summary is also misleading. The Office action appears to rely on a description of MODE II caption from the CBS/CCETT Spec., which in subtitled "Extended Antiope." There is no suggestion in the cited art that MODE II captioning is part of the ANTIOPE standard. Accordingly, the Examiner has not shown that the "MODE II" captioning feature is included in the "ANTIOPE" teletext standard. The rejection based on the "MODE II" captioning feature of the "ANTIOPE" teletext standard is therefore improper as it does not rely on prior art.

With respect to the CBS/CCETT Spec., applicants submit that the Examiner has failed to establish that the reference qualifies as prior art to the claims of the instant application. The Examiner refers to this document as a "publication" in the Office action. However, the Examiner has not shown that the document was disseminated or otherwise made available to those of

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ordinary skill in the art at a time that would render the document prior art to the claims of the instant application, in accordance with the requirements of M.P.E.P. Section 2128 and the Federal Circuit authorities cited therein. Although the document's cover page bears a date of May 20, 1981, no showing has been made that the document was disseminated or accessible by those of ordinary skill in the art by that date. Applicants acknowledge that the CBS/CCETT Spec. was the subject of testimony given in connection with an International Trade Commission investigation involving applicants' related issued patents (*In re Certain Digital Satellite Sys. (DSS) Receivers & Components Thereof*, No. 337-TA-392). However, that testimony also fails to establish when the document was disseminated or accessible (a copy of the transcript of the pertinent testimony is attached hereto at Tab A). Accordingly, applicants respectfully submit that all rejections based on the CBS/CCETT Spec. should be withdrawn, unless the Examiner can establish a publication date for the document that would qualify the reference as prior art. Applicants note, however, that the pending claims are in any event allowable over the various combinations of references that include the CBS/CCETT Spec. for the reasons set forth below.

The rejection purports to rely on the disclosure of Betts. The Office action, at pp. 96-97, asserts "that it would have been obvious to one of ordinary skill in the art to have utilized computer implemented teletext receivers/decoders, e.g. of the type described in Betts et al., for receiving and displaying conventional teletext data of the 'ANTIOPE' teletext standard including conventional 'Mode II' captioning provided therein." The Office action offers no explanation regarding how to modify the Betts device to be used in the "ANTIOPE" system. To the contrary, the Office action does not rely on the features disclosed in Betts whatsoever, rather, the Office action sets forth a list of "circuitry/software" the Examiner asserts would necessarily comprise such a computer. There is no showing where any of these features are actually shown in the prior art. For at least these reasons, the rejections based on Betts in view of "MODE II" captioning are improper and should be withdrawn.

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a. Claim 2

Section E-36 of the Office action includes a rejection of claim 2 as being unpatentable over Betts in view of "MODE II" captioning. Claim 2 sets forth that a multimedia presentation is output through the coordination of a presentation, under computer control, using information from a first medium with a presentation of a second medium, whereby the presentation using information in the first medium has a predetermined relationship to the content of the second medium.

The Office action fails to demonstrate that any of the limitations of claim 2 are shown or suggested by actual prior art for the reasons set forth above. However, the statement that a computer implementing "MODE II" captioning would necessarily comprise "Circuitry/software for determining 'content' of a second medium received in said plurality of signals" is notably erroneous. The Office action asserts that "this limitation refers to nothing more than the detection of the 'display control signal' being that said display control signal at least represents the 'content' of the audio component of the TV programming to which the locally generated images/captions are to be synchronously displayed." "Display control signals" do not identify content merely because they cause a graphic to be displayed with audio. In applicants' specifications, for example, program identifiers are used to actually determine what television program is to be broadcast. Such identifiers can be used to determine the content of television programming. There is no suggestion that any "display control signals" or "reveal codes" of the MODE II captioning protocol include any such identifiers. No content of the audio component of the TV programming can be determined based upon a "display control signal" as suggested in the Office action.

b. Claims 3-8 And 11-18

Claims 3-8 and 11-18 are rejected an being unpatentable over Betts in view of the "MODE II" captioning feature for the same reasons set forth for claim 2. Claims 3-8 and 11-18 depend from claim 2. These rejections are improper for the reasons set forth above with respect to claim 2.

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The Office action is particularly erroneous with respect to claims 7 and 8 for reasons similar to those set above with regard to claim 2. Claim 7 sets forth that the content of the second medium explains a significance of the presentation using the information from the first medium. Claim 8 depends from claim 7 and sets forth that the content of the second medium explains the significance in audio. The Office action, in section E-37, asserts that "the recited 'content' merely refers to the fact that the 'display command signal' of applicant's 'Wall Street Week' embodiment arguably identified location of 'content' in the audio/video components of the TV programming with which the display of the 'locally generated' images are to be synchronized." This statement is incorrect. Identifying a location within a program is not necessarily determining content of a program, as a location may be identified independently from any reference to content at the location. In applicants' "Wall Street Week" embodiments, the audio of the TV program explains that the graphic using the stock quote information is the performance of the user's portfolio. There is no suggestion that the audio or any other component of TV programming used with "MODE II" captioning explains the significance of any of the captions.

Claims 13 and 14 further define the step of determining. Claim 13 sets forth that the step of determining comprises processing an identifier. Claim 14 sets forth that the identifier identifies the content of the second medium. As discussed above with respect to claim 2, the "display control codes" relied upon in the Office action do not include identifiers that identify content of the TV program.

Claim 17 sets forth storing the second medium at the receiver station. The Examiner takes Official Notice that it was notoriously well known to include video recording devices at household receiving locations for recording broadcast TV programming for later playback. Applicants traverse this Official Notice to the extent that the Examiner is asserting that it was known to include video recording devices at any type of household receiver. The Examiner is relying on a proposed advanced teletext specification. There must be some suggestion in the

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prior art that this advanced teletext specification is compatible with recording devices to establish a proper rejection under 35 U.S.C. § 103.

c. Claims 37-41 And 67-69

In Section E-38 of the Office action, claims 37-41 and 67-69 are rejected as being unpatentable over Betts in view of "MODE II" captioning for the same reasons that were set forth for claims 3-8, 11, 12, 17 and 18. Claim 37 is an apparatus claim that is generally analogous to method claim 2. Claims 38-41 and 67-69 depend from claim 37. The rejection of these claims based on Betts and "MODE II" captioning is improper for the reasons set forth above with respect to claims 2 and claims 3-8 and 11-18. Claim 37 sets forth a microcomputer that stores information from a first medium and coordinates a presentation using the information with a presentation of a received second medium based on determining content of the second medium. The Office action fails at least to demonstrate that the prior art shows or suggests such a microcomputer.

d. Claims 70-72

In Section E-39 of the Office action, Claims 70-72 are rejected as being unpatentable over Betts in view of "MODE II" captioning for the same reasons that were set forth for claim 2. This rejection based on Betts in view of "MODE II" captioning is improper for the reasons set forth above.

Claim 70 sets forth a multimedia presentation apparatus including an output device for outputting a coordinated presentation of a first medium and information from a second medium; a receiver for receiving a plurality of signals including an identifier, the first medium and the second medium; and a microcomputer for identifying content of the first medium based on the identifier and executing processor instructions to enable the coordinated presentation of the first medium and information based on the second medium.

The Office action asserts that the identifier of claim 70 reads on the reveal/unmask code which identifies content of the TV programming. Similar to the rejection of claim 2, the Office

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action merely asserts that the reveal/unmask code marks a specific location of the TV programming. However, the location of the reveal/unmask code does not identify content of the TV program (i.e., it does not identify the substance of the program). In applicants' disclosures, a program identifier is used to identify the content of the TV program. The Office action fails to demonstrate that the prior art suggests a microcomputer for identifying content of the first medium based on the identifier as set forth in claim 70.

Claim 71 and 72 depend from claim 70. The rejection of these dependant claims is improper for at least the reasons set forth above with respect to claim 70.

e. Claims 85-90

In Section E-40 of the Office action, claims 85-90 are rejected as being unpatentable over Betts in view of "MODE II" captioning for the same reasons that were set forth for claims 70-72. The rejection based on Betts in view of "MODE II" captioning is improper for the reasons set forth above. Claim 85 sets forth a multimedia presentation apparatus including a microcomputer for creating a series of discrete video images based on processing a control signal, identifying content of a first medium, and causing a video image of the discrete video images to be output. The apparatus also includes an output device at which the video image is combined into a multimedia presentation including the first medium.

The Office action fails to address the elements of claims 85-90 and thus fails to establish a *prima facie* case of obviousness against claims 85-90. The prior art fails to show or suggest at least a microcomputer for creating a series of discrete video images and identifying content of a first medium as set forth by claim 85.

10. Rejection Based On Hedger, Gunn And Yoshino

Claims 2, 3, 5-8 and 11-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the three reference combination of the publication entitled "Telesoftware: Home Computing Via Broadcast Teletext" by J. Hedger ("Hedger") in view of the publication entitled "A Public

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Broadcaster's View of Teletext in the United States" by Hartford Gunn and Gregory W. Harper ("Gunn") and British patent 1 405 141 naming Hirokazu Yoshino et al. as inventor ("Yoshino").

Hedger is directed using the ORACLE teletext service as a source of broadcast software. Gunn is directed to possible uses for teletext systems in the United States. Yoshino, as discussed above, is directed to an electronic calculator that outputs a multiple row display in superposition with television.

a. Claim 2

In Section E-41 of the Office action, claim 2 is rejected as being unpatentable over Hedger in view of Gunn and Yoshino. In claim 2, a multimedia presentation is output through the coordination of a presentation, under computer control, using information from a first medium with a presentation of a second medium, whereby the presentation using information in the first medium has a predetermined relationship to the content of the second medium. Specifically, claim 2 sets forth determining content of the second medium. Claim 2 also sets forth coordinating, at the receiver station under computer control, a presentation using the information with a presentation of the second medium based on the step of determining.

None of the cited references show or suggest a step of coordinating as set forth in claim 2. Hedger includes no suggestion to coordinate a presentation using broadcast software with a TV program. Gunn includes no suggestion to coordinate a presentation output by software with a TV program. The Office action asserts, "When executing telesoftware pertaining to 'program related' applications, it would have been obvious, in fact necessary, to have enabled the display device in Hedger's figure 1 to simultaneously display the computer generated video and the received 'Wall Street Week' TV programming." There is, however, no suggestion found in the cited references to have used the device of Hedger to display such program related applications. Gunn, relied upon to show "program-related" applications, also fails to teach a coordinated display. Gunn specifically states that the operation of "program-related" teletext assumes that the teletext decoder will be connected to the home computer. There is no suggestion in either

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Hedger or Gunn to coordinate, at a receiver under computer control, a presentation based on two media.

The Office action further relies on Yoshino to show a coordinated display. There is no motivation found in the applied art to combine Hedger, Gunn and Yoshino. There is no suggestion in Yoshino of program-related software. There is no suggestion in Hedger or Gunn to coordinate software output with a TV program. Applicants' specification provides the only guide to combine these three references in the manner suggested in the Office action to result in "program-related" application output coordinated with TV programming. Absent applicants' specification, there is no motivation found in the cited art to combine the references in the manner suggested by the Office action.

Furthermore, the Office action asserts that the step of determining content is met by the user of the modified Hedger system receiving verbal instructions. However, the step of coordinating is at the receiver station under computer control and is also based on the step of determining. It is unclear how a step of coordinating is based on the user reception of verbal instructions. For example, the applied art fails to address how the system would handle or adjust to the myriad of different ways users may react to the instructions. More important, the applied art fails to suggest how the system would adjust to various reaction times of users or to non-compliance by users. These and many other problems are not addressed in the applied art as required to suggest a step of coordinating based on a step of determining performed by a user. It would not be obvious to one of ordinary skill in the art to combine the cited references in the manner suggested by the Office action, as the cited art addresses none of these issues.

b. Claims 3, 5-8 And 11-18

In Section E-42 of the Office action, claims 3, 5-8 and 11-18 are rejected as being unpatentable over Hedger in view of Gunn and Yoshino. Claims 3, 5-8 and 11-18 depend from claim 2 and thus include each limitation of claim 2. The Office action includes no attempt to address the limitations of claims 3, 5, 7, 8, and 13-16 and, thus, fails to set forth a *prima facie*

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case of obviousness against these claims. Hedger, Gunn and Yoshino fail to show or suggest each limitation of claims 3, 5-8 and 11-18 for at least the reasons set forth above with respect to claim 2.

Claim 17 sets forth storing the second medium at the receiver station. The Examiner takes Official Notice that it was notoriously well known in the TV art to have included video recording devices at household receiving locations for recording broadcasted TV programming for later playback. However, there is no explanation how such a recording device would interact with "program-related" applications. Applicants traverse the Official Notice to the extent that the Examiner is asserting that it was known to record programming included in a coordinated presentation.

11. Rejection Based On Hutt In View Of Betts

Claims 2, 3-6, 5-8 and 11-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 3,961,137 to Peter Richard Hutt et al. ("Hutt") in view of Betts. Hutt is directed to a television system in which data is transmitted in the blanking intervals of the video signal.

Claim 2 sets forth that a multimedia presentation is output through the coordination of a presentation, under computer control, using information from a first medium with a presentation of a second medium, whereby the presentation using information in the first medium has a predetermined relationship to the content of the second medium. Claim 2 sets forth a step of determining content of the second medium. The Office action asserts that Hutt includes "[c]ircuitry for detecting [i.e., thereby 'determining'] the sync signal 'content' of the video-type media." As discussed in Section F above, detecting sync signals is not determining content of a medium. Detecting sync signals does not determine the substance of the video medium. Hutt fails to show a step of determining content of a second medium as set forth by claim 2.

Claim 2 further sets forth coordinating, at a receiver station under computer control, a presentation using the information from the first medium with a presentation of the second

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medium based on the step of determining. The presentation using the information has a predetermined relationship to the content of the second medium. There is no suggestion in Hutt that the presentation of the text is coordinated with the display of the TV programming such that the text has a predetermined relationship to the content of the TV programming.

The secondary reference to Betts corrects none of these deficiencies of Hutt. The Office action acknowledges that the receiver station of Hutt is not under computer control. Betts is relied upon to show computer control of a receiver station. There is no suggestion in Betts of a computer that controls a receiver station to determine content of any medium or to coordinate a presentation such that information from a first medium has predetermined relationship to content of a second medium. There is no motivation found in the applied art to modify Hutt to include any such computer.

a. Claims 3-6, 11-14 And 18

In Section E-44 of the Office action, claims 3-6, 11-14 and 18 are rejected as being unpatentable over Hutt in view of Betts for the same reason that was set forth for claim 2. Claims 3-6, 11-14 and 18 depend from claim 2 and, thus, include each limitation of claim 2. Hutt in view of Betts fails to show or suggest each limitation of these claims for at least the reasons set forth above with respect to claim 2. The Office action is silent regarding the limitations set forth in claims 3-5, 11 and 12, and, thus, fails to establish a *prima facie* case of obviousness against these claims.

Claims 13 and 14 define further aspects of the step of determining absent from the applied art. Claim 13 sets forth that the step of determining comprises processing an identifier. Claim 14 depends from claim 13 and sets forth that the identifier identifies the content of the second medium. In the Office action, it is asserted that the sync signal components of a video signal are "identifiers" which identify the specific sync/timing content of the video signal. This assertion is erroneous and highlights the flaws in the Examiner reasoning. The timing of the video signal is independent the content of the television program. The sync signals are not

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identifiers that identify the content of the television program as they are the same for every television transmission.

12. Rejection Based On Fujino

In Sections E45-46, the Examiner rejects claims 2, 3, 4, 7, 10, 13-15, and 17 under § 103(a) as being unpatentable over U.S. Patent No. 4,675,737 to Fujino et al. ("Fujino"). Applicants respectfully submit that: (1) Fujino is not an available reference due to applicants' asserted priority date, and (2) claims 2, 3, 4, 7, 10, 13-15, and 17 are patentable over Fujino.

a. Fujino Is Unavailable Based On Applicants' Asserted Priority Date

Applicants maintain that claims 2, 3, 4, 7, 10, 13-15, and 17 are entitled to the benefit of the November 3, 1981 filing date of applicants' patent application no. 317,510. As applicants' asserted priority date predates the effective filing date of Fujino, applicants respectively submit that Fujino does not qualify as an available prior art reference. In the Prior Office action, the Examiner asserted that none of applicants' then-pending claims were entitled to a 1981 priority date under § 120. In response, applicants submitted an expert declaration in accordance with 37 C.F.R. § 1.132 demonstrating that:

> the claimed subject matter of amended claim 2 is disclosed in sufficient detail, in both the 1981 and 1987 specifications, that a person of ordinary skill in the relevant time frames would reasonably understand that the inventor possessed the subject matter of amended claim 2 at the time of filing those specifications.

Ligler Declaration, p. 10. The Ligler Declaration also states that all claims depending from claim 2 are similarly disclosed in both the 1981 and 1987 specifications in such a way as to demonstrate to one of ordinary skill in the relevant art that the inventor was in possession of the claimed subject matter at the time each specification was filed. Ligler Declaration, p. 7.

While the Examiner relies upon Fujino in the Office action, he does not challenge the conclusions set forth in the Ligler Declaration or applicants' assertion in their January 2003

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Response that claims 2, 3, 4, 7, 10, 13-15 and 17 are entitled to the benefit of the 1981 filing date of the 1981 specification. Instead, in Section E of the Office action, the Examiner only states that:

> it is unclear from [applicants' and applicants' expert's] arguments what "standard" of proof applicants and applicants' expert have adopted in support of their conclusions.

Office action, p. 56. Applicants note that the Ligler Declaration makes clear that Dr. Ligler

> reviewed the standards set forth in Sections 201.11 and 2163 of the Manual of Patent Examining Procedures (MPEP) (8th Ed. 2001) in conjunction with 35 U.S.C. §§ 112 and 120 and [] applied the standards set forth in those documents to perform [his] analysis of the written description issue . . .

Ligler Declaration, p. 4. Further, in their January 2003 Response, applicants clearly set forth the proper standards applicable to the requirements of § § 112 and 120. For example, applicants cited the following case to describe the appropriate standard under § 120:

> A claim in a CIP [continuation-in-part] application is entitled to the filling date of the parent application when the claimed invention is described in the parent specification in a manner that satisfies, inter alia, the description requirement of 35 U.S.C. § 112.

Therma-Tru Corp. v. Peachtree Doors Inc., 44 F.3d 988, 992, 33 U.S.P.Q.2d 1274, 1276 (Fed. Cir. 1995).

Applicants also cited another Federal Circuit decision setting forth the appropriate standard under the written description requirement of § 112, first paragraph:

> The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language.

In re Kaslow, 707 F.2d 1366, 1375, 217 U.S.P.Q. 1089, 1096 (Fed. Cir. 1983).

Applicants succinctly summarized their understanding regarding the proper standards applicable to §§ 112 and 120:

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> The proper legal standard for satisfying § 120, as articulated on many occasions by the Federal Circuit, is that the claimed invention must be described in the parent application in a manner that satisfies the terms of § 112.
>
> * * *
>
> The crucial issue for determining if a claim is entitled to the filing date of an earlier application is whether the earlier application shows that the inventor was in possession of the claimed invention as of the date sought under § 120.

January 2003 Response, pp. 24-25.

Notwithstanding the above-quoted passages and other discussions of the proper standards for §§ 112 and 120, the Examiner alleges that applicants "have confused the issue of 'support' required by § 112 (as incorporated into section 120) with the issue of 'anticipation' that exists under § 102." Contrary to the Examiner's assertion, applicants have never confused or otherwise described the standard for determining whether or not the written description requirement of § 112, first paragraph, is met in terms of an "anticipation" standard. As stated by applicants on numerous occasions, the standard applicants apply for meeting the written description requirement is the standard clearly articulated by the Federal Circuit:

> The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language.

In re Kaslow, 707 F.2d 1366, 1375, 217 U.S.P.Q. 1089, 1096 (Fed. Cir. 1983). As discussed above, this is also the same standard or test applied by Dr. Ligler in his declaration. *See* Ligler Declaration, p. 10.

For the reasons set forth in applicants' instant Response and applicants' January 2003 Response, as well as the reasons set forth in the Ligler Declaration, applicants maintain that claims 2, 3, 4, 7, 10, 13-15 and 17 are entitled to the benefit of the filing date of the 1981 specification. The Examiner has not explained how or why applicants' showing that claims 2, 3, 4, 7, 10, 13-15 and 17 are entitled to the benefit of the filing date of the 1981 specification is in

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any way deficient. *See, e.g.*, MPEP § 2163.04 ("When a rejection [under § 112, first paragraph] is maintained, any affidavits relevant to the 35 U.S.C. 112, para. 1, written description requirement, must be thoroughly analyzed and discussed in the next Office action."). Accordingly, Fujino is not available as a prior art reference.

In any event, Fujino fails to render claims 2, 3, 4, 7, 10, 13-15 and 17 unpatentable under § 103(a). Fujino describes an apparatus used to superimpose the text from a character signal over video from a video signal. Fujino discloses an apparatus for reproducing (i.e., playing) a video disc and a superimposing apparatus which generates a character signal from a ROM cartridge supplied to the superimposing apparatus. The superimposing apparatus generates a character signal (representing, e.g., close captioning text in a particular language) corresponding to positional information included in the video signal. Thus, the superimposing apparatus of Fujino utilizes a standard video disc manufactured for use in various geographic locations with an appropriate ROM cartridge containing foreign language character data corresponding to the video dialogue. The Examiner asserts that Fujino only fails to disclose the "computer" recited in claims 2, 3, 4, 7, 10, 13-15 and 17, and the Examiner indicates that he takes Official Notice that it was well known that software driven computers could be used in place of dedicated hardware when implementing signal processing circuitry.

Fujino, however, fails to teach or disclose "receiving said plurality of signals, at least a portion of said plurality of signals being received from a source external to said receiver station, said plurality of signals including at least two media." The Examiner asserts that Fujino discloses a "video reproducing apparatus (e.g., 1 of Figure 1) which receives a first signal representing an encoded video signal "media," wherein the first signal is received from an external source via a first recording medium (e.g., via a video disc)." Office action p. 107. The Examiner relies on the video signal from the video disc as the source of the "first signal." The video disc/signal, however, is integral to the receiver station and is not received from an external source.

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Fujino also fails to teach or disclose "determining content of a second medium received in said plurality of signals" and the recited "coordinating" based on the step of determining. The Examiner asserts that the "sync separator 12 of figure 2 which detects (and thereby 'determines') a data signal content of the video signal 'media'" or the "[d]ata detection circuitry (e.g. 13, 20, 22, of figure 2) which detects (and thereby 'determines') a data signal content of the video signal 'media' " discloses determining the content of a second medium. As discussed in Section F above, the mere detection of video sync signals fails to suggest determining content of the television program. The data detection circuitry of Fujino does not suggest determining content of a second medium. First, mere detection of a data signal does not necessarily determine the content of the data. The combination of elements of Fujino relied upon to show data detection circuitry -- comparator 13, shift register 20, and comparator 22 -- are used to extract positional data from the video signal. Fujino col. 4, l. 41 - col. 5, l. 2. This positional data does not represent the substance of any video or character data. Accordingly, the detection of this positional data is not determining content of the video signal as asserted in the Office action.

13. Rejection Based On "MODE II" Captioning And Teletext

Claims 2-8, 11-18, 20-23, 37-41, 67-72 and 85-90 stand "rejected under 35 U.S.C. 103(a) as being unpatentable over the notoriously well known 'Mode II' captioning feature of a conventional ANTIOPE teletext data service (as discussed in paragraph D-2 of this Office action) in view of the notoriously well known computer driven Teletext decoder structure (as discussed in paragraph C-4 of this Office action)." This rejection is improper. The rejection makes no attempt whatsoever to set forth "the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate." M.P.E.P. § 706.02(j). The rejection makes no reference to any prior art, but rather relies on sections of the Office action written by the Examiner specifically to provide a basis for rejecting applicants' claims. "Where a reference is relied upon to support a rejection, whether or not in a minor capacity, that reference should be positively included in the statement of the

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rejection." *Id.* (citing *In re Hoch*, 428 F.2d 1341, 1342 n. 3, 166 U.S.P.Q. 406, 407 n. 3 (C.C.P.A. 1970)). As these rejections are based on no specifically identifiable prior art references, they should be withdrawn.

The Examiner mischaracterizes "MODE II" captioning as a feature of ANTIOPE teletext. The Office action cites no references that show that any operating ANTIOPE system included "MODE II" captioning. Accordingly, the Examiner has not demonstrated that "MODE II" captioning itself is prior art.

In both paragraphs C-4 and D-2, which serve as the basis of this rejection, the Examiner alleges that features found in a collection of references make up "well known" systems. The Examiner now attempts to apply the combination of features that he has assembled and labeled "well known" against applicants' claims. If the combination of these features are truly notoriously well known, it should not be difficult for the Examiner to set forth in the rejection where in the prior art the features are found and to set forth a proper motivation for combining whatever references are relied upon. Without such a showing, the Examiner has failed to establish a *prima facie* case of obviousness.

Furthermore, the Examiner's description of "MODE II" captioning fails to render applicants claims obvious for the following reasons.

With respect to claim 2, the Office action at least fails to set forth any suggestion of a step of determining content of a second medium. The Office action asserts that a teletext decoder for receiving "MODE II" captioning must necessarily "[d]ecode subsequent ones of the extracted packets to detect the described 'reveal' command which corresponds to the class of the user selected captioning (corresponding to the recited step of "determining content")." There is no explanation how a reveal code that indicates the class of captioning is used to determine content of a second medium (such as the television program).

With respect to claim 14, the Office action fails to suggest that the step of determining comprises processing an identifier that identifies the content of the second medium. The Office action asserts that "reveal" codes identify a time in the TV programming at which the program

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related captions are to be displayed. The Office action fails to allege that the reveal codes identify content of the television program. As asserted by the Office action, the reveal codes merely indicate when captioning should be displayed; there is no assertion that the reveal codes indicate what information content is included in the TV program at the time.

The Office action asserts in section E-49 that claims 20-23, 37-41, 67-72 and 85-90 are rejected for the same reasons that were set forth for claims 3-8 and 11-18. The particular limitations of these claims are not addressed in the Office action. These rejections should be withdrawn as none of the requirements of a proper rejection under 35 U.S.C. § 103 have been presented in the Office action.

14. Rejection Based On Marti And The CBS/CCETT Spec.

Claims 2, 3-8, 11-18, 20-23, 37-41, 67-72, 85-90 stand rejected "under 35 U.S.C. § 103(a) as being unpatentable over the publication 'The Concept of a Universal "Teletext" (broadcast and interactive Videotex) Decoder Microcomputer based' by Marti in view the notoriously well known Mode II Captioning feature of the ANTIOPE teletext standard as described in the 1981 'CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENDED ANTIOPE)' publication." The Examiner takes Official Notice that the "MODE II" captioning feature of the ANTIOPE videotext specification was notoriously well known in the art at the time of applicants' invention. The Examiner cites to the CBS/CCETT Spec. as evidence. Applicants traverse this Official Notice. The CBS/CCETT Spec. speaks for itself. There is no evidence that the specifics of the CBS/CCETT Spec. were "notoriously well known" prior to applicants' invention. In fact as discussed in Section 9 above, the Examiner has failed to establish that the CBS/CCETT Spec. qualifies as prior art to the claims of the instant application.

Marti is directed to the development of a decoder that may receive multiple forms of data from various services. Marti in view of the CBS/CCETT Spec. fails to show or suggest each element of any of applicants' claims.

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a. Claim 2

In Section E-50 of the Office action, a rejection of claim 2 based on Marti and the CBS/CCETT Spec. is presented. The rejection merely asserts an interpretation of the relevant teachings of the cited art. The rejection fails to address the steps of claim 2. The rejection fails to set forth the differences in the claims over the cited references, proposed modification to the cited references, or any explanation of a motivation to combine the teachings of the cited references. For this reason this rejection of claim 2 is improper and should be withdrawn.

In claim 2, a multimedia presentation is output through the coordination of a presentation, under computer control, using information from a first medium with a presentation of a second medium, whereby the presentation using information in the first medium has a predetermined relationship to the content of the second medium. There is no showing in the Office action how the cited references show or suggest any of these steps of claim 2. Significantly, claim 2 also sets forth a step of determining content of a second medium. The cited art fails to show or suggest such a step of determining.

b. Claims 3-8 And 11-18

In Section E-51 of the Office action, claims 3-8 and 11-18 are rejected based on Marti and the CBS/CCETT Spec. for the same reason that was set forth for claim 2. Claims 3-8 and 11-18 depend from claim 2. These claims are patentable over Marti and the CBS/CCETT Spec. for at least the reasons set forth above with respect to claim 2. The rejections set forth in Section E-51 of the Office action are identical to the rejections set forth in section E-48 of the Office action which is also based on "MODE II" captioning. These rejections are improper as set forth in Section 13 above.

15. Claims 20-23, 37-41, 67-72 And 85-90

In Section E-52 of the Office action, claims 20-23, 37-41, 67-72 and 85-90 are rejected based on Marti and the CBS/CCETT Spec. for the same reason that was set forth for claims 3-8

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and 11-18. The Office action fails to address the limitations of these claims and thus fails to establish a *prima facie* case of obviousness against these claims. Applicants assert that the

Claim 20 sets forth that a multimedia presentation is output through the coordination of a presentation of a first medium and information based on a second medium, whereby the content of the first and second media are identified. The cited prior art does not suggest at least the step of identifying content of a first medium based on an identifier as set forth in claim 20. Claim 70 is an apparatus claim that is generally analogous to claim 20. The cited prior art does not suggest at least a microcomputer for identifying content of a first medium based on an identifier as set forth in claim 70. Claims 21-23 depend from claim 20 and are patentable over Marti and the CBS/CCETT Spec. for at least the above reasons. Claims 71 and 72 depend from claim 70 and likewise are patentable over Marti and the CBS/CCETT Spec. for at least the above reasons.

Claim 37 is an apparatus claim that is generally analogous to method claim 2. The cited prior art fails to show or suggest each element of claim 37 for the reasons set forth above with respect to claim 2. Marti and the CBS/CCETT Spec. fail to set forth at least a microcomputer that coordinates a presentation using information from a first medium with a presentation of a received second medium based on determining content of the second medium as set forth by claim 37. Claims 38-41 and 67-69 depend from claim 37. These claims are patentable over Marti and the CBS/CCETT Spec. for at least the above reasons.

Claim 85 sets forth a multimedia presentation apparatus. The apparatus includes a microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal, identifying content of a first medium, and then causing a video image of said series of discrete video images to be output. Marti and the CBS/CCETT Spec. do not show or suggest such a microcomputer. The Office action does assert "In MODE II captioning, each the 'reveal' codes represent [sic] a 'control signal' which identifies content of the first TV signal medium (e.g. a timing content, an audio content, etc, . . .)." This statement is unclear. The CBS/CCETT Spec. does not suggest that the reveal codes identify audio content of the TV program. The timing of the reveal code does not identify any content of the TV program.

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Claims 86-90 depend from claim 85. These dependant claims are patentable over Marti and the CBS/CCETT Spec. for at least the reasons set forth above.

I. Response To Double Patenting Rejection

In Section E53-54, the Examiner rejects claims 2-18, 20-30, 33-42, and 67-104 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 4,694,490 (the "'490 patent"). The '490 patent and the instant application share common inventors.

In determining whether obviousness-type double patenting exists the relevant inquiry is whether the claim or claims pending in the current application define an invention that is merely an obvious variation of an invention claimed the issued patent. M.P.E.P. § 804. A rejection based on obviousness-type double patenting must demonstrate that the claimed subject matter is not patentably distinct from the subject matter claimed in the issued patent. *See In re Longi*, 759 F.2d 887, 225 U.S.P.Q. 645 (Fed. Cir. 1985). The M.P.E.P. instructs examiners to employ the *Graham* factors, *see Graham v. John Deere Co.,* 383 U.S. 1, 148 U.S.P.Q. 459 (1966), used to establish a case of obviousness when making an obviousness-type double patenting analysis. M.P.E.P. § 804. Further, the M.P.E.P. instructs examiners that:

> Any obviousness-type double patenting rejection should make clear:
>
> > (A) The differences between the inventions defined by the conflicting claims - a claim in the patent compared to a claim in the application; and
> >
> > (B) The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent.

M.P.E.P. § 804; *see also In re Kaplan*, 789 F.2d 1574, 229 U.S.P.Q. 1574 (Fed. Cir. 1986) (to support an obviousness-type double patenting rejection "there must be some clear evidence to establish why the variation would have been obvious").

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The Examiner's obviousness-type double patenting rejection fails to discuss any *Graham* factors and fails to identify any differences between the pending claims and the claims in the '490 patent and the reasons why a person of ordinary skill in the art would conclude that the inventions defined in the pending claims are merely obvious variations of the inventions claimed in the claims of the '490 patent. Accordingly, the Examiner has not made out a *prima facie* case of obviousness-type double patenting.

The Examiner's double patenting rejection essentially consists of an assertion that the instant claims and claims 1-13 of the '490 patent define obvious variants of the same invention because they rely on the same written description support in applicants' 1981 specification (i.e., the Wall Street Week example). Without any analysis whatsoever, the Examiner lists the written description support from the 1981 specification identified by applicants and asserts that when such support is identified:

> it is becomes [sic] apparent that the instant claims have simply adopted different language to recite/describe the same receiver side "Wall Street Week" overlay method/processing that has already been covered/recited via claims 1-13 of [the '490 patent] . . . .

Office action, p. 118. Notwithstanding the fact that the Examiner's assertions fail to make out a *prima facie* case of obviousness-type double patenting, the Examiner's position is untenable because he improperly reads functions not actually recited into claims 1-13 of the '490 patent.

The Examiner merely asserts that the "Wall Street Week" disclosure in the 1981 specification supports claims 2-18[4] and is "covered/recited via claims 1-13" of the '490 patent. The Examiner's exclusive reliance on the disclosure of the patent instead of the scope and content of the patent claims is improper.

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[4] Applicants acknowledge that the description regarding "Wall Street Week" in the 1981 specification provides support meeting the requirements of 35 U.S.C. § 112, first paragraph. To the extent that the Examiner's summary of this support in Section E-53 of the Office action is meant to correspond to the support set forth in the January 2003 Response, particularly the Ligler Declaration attached as Exhibit II, the summary is not entirely accurate. For example, the Examiner states, "The section 112 support for the recited 'determination' of 'content' of the 'second medium' of the instant claims is nothing more than the detection of the 'graphics-on' instruction signal." However, Dr. Ligler states, "[A] program identifier received in advance of the exemplary Wall Street Week broadcast is used to determine content of the Wall Street Week television program."

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The M.P.E.P. cautions examiners from doing precisely what the Examiner has done in Section E-53 of the Office action. The M.P.E.P. instructs examiners that in determining whether a pending claim defines an invention that is an obvious variation of an invention claimed in an issued patent, the specification of the issued patent cannot be used as prior art. M.P.E.P. § 804. The obviousness analysis is limited solely to *inventions defined by the* claims. Of course, in determining whether the claimed invention is an obvious variant of that defined by the issued claim, relevant portions of the specification can be used to ascertain the scope and meaning of an issued claim. *See In re Vogel*, 422 F.2d 438, 164 U.S.P.Q. 619 (C.C.P.A. 1970). It is, however, improper to read limitations from the specification into the claims of the issued patent. *See e.g.*, Donner, Irah H., *Patent Prosecution: Practice & Procedure Before the U.S. Patent Office*, Ch.10.VIII.B.1 (2nd ed. 1999) (discussing *In re Vogel* and noting "[t]hus whereas the patent disclosure may be used to interpret claims, the Examiner may not read the specification into the claims in an effort to buttress a double-patenting rejection").

There is simply nothing to bar the allowance of later claims supported by a disclosed embodiment that is "covered" by previously issued claims provided that the later claims define an invention that is not merely an obvious variation of an the invention claimed in the issued patent. The pending claims of the instant application contain numerous steps and other limitations which are not found or suggested in claims 1-13 of the '490 patent. For example, at a minimum, none of claims 1-13 of the '490 patent include steps directed to determining or identifying content of a first or second medium. Accordingly, applicants respectfully request that the Examiner withdraw the obviousness-type double patenting rejection of the pending claims.

In Section E-54 of the Office action, claims 20-30, 33-42 and 67-104 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of the '490 patent for the same reasons that were set forth for claims 2-18. The Examiner fails to address the limitations of these claims and thus fails to set forth a *prima facie* case of obviousness-type double patenting against these claims. Furthermore, the Examiner's

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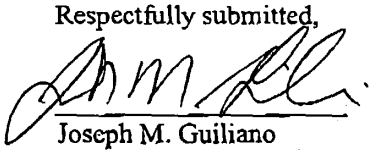
improper rejection of claims 2-18 is based on Dr. Ligler's use of disclosure regarding "Wall Street Week" to demonstrate support for claims 2-18. Applicants note that Dr. Ligler cites to disclosure regarding a cooking show to demonstrate support for claims 24, 25, 33-36, 74, 75 and 95-104. Accordingly, the double patenting rejection as presented against claims 2-18 is not applicable to claims 24, 25, 33-36, 74, 75 and 95-104.

III. CONCLUSION

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims are patentably distinguishable over the prior art of record, taken in any proper combination. Reconsideration and allowance of the instant application are respectfully requested.

Respectfully submitted,



Joseph M. Guiliano
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Date: October 7, 2004
FISH & NEAVE LLP
1251 Avenue of the Americas
New York, New York 10020

Google Exhibit 1002, Page 3256 of 6435

UNITED STATES INTERNATIONAL TRADECOMMISSION
WASHINGTON, D.C.

- - - - - - - - - - - - - - - - - - - -In the Matter of :
: INVESTIGATION NO.CERTAIN DIGITAL SATELLITE : 337-TA-392
SYSTEM (DSS) RECEIVERS :and COMPONENTS THEREOF :
- - - - - - - - - - - - - - - - - - -

DEPOSITION OF GERALD CROWTHER

Wednesday, June 11, 1997
AT: 9:30 A.M.

Taken at:
Jones, Day, Reavis & Pogue
Bucklesbury House 3 Queen Victoria Street
London, England

SMITH BERNAL INTERNATIONAL
180 Fleet Street London EC4A 2HD
(44) 171 404-1400

A P P E A R A N C E S

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Dallas, Texas 75201

I N D E X

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GERALD CROWTHER, having been duly sworn according tolaw by the Officer, testified as follows:

DIRECT EXAMINATION BY MR. SCOTT

Q. Would you please state your name?
A. My name is Crowther.
Q. Your full name?
A. Gerald Offley Crowther.
Q. Can you state your present business address?
A. I don't have one, I'm a private individual, retired.
Q. Could you state your residence address?
A. 33 Onslow, O-N-S-L-O-W, Avenue, Sutton, Surrey, SM2 7ED.
Q. I'd like to mark as Complainant's Exhibit-595 a copy of the expert report of Gerald O. Crowther. I'd like to mark as Complainant's Exhibit-596 a copy of the first supplemental expert report of Gerald O. Crowther.
(EXHIBITS 595 and 596 MARKED FORIDENTIFICATION)
Q. Mr. Crowther, I have placed in front of you what has been marked as Complainant's Exhibit-595 and596.
I direct your attention first to 595 and ask you if you can tell me, is that a document which you prepared?
A. It is a document I prepared.

U.K. Teletext moves towards still pictures."
I think that's all. Let's go through carefully. We have put the Hedger and Raggett one, have we?
Q. You've identified that one.
A. Can we just make sure? I identified the one in my paper, "Teletext and Viewdata system, the possible extension to Europe", can I just check that was the one identified, rather than the one below it, although that was also relevant, but it's the one above that I'm particularly --
Q. Why don't you identify it in particular? The "G. Crowther, Teletext and Viewdata systems and their possible extension"?
A. That is the one I wanted to make sure of, the "British Teletext specification" 1976, and also the "CBS CCETT North American Broadcast Teletext specification" I looked at very carefully, and I think that is CBS 14, broadcast specification.
Q. The last entry you believe to be an error?
A. Yes, that is incorrect, that should be CBS, as far as I know.
Q. CBS-14?
A. From memory, yes, that looks like, I can only tell by the date, what it's used to be, I can't tell you whether the 14 is correct.

MR. McBRIDE: Mr. Scott, I can't remember whether your question asked him to go through this list and identify the articles, or to generally state what papers he has relied on.
MR. SCOTT: What I asked him was I want to make sure he was doing it. I wanted to know the ones he had particularly relied on.
MR. McBRIDE: My question is are you having him focus on the list, or should he go through his reports because there are other articles in, for example, his first supplemental report.
MR. SCOTT: I want him to go through the list, at least initially, so I can identify which ones he particularly relied on in the list.
MR. McBRIDE: Okay.
A. I think that's all.
Q. All right, now, do you have your first supplemental report in front of you? What I'd like you to do now is go through the rest of your initial report and your supplemental report, and tell me are there any other articles that you intend to principally rely on to form your opinions regarding the -- I'm focusing on your opinion regarding the claim 6 and 7, "do not describe a new or non-obvious invention?
MR. McBRIDE: He's asking you to go back through

the body of your first opinion, and make sure there is nothing mentioned in there, and then to look at this first supplemental?

A. No, I think that's all.

MR. McBRIDE: Do you want to go back and check this one? Not the list, I think you've done that, just look through the body of the report. I think this question asked you to do that.

A. I don't think there are any more in that and the first supplement.

MR. SCOTT: I'd like to mark as Complainant's Exhibit-597 a copy of an article by, J. Hedger entitled "Telesoftware: using Teletext to support a home computer"

(EXHIBIT-597 MARKED FOR IDENTIFICATION)

Q. Mr. Crowther, I place in front of you what have been marked in these proceedings as Complainant's Exhibit-558, 559, 560 and 597.

I ask you if those are the four Hedger articles that you identified in your -- as listed in your report?

A. Yes, they are.

Q. Now, looking at your expert, initial expert report, Exhibit-599, you describe three types of Teletext systems that you refer to as being in use or contemplated during the late 1970s and 1980s, that appears on page eight of your report, which is Exhibit-595?

A. Right.
Q. What I'd like to know is what do you intend to rely on to support your description of each of those systems? Is there any particular document or documentary material that you intend to rely on to support -- as a basis for support for how these systems operated?
MR. McBRIDE: Other than the ones listed in the description?
MR. SCOTT: Which out of them does he intend to rely on?
MR. McBRIDE: In his report he provides a description of each, and there are documents referenced.
MR. SCOTT: I'm trying to find out -- are those the only ones he intends to rely on, or are there others?
A. We are referring to the two in the supplementary report, are we?
Q. Let's go back to the initial report, and let's just say the British or World System Teletext?
A. Well, yes.
MR. McBRIDE: You have referenced some documents?
A. That's right.
MR. McBRIDE: He's asking you, in addition to the ones that you've referenced, are there any others that --

A. Not in the first supplement -- sorry, in this first report, no.
Q. When you described the British or World System, you intend to rely on the Teletext 1976 specification?
A. And the upgrading of it in the Chambers paper.
Q. So, you're going to use the Chambers paper and the '76 --
A. Sorry, for that, yes.
Q. Now, for the Antiope system, what are you going to rely on to describe the operation of that system?
A. I was going to just rely on the specification.
Q. Which specification?
A. Sorry, the two specifications we mentioned in the report, the CBS CCETT and North American broadcast Teletext specification and the CBS 14.
Q. For the Telidon system, is there any document you're going to rely on --
A. It would be the same two documents.
MR. McBRIDE: Mr. Crowther, let Mr. Scott finish his questions, so you have in mind what he's really looking for. Also it makes it easier for the court reporter.
MR. NEWTON: A lot easier.
Q. With the Japanese Teletext system, is there any documentation you intend to rely on to describe that

wanting to help the enemy, is it "Adaptation of U.K. Teletext system for 525/60 operation"?
A. Perhaps I should return that one before we ... that is the correct one, that's the one I wanted.
Q. This one has been previously marked as Complainant's Exhibit-575, and that's "Adaptation of U.K. Teletext system for 525/60 operation"?
A. I wasn't planning to use that one.
Q. So Exhibit-604 you don't intend to use?
A. No.
Q. Have you now covered the universe of documents that you intend to rely on?
A. For the U.K., yes.
MR. SCOTT: Why don't we take a break?
(SHORT BREAK)
Q. Now, Mr. Crowther, you have previously identified certain documents that you intend to rely on as a basis to describe the Teletext systems in use in France and in the United States under the name Antiope?
A. Correct.
Q. Now, I'm going to identify these documents, because I want to understand, but what I'd like to understand, do you intend to testify that the Antiope system, and your understanding of it, would invalidate any claims of the Harvey patents?

A. I believe that there are aspects of the Antiope patent -- sorry, Antiope system, which would invalidate the Harvey patents.
Q. Are you going to testify to that effect?
A. I don't think I will need to testify to it, but I'd like to have the -- I don't think so at the moment, but --
Q. Just look at your report, and look at 595, which is your initial report, in which you refer to the invalidity of claims 5 and 6 of the 277 patent over the British Teletext system?
MR. McBRIDE: Claims 6 and 7?
MR. SCOTT: I'm sorry of 6 and 7, excuse me.
Q. That's found at pages 10 and 11 of your report. There you deliver an opinion that claims 6 and 7 of the Harvey 277 patent are invalid, in view of the British Teletext system?
A. Yes.
Q. Then you might refer to your supplemental report, where on pages 3 through 8, you compare claims 6 and 7 to the British Teletext system.
My question is: do you intend to use any information regarding the Antiope system as a basis to testify that claims 6 and 7 are invalid?
A. We do mention the Marti paper and the Antiope

system, and that I shall use.
Q. How do you intend to use it?
A. That's part of the -- against the claims 6 and 7.
Q. Do you intend to testify that the Antiope system disclosed in the Marti paper --
A. What I want to be able to do is to show that the total conglomeration of Teletext systems, you know, had relevance to the claims of 6 and 7.
Q. So, all of the Teletext systems had relevance?
A. That's right.
Q. But my question is: do you intend to apply a particular system of it in your understanding of it against the claims?
A. The problem is the specific Antiope system was merged into CBS/CCETT, and that I would like to testify as being prior art to any claims 6 and 7.
Q. It's prior art, but do you intend to testify that that system by itself invalidates claims 6 and 7?
A. I think so, yes.
Q. You also make reference to the Telidon system from Canada that you make reference to on page 8 of your initial report, which is Exhibit-595?
A. Yes.
Q. Do you intend to testify that that system

invalidated claims 6 and 7 of the Harvey patent?
A. The CBS and the CCETT specification was a combination of both the Antiope and the Telidon system, so what I said earlier applies to the Telidon new approach -- they are combined together, and formed that one big specification and they -- I would want to use that to testify against claims 6 and 7.
Q. What about the Japanese Teletext system, do you intend to --
A. No, I don't intend to testify. That's just background information.
Q. In what aspect, what aspect of the background to your testimony do you intend to use information regarding the Japanese Teletext system?
A. I want to show that there were a lot of systems, different systems in use at the -- in the 1978, '80, '81 period, transmitting data over the air as part of the television signal, and the Japanese was one of them.
MR. SCOTT: I'd like to mark as Complainant's Exhibit-605, a document entitled "CBS/CCETT NorthAmerican Broadcast Teletext Specification (extended Antiope)", bearing the date May 20, 1981 and I'd like to mark as Complainant's Exhibit-606 "CBS/CCETT North American Broadcast Teletext Specification", bearing the date June 22, 1981.

(EXHIBITS 605 and 606 MARKED FORIDENTIFICATION)
Q. I'd like you to look at Exhibits 605 and 606 and I want to ask you, are those the specifications you had reference to, and are they identified in your expert report, Exhibit-595?
Do you have the question in mind?
A. Sorry, I didn't hear you.
Q. Are exhibits 605 and 606 the specifications you had reference to?
A. Yes, they are. It seems to be slightly different, but it's only a day.
Q. Can you identify in your report which ones they are, so we are clear about that?
A. The "CBS/CCETT North American Broadcast Teletext Specification (extended Antiope)" May the 20th, 1981 is the one on page 7, the first of the two specifications, and then the one which is BS 14, "Broadcast Specification, Television Broadcast Videotex" June 19, 1981, I believe is this one, although it says March the 22nd. That is the one I had expected.
Q. So June --
A. It's labeled here as June 19, and it is actually June the 22nd, but that is the one I expected.
Q. You list in your supplemental report the B. Marti paper, "The Antiope Teletext system" from the

IEEE, is that another one you intend to rely on?
A. That's right.
Q. Just so that we can be sure about this, I'm going to show you what's been previously marked as Exhibit-575, which is entitled "The Antiope Videotex system", but is by B Marti and others.
I'll ask you if that is the paper that you had reference to?
A. That is not the one. Sorry, that is the one, sorry. Sorry, yes, it is the one. Okay, yes.
Q. So, you just failed to list the additional authors in your report?
A. Sorry?
Q. In other words, the only distinction, you just failed to list the additional authors in your report?
A. Sorry, yes.
Q. Now, do you intend to rely on the H.G. Brown paper to support your testimony regarding the Antiope system?
A. Yes, I think that would be useful.
MR. SCOTT: I'd like to mark as Exhibit-607 a copy of "Telidon a new approach to Videotex system design" by H.G. Brown and others.
(EXHIBIT-607 MARKED FOR IDENTIFICATION)
MR. McBRIDE: Is there a question on the

table?
Q. Is that the Brown article that you had reference to?
A. It's not the one I had expected. I think there was probably one in 1981 by Brown et al, O'Brien, it would be one of those four authors.
Q. So, Exhibit-607 is not the one you intend to rely on?
A. That's right.
Q. Do you have the identity of the article you intend to rely on?
A. Not handy. I think it's in 1981 is the article.
MR. SCOTT: Do you have the article, Mr. McBride?
MR. McBRIDE: Perhaps at a break we can try to sort this out, and see if we can identify it, and, if we can, we'll certainly get it to you.
A. Sorry about that.
Q. That's why we're going through this exercise, to make sure we got it right.
So we can put 607 aside, you don't intend to rely on that one.
So the Marti article, Exhibit-575, the two specifications 605 and 606, and this yet to be identified

Brown paper are the four documents you intend to rely on?
A. Correct.
Q. No others?
A. I don't think so, no.
MR. McBRIDE: Excuse me, rely on for what purpose?
MR. SCOTT: To describe the Antiope system that he says he may testify invalidates claims 6 and 7.
MR. McBRIDE: Okay.
MR. SCOTT: If I understand the testimony correctly, he says that the British Teletext system invalidates it.
Q. Am I correct in saying you also say the French U.S. Antiope system described in these four documents invalidates it also?
A. I believe so, yes.
Q. And you intend to testify to that effect, is that correct?
A. Can I have --
Q. I'd like you to consult, because I want to know what you intend to do. If you don't intend to testify that way, fine.
(SHORT BREAK)
MR. McBRIDE: Let me see if I can help clarify the issues. We intend to use Mr. Crowther to offer

testimony that the U.K. Teletext system invalidates claims 6 and 7, as he's described in his two reports.

Mr. Crowther has indicated that he would like to refer to the Antiope system, the Canadian Telidon and Japanese Teletext systems as background information to describe what he views as the state of the art of Teletext.

However, he does not intend, and we don't intend, to offer any opinions that claims 6 and 7 are specifically invalid in view of any of those references through Mr. Crowther.

MR. SCOTT: Other witnesses may or may not, but we're now here with Mr. Crowther.

Q. Do you adopt the statement of your counsel?

A. I do, yes.

Q. But you intend to give testimony about how the Antiope system in France and the United States operated in 1980?

A. Correct.

MR. McBRIDE: Let me just clarify. We had an issue about the Brown or the paper referenced in the report, and I think what we've determined is that -- through his prior testimony, the report referenced is not the correct report that he was thinking of.

However, I don't think, talking to the witness,

that he's going to need to rely on this later paper, and I'm not sure it's Brown it may be Bown, B-O-W-N, but in any event I think we can set aside this later paper. As far as we're concerned, it will not be relied on in his testimony about Telidon.

A. We still want to reserve the right to include in a general discussion the Telidon system. Is that right?

MR. McBRIDE: Yes.

Q. Just so we're clear, you don't intend to rely on the Brown article that we marked, or any other article at least as you -- as of right now, you are going to rely on simply 575, 605 and 606?

Let me just put those in front of you, so you've got that question clearly in mind. The two specifications, 605 and 606, and Mr. Marti's article, 575?

A. Yes, that's correct.

MR. McBRIDE: That's as to Antiope and Telidon?

MR. SCOTT: Right.

Q. Is that correct, that's what they have reference to?

A. That covers both of the systems. I don't want it to be assumed that is just Antiope, it's a combination of the two.

Q. Antiope and Telidon?

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Applicants	:	John C. HARVEY and James W. Cuddihy
Serial No.	:	08/487,526
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	HARVEY, David E.

MAIL STOP AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

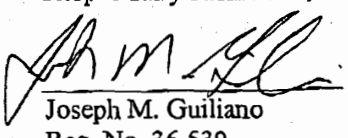
NOTICE OF APPEAL FROM THE EXAMINER
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Sir:

Applicants hereby appeal to the Board of Patent Appeals and Interferences from the last decision of the Examiner rejecting all pending claims in the above-captioned application.

Submitted herewith is a check, which includes the amount of $340 to cover the Notice of Appeal fee. In the event of any variance between the amount enclosed and the fees determined by the U.S. Patent and Trademark Office, please charge or credit any such variance to the undersigned's Deposit Account No. 06-1075.

Respectfully submitted,



Joseph M. Guiliano
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Phone No. 212-596-9081

Date: October 7, 2004
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Examiner	:	Harvey, David E.

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

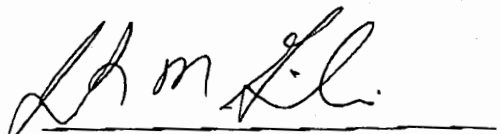
PETITION FOR EXTENSION OF TIME

Sir:

Applicants respectfully request a three month extension of time under 37 C.F.R. § 1.136(a) for responding to the Office Action dated April 28, 2004, in the above-identified patent application, thereby extending the period for response to October 28, 2004.

Submitted herewith is a check, which includes the amount of $980 to cover the fee for the extension under 37 C.F.R. § 1.17(a)(2). Any deficiency in or overpayment of this fee should be charged or credited to Deposit Account No. 06-1075.

Respectfully submitted,



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10/08/2004 JBALINAN 00000023 08487526

01 FC:1253 980.00 OP

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/487,526	06/07/1995	JOHN C. HARVEY	5634.355	7792

21967 7590 04/28/2004

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EXAMINER	
HARVEY, DAVID E	
ART UNIT	**PAPER NUMBER**
2614	

DATE MAILED: 04/28/2004

46

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	08/487,526	HARVEY ET AL.	
	Examiner	Art Unit	
	DAVID E HARVEY	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-18,20-30,33-42 and 67-104* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-18,20-30,33-42 and 67-104* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

A. INTRODUCTION:

A-1) The Continuation-In-Part ("CIP") Designation:

All continuation-in-part (CIP) applications are not "true" continuations.
A true CIP application is one that describes and claims subject matter previously described in an earlier filed co-pending application and, being such, the claims of a "true" CIP are entitled to the effective filing data of the parent application. In contrast, applications that include the "CIP" designation but comprise claims having limitations directed to "new" subject matter that has been added via the filing of the alleged CIP application are not "true" continuations and, therefor, are not entitled to the earlier effective filing date.

> **"Thus, if an application is, in fact, a *true* continuation application, it is entitled to the filing date of the original parent application. If, however, it discloses and claims subject matter not common to or not supported by the parent application, it is not a true continuation application and any claims therein that include new matter are only entitled to the actual filing date of the later-filed application, and not the earlier parent application"** (emphasis added)
> [Reynolds Metals Company v. The Continental Group, Inc., (DC NIII), 210 USPQ 911 at 929]

Thus the "CIP" designation, itself, does not validate a claim for section 120 priority. That is, beyond the formal requirements, the CIP designation only indicates that insofar as the subject matter from the alleged parent application has actually been carried forward from the parent application into the CIP application, applicant is entitled to the earlier filing date of the parent application for claims that are directed *solely* to the subject matter which has been carried forward (i.e. for claims that are directed to "common subject matter").

> "**However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications**" (emphasis added)
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> "**Any claim in a continuation-in-part application that is directed *solely* to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application."** (emphasis added)
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"Section 120 merely provides mechanism whereby application becomes entitled to benefit of filing date of earlier application disclosing same subject matter; common subject matter must be disclosed in both applications, either specifically or by express incorporation by reference of prior disclosed subject matter"**
> [Dart Industries, Inc. v. Banner, Commissioner of Patents and Trademarks, (CA DC), 207 USPQ 273]

More important than what the CIP designation indicates, is what the CIP designation does not indicate:

1) The CIP designation is not an "*Incorporation by Reference*". To be entitled to section 120 priority, the subject matter that is to be claimed in the CIP application must be formally carried forward into the CIP from the earlier filed parent application. That is, the

subject matter that is to be claimed must be carried forward into the CIP disclosure either by:

1) A formal "Incorporation by Reference" of the subject matter that is to be carried forward from the parent; or

2) "Specific" physical descriptions of said subject matter that is to be carried forward from the parent; and

"**Applicant is confusing two distinctly different things:**

(1) The right to have benefit of the filing date of an earlier application under § 120 for subject matter claimed in the later application because that subject matter is *disclosed in an earlier application* to which a 'specific reference' is made - i.e., a reference to the earlier application per se, and

(2) The incorporation *by reference* in an application of matter elsewhere written down (not necessarily in a patent application), for economy, amplification, or clarity of exposition, by means of an incorporating statement clearly identifying the subject matter which is incorporated and where it is to be found"
[In re DE SEVERERSKY, 177 USPQ 146 (CCPA 1973)]

"**Statement in application that it is 'continuation-in-part' of prior application is insufficient to incorporate therein any part of prior application; all that it means is that insofar as disclosure of application finds corresponding disclosure in prior application, the application is entitled to filing date of prior application**"
[In re DE SEVERERSKY, 177 USPQ 144 (CCPA 1973)]

2) "CIP" practice does not permit an applicant to add "new matter" which alters or expands the substance of the subject matter that was disclosed in the parent application, while preserving the earlier filing date of the parent application for claims in the CIP application that recite the altered/expanded subject matter of the CIP.

"In 1967, the Court of Custom and Patent Appeals first separated a new written description (WD) requirement from the enablement requirement of [Section] 112. The reason for this new judge-made doctrine needs some explanation. Every patent system must have some provision to prevent applicants from using the amendment process to update their disclosures (claims or specification) during their pendency before the patent office. Otherwise applicants could add new matter to their disclosures and date them back to their original filing date, thus defeating accurate accounting of the priority of invention."
[Enzo Biochem Inc. v. Gen-Probe Inc. 63 USPQ2d 1618,1624 (CA FC 2002)]

"[Section 120] contains no magical disclosure – augmenting powers able to pierce new matter barriers; therefor, it cannot "limit" absolute and express prohibitions against new matter contained in Section 251."
[Dart Industries, Inc. v. Banner, Commissioner of Patents and Trademarks, (CA DC), 207 USPQ 273]

"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time"
[Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]

"To the extent that a CIP application adds new matter, claims that are dependent upon the new matter are entitled to the filing date of the CIP only and not that of the parent application"
[Stern v. Superior Distributing Company et al., (CA 6), 215 USPQ 1089 at 1094]

"**Unlike the enablement provision of section 112, where the disclosure of a single species might be sufficient to enable a practitioner skilled in the art to make and use any member of the genus,....., the written description requirement of section 112 requires more. *See Vas - Cath, supra.* *This strict reading of the written description requirement prevents an inventor from surreptitiously expanding a patent through successive continuation-in-parts.* *See id. At 1562.* Essentially, it limits the claims of an applicant to those inventions he clearly discloses, either expressly or inherently**" (emphasis added)
[Tronzo v. Biomet Inc. (DC SFla) 41 USPQ2d 1403 [1] citing Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111]

****

[Applicants' application S.N. filed 07/096,097 filed 9/11/1987 has been designated a "CIP" by applicants. The question arises as to whether or not this application constitutes a "true" CIP/continuation:

1) Are the claims of the instant application reciting subject matter that is described in the CIP specification, which described/claimed subject matter was previously described in the original 1981 parent specification too (e.g. that which was contained in S.N. 06/317,510); or, alternatively,

2) Are the claims reciting described 1987 CIP subject matter so changed by the "new matter" introduced via the filing of the 1987 CIP that the "substance" of the subject matter being claimed, e.g. the invention, has been changed.

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[1] NOTE: this case was appealed [Tronzo v. Biomet (CA FC) 47 USPQ2d 1829]

These are not easy questions to answer given the way in which the applicants elected to draft and file said CIP application S.N. 07/096,096 of 9/11/1987. That is:

> **1) The 557 pages of new text that comprises applicants' instant 1987 CIP specification fail to incorporate the 44 pages of old text that comprised applicants' 1981 parent specification either:**
>
> > **a) "By reference"; or**
> >
> > **b) "Specifically"/physically in any immediately discernible fashion.**
>
> **Therefor, it is not readily apparent from the instant 1987 CIP specification as to how much, if any, of the subject matter from the 1981 specification has been carried forward into the instant 1987 CIP specification;**
>
> **2) Even when one assumes that at least some teachings from the 1981 parent specification have been carried forward into the 1987 CIP specification, it is clear that these 1981 teachings have, beyond question, been extensively modified with new 1987 subject matter. Applicants themselves use terms such as "expanded", "enhanced", and "improved" to characterize such "modifications." To the extent that these modifications, i.e. the added new 1987 subject matter, has changed in the substance of the inventions described and claimed with respect to the 1987 specification, priority to 1981 effective filing date under section 120 has been lost.**

Therefor, given the present state of affairs, one must not only determine exactly what it is that is now being described and claimed with respect to the 557 pages of the instant 1987 CIP specification but, to determine whether this recited subject matter is entitled to the 1981 effective filing date, one must then determined whether that which is now described and claimed was previously described, in accordance with <u>all</u> the same requirements of section 112, in the 1981 parent specification too (are the respective 1987 and 1981 descriptions "legal equivalents" with respect to that which is claimed). That is, one is now forced to judge whether the modified descriptions of the 1987 CIP specification alter the substance of that which is now claimed, with respect to that which was originally described in the 1981 specification, to a point where priority to the 1981 effective filing date is not permitted under section 120. That is, for each claim for which the 1981 effective filing date is sought, one is forced to consider whether it is subject matter from the 44 parent specification, carried forward into the 557 pages of the instant 1987 CIP specification, that is *"solely"* claimed (i.e. whether the claim is in fact reciting "common subject matter" described in both specifications).

For if applicant's CIP application is not a "true" CIP application then the claims thereof are, at best, only entitled to the 9/11/1987 original filing date of the 557 page CIP specification]

****

A-2) Applicants' chain of pendency:

a) On 11/03/1981, applicants filed US Patent application S.N. 06/317,510 that eventually matured into US Patent #4,694,490. The 1981 specification of this originally filed parent application contained a written description that comprised 44 pages of text and related figures. On 2/14/1986, first continuation application S.N. 06/829,531 was filed which comprised the same 1981 parent specification.

b) On 9/11/1987, applicants filed CIP application S.N. 07/096,096 that eventually matured into US patent #4,965,825. The specification of this 1987 CIP application contained a written description that comprised 557 pages of text and related figures. A chain of four continuation applications (i.e. 07/588,126, 07/849,226, 08/056,501, and 08/113,329) was then filed from this 1987 CIP application all of which comprised the same 1987 CIP specification.

c) The instant application, and the 327 related bulk filed applications, were all filed as continuations of S.N. 08/113,329 and comprises the same 557 page 1987 CIP specification. For some of these applications (i.e. all claims contained therein) applicants' have alleged the 1987 effective filing date of the 557 page CIP application, whereas for the remaining ones of these applications (i.e. all claims contained therein) applicants' have alleged the 1981 effective filing date of the original 44 page parent application.

A-3) The Earlier Effective Filing Dates that are Alleged Under Section 120:

1) The 1987 effective filing date:

As is evident from the chain of pendency cited above, the 557 page specification of the instant application is the same as the 557 page specification of the 1987 CIP application. Being such, to obtain the 1987 effective filing date, applicant needs only show that the claims of the instant application are supported under section 112 by the 557 pages of this instant 1987 CIP specification.

2) The 1981 effective filing date:

If applicants had incorporated the 44 page 1981 parent specification into the 557 pages of the instant 1987 CIP specification either via an "incorporation by reference" or "specifically"/physically in some immediately discernible fashion, then the process of obtaining the 1981 effective filing date for that which is now claimed would have been simple indeed. Applicants would only have had to draft the instant claims solely to the subject matter of the 1981 parent specification.

Applicants, however, elected not to incorporate the 1981 specification into the instant 1987 specification either "by reference" or "specifically"/physically thereby, as discussed above, making the process of obtaining the 1981 effective filing date significantly more arduous.

To obtain the 1981 effective filing date for that which is now claimed, given the current fact pattern, applicant must be able to reach back to the 1981 parent specification (and subject matter) by way of the instant 1987 CIP specification. That is, applicant must be able to show that the claim construction that results when a given claim is construed under section 112 by the descriptions of the instant 1987 CIP specification, is the same/equivalent claim construction that would have resulted had the same claim been construed under section 112 by the descriptions of the discarded 1981 parent specification; i.e. that the respective 1987 and 1981 descriptions of the claimed subject matter are legal equivalents. Stated another way, applicants' must be able to show that the claims of the instant CIP specification are directed ***solely*** to "common subject matter" found in both specifications; i.e. that the "claimed subject matter" that is described by the 557 pages of the instant 1987 CIP application in accordance with all of the requirements of section 112 was previously described by the 44 pages of the discarded 1981 parent specification. Stated a third way, applicants must be able to show that the instant application and claims effectively constitutes a "true" CIP application with respect to the 1981 parent application.

> **"[The] bottom line is that, no matter what term is used to describe a continuing application, that application is entitled to the benefit of the filing date of an earlier application only as to common subject matter"**
> [Transco Products Inc. v. Performance Contracting Inc. (CA FC) 32 USPQ2d 1077)].

"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time"
[Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]

"The question in cases in which the parent application does *not* contain language contained in the claims of the later application is whether the language which *is* contained in the parent application is the legal equivalent of the claim language, in the sense that the '*necessary and only reasonable* construction to be given the disclosure [in the parent application] by one skilled in the art' ..... is the same as the construction which such person would give language in claims of the later application."
[WAGONER AND PROTZMAN v. BARGER AND HAGGERTY, 175 USPQ 85, 86 (CCPA 1972)].

A-4) Applicant's position concerning the "Dual" section 112 support:

Presently, the examiner and applicants are in agreement that, in order for a given claim to be entitled to the 1981 effective filing date, applicants must be able to show that *some kind* of "dual" 1987 and 1981 section 112 support exists in the respective 1987 and 1981 disclosures for the given claim. The examiner and applicants, however, continue to disagree as to what this "dual" section 112 support must comprise. Specifically:

1) Applicants continue to take the position that the respective 1981 and 1987 disclosures may indeed describe proverbial "apples and oranges", respectively, yet the claims of the CIP application may still be entitled to section 120 priority provided that a broad "quasi-generic" claim can be drafted which independently reads on (i.e. is independently "anticipated" by) the proverbial "apples" and the "oranges" of the respective applications. That is, applicants allege that:

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under 120 have anything in common besides their ability to separately comply with 112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy 120 is show that each disclosure meets the requirements of 112-1 for a given claim."** (emphasis added)
> [Page 141 of applicants' response filed on 1/28/2002 in application S.N. 08/470,571]
>
> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the 112 support from each application consists of 'common subject matter.'"**
> [See the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

2) In contrast, the examiner maintains that section 112 support must come from "common subject matter" (i.e. the "same invention") described in both specifications such that the respective claim constructions that result when a given claim is construed in light of the respective disclosures is the same/equivalent; i.e.

> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications"** (emphasis added)
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]
>
> **"The inquiry required by section 120 demands a comparison of 1) the claims of the parent and CIP applications and 2) any other disclosures made in the applications such as specification and drawing. Acme Highway, supra, at 1079, 167,USPQ at 132-33."**
> [Stern v. Superior Distributing Company et al., (CA 6), 215 USPQ 1089 at 1094]

Clearly, applicants' position that the respective parent and CIP disclosures, "need not have anything in common besides their ability to separately comply with 112-

1 with respect to the claims for which priority is sought," permits and invites multiple claim constructions to exist for each claim in question; i.e.

a) A first construction that results when the claim is construed under section 112 in light of first subject matter that is described in the child/CIP specification; and

b) A second different construction that exists when the same claim is "separately" construed under section 112 in light of different subject matter that was previously described in the parent specification.

The examiner maintains that it is improper for multiple claim constructions to exist for a given claim within a patent application. Hence, the examiner maintains that applicants' belief that "common subject matter" is irrelevant to the section 120 priority issue seems both erroneous and flawed. Some hypothetical examples will be discussed in the following section of this Office action for the purpose demonstrating this point.

A-5) Can an applicant use a broad "quasi-generic" claim within an alleged CIP application as a license for effecting wholesale changes to the written description (and the subject matter described therein) while maintaining priority to an earlier filing date under Section 120?

Applicants' positions concerning the use of "dual" section 112 support under section 120 seem to say: "YES".

The following hypothetical fact patterns are presented to illustrate why the examiner believes the answer to be: "NO."

A) Hypothetical situation #1:

a) An applicant files a first application that **ONLY** discloses a bicycle. In this first application, the applicant presents a first claim for a "multi-wheeled cycle".

b) Three years into the prosecution of the first application, this applicant becomes aware of someone who invented the tricycle.

c) At this point, the applicant files a second application that **ONLY** discloses the tricycle (it does not disclose the bicycle of the first application). Applicant alleges that this second application is "CIP" of the first application. Applicant then transfers the "multi-wheeled cycle" claim from the first application into this second application and claims priority for the transferred claim, under section 120, back to the first application. Applicant then abandons the first application.

Is the transferred claim of the second application entitled to the earlier filing date of the first application under section 120?

1) Clearly, the answer would have been "yes" had the disclosure of "the bicycle" from the first application actually been carried forward into the disclosure of the second application being that the claim could have been legitimately supported by "common subject matter" from both applications (i.e. specifically, by the disclosed bicycle of both applications).

2) However, under the circumstances cited above, i.e. wherein the disclosure of the first application was *discarded* and not carried forward into the second application, the case for priority under section 120 seems less than clear. Namely:

a) When the "multi-wheeled cycle" claim was first presented in the first application it was supported under section 112 only by the disclosure of

the bicycle found in the first application. **The section 112 support for "multi-wheeled cycle" was "bicycle".** [2] Most likely (but not necessarily), a fair reading of the "multi-wheeled cycle" claim would have included tricycles too.

b) However, when said "multi-wheeled cycle" claim was transferred into the second application, it was now supported under section 112 only by the disclosure of the tricycle found in the second application - i.e. being that the bicycle disclosure of the first application was not carried forward into the second application. **The section 112 support for "multi-wheeled cycle" was now "tricycle".** [3] Thus, a fair reading of this same claim now necessarily (not just "most likely") includes the tricycle.

Thus, if priority under section 120 is accepted, then via the filing of the alleged CIP, it appears that applicant has effectively put everyone on notice (via the new disclosure of the CIP) that he invented the tricycle at the time he actually invented the bicycle. [4] ***Can this be right/proper?***

B) Hypothetical situation #2:

a) An applicant files a first application that **ONLY** discloses a bicycle. In this first application, the applicant presents a first claim for a "multi-wheeled vehicle".

b) Three years into the prosecution of the first application, this applicant becomes aware of someone who invented the tricycle.

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[2] The "multi-wheeled cycle" limitation broadly recites the "bicycle" being that the instant written description must describe the invention that is claimed.

[3] Now, the new "multi-wheeled vehicle" limitation now broadly recites the "tricycle" being that the instant written description must describe the invention that is claimed.

[4] In Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111, 1114, it was noted that one might be inclined to question the purpose of a separate written description requirement of section 112 in view that "the invention" is in fact the subject matter that is defined by the *claims* being considered:

> **"One may wonder what purpose a separate 'written description' requirement serves, when the second paragraph of 112 expressly requires that the applicant conclude his specification 'with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.'"**

Reasons for having the separate descriptive requirement, as noted in In Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111, 1115, included the following:

> **1) An adequate written description of the invention provides a "warning an innocent purchaser, or other person using a machine, of his infringement of the patent;**
> **and at the same time taking from the inventor the means of practicing upon the credulity or fears of other persons, by pretending that his invention is more than what it really is, or different from its ostensible objects, that the patentee is required to distinguish his invention in his specification"; and**
> **2) An adequate written description of the invention "guards against the inventor's overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation."**
> [Vas-Cath Inc. V. Mahurkar (CA FC) 19 USPQ2d 1115]

c) At this point, applicant files a second application that **ONLY** discloses the tricycle (it does not disclose the bicycle of the first application). Applicant alleges that this second application is "CIP" of the first application. Applicant then transfers the "multi-wheeled vehicle" claim from the first application into this second application and claims priority for the transferred claim, under section 120, back to the first application. Applicant then abandons the first application.

d) Two years into the prosecution of the CIP application, applicant becomes aware of someone who invented the automobile.

e) At this point, applicant files a third application that **ONLY** discloses the automobile (it does not disclose the bicycle of the first application or the tricycle from the second application). Applicant alleges that this third application is "CIP" of the second application that is a CIP of the first. Applicant then transfers the "multi-wheeled vehicle" claim from the second application into the third application. Applicant then abandons the second application.

Is the claim in this third application entitled to the earlier filing date of the first application under section 120?

a) When the "multi-wheeled vehicle" claim was first presented in the first application it was supported under section 112 only by the disclosure of the bicycle found in the first application. **The section 112 support for "multi-wheeled vehicle" was "bicycle".** [5]

b) When the "multi-wheeled vehicle" claim was transferred to the second application it was then supported under section 112 only by the disclosure of the tricycle found in the second application. **The section 112 support for "multi-wheeled vehicle" was then "tricycle".** [6]

C) Now that the "multi-wheeled vehicle" claim has been transferred to the third application it is now supported under section 112 only by the disclosure of the automobile found in the second application. **The section 112 support for "multi-wheeled vehicle" is now "automobile".** [7]

Thus, if priority under section 120 is accepted back to the first application, then via the filing of two alleged CIP applications, applicant has effectively put everyone on notice (via the disclosure of the second CIP) that he invented the automobile at the time he actually invented the bicycle. [8] ***Can this be right/proper?***

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[5] The "multi-wheeled vehicle" limitation broadly recites the "bicycle" being that the instant written description must describe the invention that is claimed.

[6] The "multi-wheeled vehicle" limitation broadly recites the "tricycle" being that the instant written description must describe the invention that is claimed.

[7] The "multi-wheeled vehicle" limitation broadly recites the "automobile" being that the instant written description must describe the invention that is claimed.

[8] In Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111, 1114, it was noted that one might be inclined to question the purpose of a separate written description

1) Clearly, the answer might have been "yes" had the disclosure of "the bicycle" from the first application actually been carried forward into the disclosures of the second and third applications being that the claim could have been legitimately supported by "common subject matter" found in all three applications of the chain (i.e. said disclosed bicycle).

2) The answer is also "yes" when one adopts applicants' position that, to obtain section 120 priority, one needs only shown that each application provides some kind of section 112 support for the claim ***regardless of whether the section 112 support provided by each application is similarities or not.*** However, applicants' position seems flawed because it appears to confuse the section 112 requirements of section 120 with the "anticipation" standard section 102. That is, while the "multi-wheeled vehicle" claim is arguably "anticipated" in accordance with section 102 by the "bicycle" of the first application, by the "tricycle" of the second application, and by the "automobile" of the third application, the claim construction for the "multi-wheeled vehicle" limitation (i.e. the section 112 support for the claim) has clearly morphed during its travel from the first application through the second CIP application and to the third CIP application:

a) The claim construction (i.e. the section 112 support) was "bicycle" when the claim was originally presented in the first application;

b) The claim construction (i.e. the section 112 support) was morphed to "tricycle" when the claim was transferred to the second application; and

c) The claim construction (i.e. the section 112 support) was morphed to "automobile" when the claim finally landed in the third application.

That is, the claim construction (i.e. section 112 support) for the "multi-wheeled vehicle" claim in the third application is "automobile". Being that this claim construction (i.e. section 112 support) was not provided by either of the first and second applications it is the examiner's understanding that this claim (i.e. its construction) is not entitled to section 120 priority back to either the first or

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requirement of section 112 in view that "the invention" is in fact the subject matter that is defined by the *claims* being considered:

> **"One may wonder what purpose a separate 'written description' requirement serves, when the second paragraph of 112 expressly requires that the applicant conclude his specification 'with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.'"**

Reasons for having the separate descriptive requirement, as noted in In Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111, 1115, included the following:

> **1) An adequate written description of the invention provides a "warning an innocent purchaser, or other person using a machine, of his infringement of the patent;**
> **and at the same time taking from the inventor the means of practicing upon the credulity or fears of other persons, by pretending that his invention is more than what it really is, or different from its ostensible objects, that the patentee is required to distinguish his invention in his specification"; and**
> **2) An adequate written description of the invention "guards against the inventor's overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation."**
> [Vas-Cath Inc. V. Mahurkar (CA FC) 19 USPQ2d 1115]

second application; i.e. despite applicants' position to the contrary. That is, while both descriptions provide respective 112-1 support for the claims, the respective descriptions/constructions do not appear to be legal equivalents.

To accept such an allegation of section 120 priority seems to confuse the issue of "anticipation" under section 102 with the requirements of Section 112 that have been literally incorporated into Section 120. That is, to be entitled to section 120 priority, the Section 112 support that is provided by the respective specifications of the continuing applications must be for the "same invention" (regardless of wording); i.e. the respective descriptions must be legal equivelants with respect to that which is claimed. [9]

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[9] It is ridiculous for applicants to suggest that the section 120 issue being raised by the examiner is the result of mere differences in "wording" between the 1981 descriptions of the discarded 1981 parent specification and the 1987 descriptions of the instant 1987 CIP specification - as applicants would like to have one believe [SEE: lines 4-9 on page 41 of the response filed 1/9/2003 in 08/470,571]. Evidence of this is found in the fact that applicants have been unable to cite respective 1981 and 1987 descriptions in support of the claims that are the same/equivalent except for their wording. To the contrary, in all cases presented thus far, applicants have ultimately been forced to argue that the cited 1981 and 1987 descriptions are "equivalent" when one overlooks and ignores the improved/enhanced/expanded 1987 SPAM subject matter that comprises the described "present invention" of the instant 1987 CIP specification.

However, what is applicants' basis and justification for ignoring and discarding the new 1987 CIP descriptions when constructing the instant claims? Can applicants properly use the ***discarded*** 1981 specification to squeeze ***discarded*** 1981 subject matter from the new 1987 CIP SPAM subject matter that is actually described in the instant 1987 CIP specification? Can applicants properly use broadly drafted "quasi-generic" claims as the tool to allege that only ***discarded*** 1981 subject matter from the ***discarded*** 1981 specification is being claimed when, in fact, the section 112 support for the claims necessarily comes from the new 1987 CIP SPAM subject matter that is (by definition) the "present invention" of the instant 1987 CIP specification?

A-6) While different, the fact pattern of the instant application has some significant similarities to the hypothetical examples discussed above:

A) First, like the hypothetical examples cited above, current applicants literally *discarded* the specification of their 1981 parent application at the time they drafted and filed the instant 1987 CIP disclosure. That is, the written description of the 1981 parent specification was replaced by the new 1987 written description of the instant 1987 CIP specification; i.e. being that applicants elected not to carry forward (i.e. formally incorporate) 1981 specification therein. More to the point, like the hypothetical examples cited above, via the filing of an alleged CIP application, the current applicants have effectively replaced the description of 1981 apparatus, 1981 methods, and 1981 signaling of the 1981 parent specification with "expanded"/"enhanced"/"improved" descriptions of the 1987 "SPAM" apparatus, 1987 "SPAM" methods, and 1981 "SPAM" signaling that comprise the "present invention" of the instant 1987 CIP specification. Note:

1) Applicants have acknowledged that the description of inventions that is provided by the 557 pages of their instant 1987 CIP specification is different than the description of inventions that was provided by the 44 pages of their original 1981 parent specification. This acknowledged difference comes as no surprise being that:

a) The 1987 written description of the instant 1987 CIP specification is more that 510 pages longer than, and more than 12 times the length of, the 44 page written description of the 1981 parent. Clearly, at best, a substantial amount of new 1987 subject matter has unquestionably been added via the filing of the instant 1987 CIP; and

b) The 1987 description of the instant 1987 CIP is entirely "new" in the sense that the written description of the 1981 parent specification was neither incorporated into the 1987 CIP specification "by reference" nor was it incorporated into the 1987 CIP specification in any immediately discernible fashion. This makes it extremely difficult to determine exactly how much of the 1981 subject matter, if any, was carried forward into the specification of the 1987 CIP in a way that does not constitute "New Matter".

In fact, applicants themselves have used terms such as "expanded", "enhanced", and "improved" to characterize the content of the "new" 1987 descriptions of the 1987 CIP when compared to the content of the past 1981 descriptions of the discarded [10] 1981 parent specification.

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[10] The term "discarded" accurately describes the present situation because of applicants choice not to, or failure to, incorporate the past 1981 specification into the instant 1987 CIP specification "by reference", or in any unmodified, unenhanced, unexpanded, and unimproved way whatsoever. That is, the 1981 parent specification is not part of the "instant 1987 CIP specification" due to the lack of formal/proper incorporation therein; i.e. the past 1981 parent specification itself having therefor been "discarded" in favor of the new 1987 CIP specification. The result being that the new 1987 CIP specification stands alone as the "instant specification" upon which any and all section 112 issues must be judged.

2) The 1987 "SPAM" acronym was specifically coined by, and used throughout, the instant 1987 CIP specification to refer to the:

> **"Signal Processing Apparatus and Methods of the present invention" (emphasis added) [e.g. note page 40 of the instant 1987 CIP specification]**

This "SPAM" acronym provides clear evidence that the "present invention" described in the instant 1987 CIP specification was, by definition, the expanded/enhanced/improved 1987 SPAM signal processing apparatus and methods described therein.

Moreover, within the instant 1987 CIP specification, the auxiliary signaling that was conveyed by the 1987 "SPAM" apparatus and methods was explicitly identified as being "SPAM" signaling; i.e. the described "signals" of the "Signal Processing Apparatus and Methods of the present invention" of the 1987 CIP. **These "SPAM signals" were described by the 1987 CIP as having comprised the sophisticated signal packet structure that is shown in figures 2E-2K of the instant 1987 CIP specification. No such sophisticated packet structure was ever shown or described with respect to the auxiliary signaling found in the discarded 1981 parent specification. Being such, the 1987 SPAM signaling represents a significant difference between the instant and discarded specifications in that it was the introduction of this sophisticated 1987 SPAM signal packet structure into the 1987 CIP which provided a transport mechanism by which the expanded/enhanced/improved 1987 SPAM apparatus and methods of the 1987 CIP specification were enabled to carry complex control and instruction information including, most significantly, "computer software". That is, it was the sophisticated packet structure of the 1987 SPAM signaling which provided the mechanism by which large sequences computer software code could be downloaded from an upstream transmitter location to a plurality of receiver locations; i.e. a feature that was not described nor provided for within the 1981 systems and methods of the discarded 1981 parent specification - despite applicants' allegation to the contrary [SEE: Appendix IV attached hereto].**

Also Note: Appendix III and Appendix V attached hereto.

B) Thus, as with the hypothetical examples cited above, via the filing of the instant 1987 CIP application and a claim for section 120 priority back to a discarded 1981 parent specification, it seems that applicants are effectively putting everyone on notice (via the expanded/enhanced/improved disclosure of the instant 1987 CIP) that they invented the 1987 SPAM apparatus/methods/signaling of the instant 1987 CIP specification at the time they actually invented lesser 1981 methods/apparatus/signaling of the discarded 1981 parent specification. That is:

1) By *discarding* the 1981 parent specification via the filing of the 1987 CIP specification, applicants literally force the instant claims to be "constructed"/construed in the context of the new expanded/enhanced/improved 1987 SPAM apparatus/methods/signaling that comprise the "present invention" of the instant 1987 CIP specification [11]; while

2) By claiming section 120 priority for these required 1987 claim "constructions", applicants effectively obtain an earlier 1981 filing date for these 1987 claim "constructions". [12]

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[11] Being that the instant specification from which all section 112 support must be derived is the instant 1987 CIP specification ***alone***.

[12] Being that the discarded 1981 parent specification did not disclose the 1987 SPAM apparatus/methods/signaling and therefor does not provide section 112 support for the same 1987 CIP claim constructions.

If permitted, such a process can improperly bestow real and significant advantages on applicants who file CIP applications in this fashion.[13] Something is amiss. Clearly, priority under section 120 was provided as a way for preserving property rights and not as a way for going back retroactively and "expanding", "enhancing", and "improving" upon existing rights via one or more subsequently filed enhanced/improved/expanded CIP disclosures.

C) On pages 47 and 48 of the response filed 1/29/2003 in 08/487,526 applicant states the following:

> "Applicants acknowledge that the 1987 disclosure contains numerous improvements and enhancements of the 1981 disclosure. Not withstanding this fact, as long as each of applicant's inventions claimed in the instant application is described adequately in both specifications, the test under [section] 120 is met"

<The examiner agrees in part. The examiner notes, however, that the respective section 112 support for that which is claimed (the description requirement, the enablement requirement, and the best mode requirement) must be to the "same invention"; the requirements of section 112-1 of section 120 must not be confused with "anticipation" under section 102>

> "If applicants attempt to include limitations of the improvement and enhancements from the 1987 specification in a given claim, that claim ***could not*** receive priority under [section] 120 because the claim could not be supported under [section] 112 by the subject matter disclosed in the 1981 specification." [emphasis added]

<The examiner agrees with this statement noting that "could not" actually means: -- should not --; or -- could not legally -->

> "This does not mean, however, that applicant cannot rely on passages from the 1987 specification that include those improvements and enhancements to support a claim that does not include those improvements and enhancements. **The question is whether or not the provided 1987 support *describes the more basic inventions being claimed*, regardless of whatever else those passages may also describe**" (emphasis added)

<Clearly, under section 112, the instant 1987 CIP specification must describe "the inventions" being claimed. If there are passages (or portions thereof) within the instant 1987 CIP specification that actually describe applicants' alleged "more basic inventions", as is clearly implied by applicants' argument, then why do applicants not specifically cite these teaching of "the more basic inventions" as being the required section 112 support for that which is claimed. How can applicants cite passages that describe enhanced/improved/expanded 1987 subject matter **to support the claims' limitations under section 112**, and then turn around and argue that the claims are really directed to a "more basic" invention that is, allegedly, embedded somewhere within the cited

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[13] It would enable an applicant to use CIP practice to enhance/improve/expand the way in which a given "quasi-generic" claim must be construed without loss of filing date.

passages to obtain an earlier effective filing date for that which is claimed. How does applicant propose one (e.g. a member of the public or an examiner) discern the "more basic inventions" that are allegedly being claimed from the expanded/enhanced/improved inventions that are actually described in the instant 1987 CIP specification when, during the course of prosecution, applicants themselves have explicitly cited this enhanced/improved/expanded 1987 subject matter as being the section 112 support for that which is claimed. In reality, is it not the expanded/enhanced/improved 1987 subject matter that is really being claimed, albeit broadly, as opposed to the 1981 inventions which were discarded along with the 1981 specification?
Again, do applicants' believe that multiple claim constructions can properly exist for each of the claims in question?

> a) That there can be a first 1987 claim construction that results when a claim's limitations are ***fully*** construed in light of the enhanced/improved/expanded 1987 SPAM subject matter of "present invention" that is actually described by the instant 1987 CIP specification; and, at the same time,
>
> b) A second "more basic" claim construction that results when the claim's limitations are ***less than fully*** construed in light of alleged "more basic" teachings which applicant attempts to selectively carve/infer from the *cited* enhanced/improved/expanded 1987 CIP teachings by suggesting that the enhancements/improvements/expansions that comprise the descriptions of the instant 1987 specification simply be discounted and ignored, even though it is this un-carved enhanced/improved/expanded 1987 CIP subject matter that applicant explicitly cites as being the section 112 support for that which is claimed. [14]

To the contrary, the examiner maintains that only one claim construction can properly exist for each claim in question, and that is the one that results when the claim is **fully** construed in light of the entire enhanced/improved/expanded written descriptions that comprise the *instant* 1987 CIP specification from which the instant claims necessarily derive their required section 112 support. If and only if, for each claim in question, its one proper claim construction finds "equivalent" section 112 support in the discarded 1981 parent specification too, e.g. if it in fact the claim recites "common subject matter", is the claim entitled to the earlier 1981 filing date of the discarded 1981 parent specification under section 120. The respective description must be legal equivalents and must describe the same invention>.

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[14] That is, under section 112 applicants seem to indicate that they are in fact claiming the enhanced/improved/expanded 1987 subject matter, being that it is enhanced/improved/expanded 1987 subject matter that is explicitly cited by applicant as being the required section 112 support for that which is claimed. In contrast, under section 120 applicants seem to argue/"pledge" that the claims are only directed to that portion of this cited enhanced/improved/expanded 1987 subject matter that allegedly corresponds to lesser 1981 apparatus/methods/signaling that were described in the *discarded* 1981 parent specification. The problem is, however, that the instant 1987 CIP specification does not support applicants' argument/"pledge" made under section 120 that the claims should be constructed/construed as being directed to the lesser 1981 subject matter of the discarded 1981 specification being that this lesser 1981 subject matter was not carried forward into the instant 1987 CIP specification in any immediately discernible fashion (nor in a way that does not incorporate prohibited "new matter").

A-7) "Pledge Theory":

A) Applicants' allegation, under section 120, that certain ones of the 328 bulk filed applications (i.e. the claims contained therein) are entitled to the 1981 effective filing date could be proven, where/when necessary, if applicants were to:

1) Specifically identify the "common subject matter" that allegedly exists within both the instant 1987 CIP specification and the *discarded* 1981 parent specification;

2) Draft the claims to be specifically directed to this identified "common subject matter"; and

3) Submit arguments indicating that the drafted claims are to be constructed and construed based on so identified "common subject matter".

B) However, in contrast to this approach, applicants seem to summit conflicting arguments. Namely, applicants have and continue to:

1) Submit arguments, when dealing with section 112 issues, taking the position that the claims must be constructed/construed in light of all the 1987 subject matter that is contained throughout the 557 pages of the instant 1987 CIP disclosure and, therefor, should not constructed/construed as being directed to the specific passages of the 1987 CIP specification that have been cited by applicants in support of the claims for, according to applicants' arguments, these passages have only been cited as "exemplifying" one of the many ways in which the claims allegedly find section 112 support by descriptions found throughout the 557 pages of the instant 1987 CIP disclosure; and, in contrast,

2) Submit arguments, when dealing with the 1981 section 120 priority issue, taking the position that the claims should not be construed/constructed in light of all the subject matter that is described in the 557 page instant 1987 CIP disclosure, but rather that the claims should be construed/constructed in light of alleged "more basic inventions" that supposedly exist buried somewhere within the enhanced/expanded/improved subject matter that is described by the specific passages of the 1987 CIP disclosure cited by applicants.

> **"Applicants acknowledge that the 1987 disclosure contains numerous improvements and enhancements of the 1981 disclosure. Not withstanding this fact, as long as each of applicant's inventions claimed in the instant application is described adequately in both specifications, the test under [section] 120 is met.....If applicants attempt to include limitations of the improvement and enhancements from the 1987**

> **specification in a given claim, that claim could not receive priority under [section] 120 because the claim could not be supported under [section]**
>
> **112 by the subject matter disclosed in the 1981 specification.....This does not mean, however, that applicant cannot rely on passages from the 1987 specification that include those improvements and enhancements to support a claim that does not include those improvements and enhancements..... The question is whether or not the provided 1987 support *describes the more basic inventions being claimed*, regardless of whatever else those passages may also describe"** (emphasis added)
> [pages 47 and 48 of the response filed 1/29/2003 in S.N. 08/487,526]

C) Applicants' contrasting arguments seems to indicate that applicants believe it proper for a given claim of a patent application to have multiple "constructions"; i.e. a first "all encompassing" construction that occurs when the claim is construed in light of the entire 1987 CIP specification (i.e. the "standard" argued by applicants when addressing section 112 support issues); and a second "more basic" construction that is limited to "more basic inventions" (i.e. the "standard" argued by applicants when addressing 1981 section 120 priority issues). Accepting this multiple claim construction argument seems to permit a process in which an applicant can draft claims which must necessarily be constructed/construed in light of "new subject matter" of a CIP application and yet, at the same time, permitting the so construed/constructed claims to capture the earlier effective filing date of a parent application which did not include the same or equivalent descriptions of this new CIP subject matter.

The examiner does not believe that such a process is permitted under Section 112-1 as incorporated into Section 120. As understood by the examiner, applicants' instant claims must be given the "all encompassing" 1987 construction as provided by the entire instant 1987 CIP specification [unless, perhaps, applicants were to submit arguments indicating otherwise (i.e. arguments which limit the way in which the claim are constructed/construed to specifically identified "common subject matter")]. The examiner maintains that the instant claims are entitled to the 1981 filing date only if/when applicant can show that this all encompassing 1987 construction finds the same/equivalent all encompassing construction in the 1981 parent specification too.

A-7) "Smudge Theory":

During the present prosecution, the examiner noted that any claim which recites even the smallest amount of "new matter" from the instant 1987 CIP specification is, at best, only entitled to the 1987 effective filing date of the CIP application which first introduced this "new matter"; e.g.

> **"Why should a pending claim having limitations that are directed to even a smudge of new 1987 subject matter be entitled to the earlier 1981 filing date of the Parent specification which did not disclose that smudge of new subject matter?"**

The examiner finds nothing controversial in this stated position. Yet, on pages 29 and 30 of the response filed 1/9/2003 in 08/470,571, applicants feel the need to refute the examiner's position (as stated). However, elsewhere within the same response, e.g. the sentence that begins in the last two lines on page 42, applicants' affirm the examiner's position in their own words.

> **"If applicants attempt to include limitations of the improvement and enhancements from the 1987 specification in a given claim, *that claim could not receive* priority under [section] 120 because the claim could not be supported under [section] 112 by the subject matter disclosed in the 1981 specification."** (emphasis added)

For the sake of argument, the examiner accepts and hereby adopts applicants' wording of this issue. [15]

[15] It is noted, however, that there is no way for the examiner to formally reject a claim under section 112-1 based on the 1981 disclosure being that the instant disclosure is the instant 1987 CIP specification, and not the *discarded* 1981 specification. Thus, within applicants' cited statement, it seems more accurate if the phrase "that claim **could** not receive" where changed to read --that claim **should** not receive" [i.e. if applicants' claim to the 1981 effective filing date was accepted, and if applicants claim to the 1981 date was erroneous/flawed, then the claim "would" receive priority under section 120 during prosecution when, in reality, said claim "should" not have received priority].

X

B. REAL CHANGES IN THE SUBSTANCE OF THE WRITTEN DESCRIPTION:

B-1) As noted above all CIP applications are not "true" CIP applications. That is, if the CIP application introduces "NEW MATTER" which alters the substance of the invention ***being claimed***, then the CIP is not a true continuation and claims which recite such altered subject matter are not entitled to the effective filing date of the parent under section 120.

> **"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time"**
> [Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]

After all, one is not allowed to use CIP practice as a vehicle to expand the substance of the invention without the loss of effective filing date.

> **"Unlike the enablement provision of section 112, where the disclosure of a single species might be sufficient to enable a practitioner skilled in the art to make and use any member of the genus,....., the written description requirement of section 112 requires more. *See Vas - Cath, supra.* *This strict reading of the written description requirement prevents an inventor from surreptitiously expanding a patent through successive continuation-in-parts.* *See id. At 1562.* Essentially, it limits the claims of an applicant to those inventions he clearly discloses, either expressly or inherently"** (emphasis added)
> [Tronzo v. Biomet Inc. (DC SFla) 41 USPQ2d 1403 [16] citing Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111]

QUESTION: Has the "NEW MATTER" that has been introduced by the "expanded", "enhanced" and "improved" descriptions of applicants' 557 page 1987 CIP disclosure changed the "substance" of the claimed invention?

B-2) Obviously, the answer to this question:

> a) Can only be answered, specifically, on a claim by claim being that section 120 priority pertains to the *claimed* invention; and
>
> b) Needs only be addressed/considered when priority to the earlier filing date is actually needed to overcome applied intervening prior art; i.e. the issue is moot when valid intervening prior art has not been applied against the claim.

[16] NOTE: this case was appealed [Tronzo v. Biomet (CA FC) 47 USPQ2d 1829]

B-3) Certainly, however, changes to the "substance" of that which is described by written description have been effected at all levels of the disclosure via the "new matter" that has been introduced by the drafting and filing of the instant 1987 CIP application: e.g.,

1) To describe the 1981 systems and methods, applicants utilized their right to be their own lexicographer and, within the 1981 parent specification, explicitly coined and defined various terms to have specific 1981 meanings. Much of the same terms/terminology has been carried forward into the description of the 1987 CIP. However, the presence of the common terminology gives a false sense of commonality between the 1981 and 1987 CIP specifications because in drafting the 1987 CIP disclosure, applicants again utilized their right to be their own lexicographer and explicitly re-coined and re-defined much of the same terminology to have different broadened/expanded 1987 CIP meanings. To the extent that these broadened/expanded 1987 definitions impart new broadened/expanded changes to the substance of the inventions that are now claimed, priority under section 120 to the 1981 effective filing date has been lost.

2) The 557 pages of the 1987 CIP specification describe many 1987 CIP "applications". While some of these 1987 "applications" are related to 1981 "applications" that were previously described in the discarded 1981 parent specification (e.g. the respective 1981 and 1987 "WALL STREET WEEK" applications), many of the described 1987 CIP "applications" are entirely new (e.g. the 1987 "Exotic Meals of India" application beginning @ line 39 in column 260 of US patent #5,233,654 and the 1987 "Farm Plans of Europe" application beginning @ line 25 in column 295 of US Patent #5,233,654). To the extent that these new 1987 CIP applications effect changes in the substance of the inventions that are now claimed, priority under section 120 to the 1981 effective filing date has been lost.

3) As noted above, some of the 1987 CIP application are "related" to the discarded 1981 applications. The most notable one of the related applications being the respective 1987 and 1981 "WALL STREET WEEK" applications; being that these related applications are most often cited and relied upon by applicants as the basis for claiming section 120 priority to the 1981 effective filing date. Despite the fact that they are "related", the 1987 CIP "WALL STREET WEEK" application is significantly different from the 1981 "WALL STREET WEEK" application; e.g.

a) The embedded instruct and information signals of the 1987 CIP "WALL STREET WEEK" application utilized discrete 1987 "SPAM" packet structures as the transport mechanism for the long sequences of data that were transported within the video signal in an asynchronous fashion. In contrast, the 1981 "WALL STREET WEEK" application utilized short

discrete codes sequences to trigger/cue certain receiver side actions wherein these short code sequences where transported synchronously within the video signal at one or more discrete "signal word" locations;

b) The embedded instruct and information signals of the 1987 "WALL STREET WEEK" application comprised "computer software" and the instruct and information signals of the 1981 application clearly did not. And, quite obviously, it was the introduction of said 1987 discrete "SPAM" transport mechanism that enabled the long code sequences of the 1987 "software" to be conveyed/transmitted within the video signal;

c) The 1987 overlays that were generated at the 1987 receivers of the 1987 "WALL STREET WEEK" applications were generated by the 1987 microcomputer under control of "computer software" that was downloaded to it as a 1987 "instruct signal" at the beginning of the 1987 "WALL STREET WEEK" program transmission. The 1981 instruct signals, on the other hand, did not carry the "software" and 1981 microcomputers of the 1981 application were therefore **preprogrammed** with said 1981 software;

d) The synchronous nature of the 1981 "signal word" transport mechanism of the 1981 "WALL STREET WEEK" applications has a built in inflexibility due to the fact that the 1981 receivers must be preprogrammed to know in advance exactly where to look within the video transmission, and exactly where to look within one or more specific 1981 "signal word" locations, for the discrete 1981 trigger/cuing codes that it needs to detect. This implicit inflexibility seems to explain why it was the presence/absence of 1981 trigger/cuing code that was used as an on/off switching signal for causing the 1981 microcomputers to begin/cease conveying their locally generated images to an associated TV Sets for overlay with a video thereat.
In contrast, the implicit flexibility provided by the asynchronous nature of the 1987 "SPAM" transport mechanism seems to explain why the 1987 "WALL STREET WEEK" application utilized two separate instruct codes to cause the 1987 microcomputers themselves to begin and cease the overlay of the locally generated image upon a received video signal prior to providing the "combined" signal resulting therefrom to a 1987 "video monitor".[17]

[SEE: "APPENDIX I" attached hereto]

[17] Note too, that is the 1987 microcomputer of the 1987 receiver which effects the overlay prior to display on the 1987 TV monitor, whereas it was the 1981 TV set of the 1981 receivers which effected the overlay during display.

To the extent that the new 1987 CIP "WALL STREET WEEK" application effects changes in the substance of the inventions that are now claimed, priority under section 120 to the 1981 effective filing date has been lost.

4) Not only has the 557 pages of the instant 1987 CIP specification effected significant changes to the substance of the described invention via the new and related 1987 "applications", but the 1987 specification also effects significant changes to the substance of the described inventions via changes/additions/modifications that have been made to the system structure itself; i.e. a fact that is readily apparent by comparing the figures of the 1987 CIP specification to the figures of the discarded 1981 specification.
To the extent that the new 1987 CIP system circuitry/structure effects changes in the substance of the inventions that are now claimed, priority under section 120 to the 1981 effective filing date has been lost.

X

C. TELETEXT "PRIOR ART":

C-1) When applying "prior art" against pending amended claims, it is both proper and fair for the examiner to draft a rejection based on the ordinary level of skill in the art that existed at the time of applicants' alleged invention. Being such, when applying the prior art of record against the pending amended claims, it is both proper and fair for the examiner to assume that one of ordinary skill in the art would have understood the way in which "standardized" teletext transmission systems operated to format and distribute "pages" of teletext data through conventional TV networks. Namely, it should NOT be necessary for the examiner to provide teachings in order to explain/evidence the "basics of teletext", for such basics were notoriously well known and would have been understood by one of ordinary skill in the art at the time of applicant's alleged invention.

Despite this fact, applicants continues to submit arguments that mischaracterize the way in which "standardized" Teletext systems operated to convey Teletext data through conventional TV networks. Via such arguments, applicants not only impose an unrealistically low level of skill onto section 102 and 103 issues, but applicants effectively place a heavy burden on the examiner to provide an education in what was notoriously well known (i.e. to try to ensure that the teachings/showings of the applied Teletext "prior art" are considered in the context that they would have been read and understood by one of ordinary skill in the art at the time of applicants' alleged invention). For example, when a piece of applied Teletext "prior art" refers to Teletext "pages", there should be no need for the examiner to explain what a Teletext "page" is, what the teletext page comprises, and how the teletext page conveys its data/information. Most certainly, one of ordinary skill in the art would have known such facts! To the point:

C-2)

1) "Discrete signals":

When applicants mischaracterize teletext prior art by alleging that conventional teletext "pages" were not comprised of "discrete signals", applicants force the examiner to provide explanations and showings that should be unnecessary. This adds an appearance of complexity to rejections made under section 102 and 103 where there should be none. Here, it is interesting to note that much (if not most) of the "prior art" which has been submitted for consideration by applicant during the present prosecution is in fact teletext "prior art", thereby indicating that the examiner is not the only person who recognizes the significant relationship that clearly exist between "extended" teletext packet systems and the "SPAM" message packet structure of applicants' own claimed invention(s). In submitting such prior art for consideration, applicant appears to be aware of this significant relationship too.

For clarity of the record:
The examiner maintains that one of ordinary skilled in the Teletext transmission art would have understood that substantially all (if not all) "standardized" Teletext transmission systems operated by:

1) Breaking each complete displayable or non-displayable form of Teletext information down into a plurality of discrete "information portions" that can be conveyed via the available bandwidth;

2) Utilizing "discrete packet signals" to carry these created discrete information portions through a given TV network by embedding each of the discrete packet signals into a respective video line interval of distributed TV programming; and

3) Recovering desired ones of the complete displayable and non-displayable forms of Teletext information on the receiver side of the system via a Teletext decoder that functioned:

a) To receive the distributed TV signals containing the embedded discrete Teletext packet signals;

b) To separate the embedded discrete Teletext packet signals from the received TV signals;

c) To decode the separated discrete Teletext packet signals and to extract those information portions therefrom which correspond to a respective complete displayable or non-displayable form of Teletext information desired by the receiver side of the system;

d) To organize (e.g. re-organize) the extracted information portions so as to recover the desired complete displayable or non-displayable form of Teletext information; and

e) To use the recovered complete displayable or non-displayable form of Teletext information at the receiver side to:

1. Instruct the receiver side of the system as to how to "locally generate" a displayable Teletext image when the recovered information represents a displayable image;

2. Trigger equipment of the receiver side of the system to take certain action when the recovered information represents equipment control signaling;

3. Load a computer/microprocessor at, or within, the receiver side of the system when the recovered information represents "Telesoftware";

4. Identify the TV program and/or the TV network of the programming currently being received; and

5. ETC,...

In the response filed on 1/28/02 in SN 08/470,571, applicant refutes the fact that one of ordinary skilled in the art would have had such a basic understanding of "prior art" Teletext systems. Applicant goes so far as to characterize the examiner's position concerning the inherent existence of "discrete signals" within standardized Teletext transmission systems as only being "hypothetical" in nature [e.g. lines 4-9 on page 356 of the amendment filed 1/28/02 in SN 08/470,571]. The examiner could not disagree more. Hence, via "APPENDIX VIII' of this Office action, the examiner attempts to establish a "floor" below which applicants' erroneous characterizations, misunderstandings, and/or misrepresentations of the conventional Teletext "prior art" should not be allowed to sink. [18] [19] [20]

[18] The 1979 publication entitled "THE CONCEPT OF A UNIVERSAL 'TELETEXT' (BROADCAST AND INTERACTIVE VIDEOTEX) DECODER, MICROPROCESSOR BASED" by Marti is also cited for its showing and descriptions of "universal" videotex decoder structure and processing [e.g. NOTE: The description under the heading "2-POSITION OF THE PROBLEM" on page 1 of the publication; figure 3; etc,...).

[19] The 1980 publication entitled "Broadcast Text Information in France" by Marti is cited for its brief descriptionof teletext packet structure [note lines 2-14 on page 361].

[20] Note too the summary of "well known" teletext packet structure in lines 11-22 in column 1 of US Patent #4,660,202 to Woodsum.

C-3)

2) "LOCALLY GENERATED":

Applicants continue to allege that displayed teletext images are not "locally generated" images. The examiner disagrees and, again, notes the following:

1) Teletext transmission systems conventionally comprised:

a) At least one teletext editing terminal that was located on the transmission side of the TV network; and

b) A plurality of teletext decoders that were located within respective TV receivers (or attached thereto) on the receiver side of the TV network.

Each teletext editing terminal and each teletext decoder conventionally comprised a memory that stored randomly accessible display data representing a limited repertoire of displayable character/graphic fonts and symbols.

At the editing terminal, a teletext editor created each page of teletext data by entering a sequence of commands into the editing terminal, wherein the entered sequence of commands defined an instruction set which told the editing terminal as to how to select, assemble, and display pluralities of the stored character/graphic fonts and symbols so as to "generate" a desired teletext image. Once the desired image was completed, the teletext editing terminal operated to store data representing the so formulated instruction set as a respective teletext page (the "generated" teletext images themselves were not stored). A teletext scheduling terminal was then used to schedule the cyclical transmission of ones of the stored instruction sets, i.e. teletext pages, over the TV network.

On the receiver side of the TV network, each user inputted "user specific" data, e.g. user selected teletext page numbers, into their respective teletext decoder that was then locally stored within the decoder. This locally stored user specific data identified the teletext page or pages that were to be displayed by the respective TV receivers. In response to the stored page numbers, each teletext decoder searched through the cyclically transmitted instruction sets to find the instruction set that was labeled with the page number that corresponded to the locally entered and stored page number. Once detected, the discrete packets of the instruction set were captured, organized, and stored within the decoder. The captured and stored instruction set was then "executed" by decoder in

order to instruct the decoder as to how to select, assemble, and display pluralities of the stored character/graphic fonts and symbols from its own locally stored repertoire ***in order to "locally generate" the desired teletext image that was to be displayed.***

The accuracy of the examiner's position, concerning the fact that teletext page data represented instruction that teletext receivers/decoders executed in order to "locally generate" their displayed teletext images, is evident in the prior art of record:

> **"The first step in teletext service is the translation by a teletext editor of text, pictorial information and display attributes (such as color, flashing characters and so on) into a *series of instructions* to be transmitted to the teletext decoder. The instructions for each page in the teletext 'library' are then broadcast continuously on a revolving basis by multiplexing the data into the vertical blanking interval. The user accesses a desired page of teletext information by entering the page number, e.g. by pressing the appropriate buttons on a control unit. The teletext decoder then selects the page from the revolving transmission, stores the coded information in memory, processes that information to the extent necessary for display, and produces the page on the television screen. Where captioning is transmitted, the decoder will superimpose the captioning over the normal television picture" (emphasis added)**
> [Page 5 of the 3/26/1981 "Petition For Rulemaking" file with the FCC by the United Kingdom Teletext Industry]

> **"[Videotex] data transmitted do not represent directly the picture which is generated in the receiver, but encoded instructions to the receiving decoder"**
> [Lines 8-10 under the heading "1-Scope" on the first page of the article "The Concept of a Universal 'Teletext' (Broadcast and Interactive Videotex) Decoder, Microprocessor Based]

> **"The [teletext] receiving equipment can be conventionally thought of as consisting of three sections: a) signal acquisition, b) memory, c) *display generation*. The signal is acquired and suitably processed before being loaded into memory. Memory is repeatedly accessed by the display generation section *to obtain the instructions* which direct it to *create the images of alphanumeric and graphic characters* and place them on the screen" (emphasis added)**
> [The first paragraph under the heading "Receiving Equipment Options" on page 539 of the 1980 article "THE ROLE OF THE TELEVISION RECEIVER MANUFACTURERE IN THE UNITED STATES" by Ciciora et al.]

"It must be clearly held in mind that the [teletext] image displayed on the CRT *is synthetic video and that the synthesis is done locally*" (emphasis added)
[The first two lines under the heading "Synthetic Video" on page 545 of the 1980 article "THE ROLE OF THE TELEVISION RECEIVER MANUFACTURERE IN THE UNITED STATES" by Ciciora et al.]

"In a picture display device for displaying a mixed picture signal which signal comprises a conventionally received television

picture signal and *a locally generated signal, such as a teletext sub-title...*"
[The first 6 lines in the abstract of GB 2,062,401 patent document to Korver]

"Picture display devices of such type, have a picture screen on which a mixed picture signal can be displayed are known. By means thereof pictures can be displayed in which *locally generated* characters, drawing elements and similar items can be superimposed on a normal picture, for example a moving picture transmitted, for example, by a transmitter and received in a conventional manner. *Such a signal can be generated by, for example, a teletext decoder in the display device*" (emphasis added)
[The first paragraph under the heading "Background of the Invention" in column 1 of US Patent #4,347,532 to Korver]

C-4)

3) Computer implemented teletext decoders:

A) At the time of applicants' alleged invention, it was notoriously well known in the art to have implemented "basic" level teletext decoding circuitry, i.e. decoding circuitry that was capable of providing basic teletext decoding features, using dedicated logic circuitry [NOTE: figure 1 of Barnaby (U.S. Patent #3,982,064)]. The implementation of *basic* level decoders using dedicated circuitry was recognized as being practical given its low unit "cost"; i.e. such decoders were inexpensive to produce.

While not required/mandatory, at the time of applicant's alleged invention, it was also notoriously well known in the art to have implemented even said "basic" level teletext decoding circuitry using a software driven "computer" in place of some or all of the dedicated logic circuitry [Note: lines 50-54 on page 1 of Betts (GB # 1,556,366); and, Compare figure 1 of Betts (GB #1,556,366) to figure 1 of Barnaby (U.S. Patent #3,982,064)]. The computer implementation of teletext decoders was recognized as having been advantageous/desirable over dedicated circuitry implemented decoders due to their inherent flexibility [e.g. 70-73 on page 1 of Betts (GB # 1,556,366)].

In fact, the computer implementation of the teletext decoder was known to have been required/"mandatory" when implementing "advanced" level decoders capable of providing *advanced* teletext decoding and display features [e.g. note section 5.3.1.3 of the "EIA Systems Analysis Chart" (revised as of August 20, 1981)]. The additional cost of the computer implemented teletext decoder was even deemed "appropriate" at the time of applicant's alleged invention with regard to "intermediate" level teletext decoders [e.g. note section 5.2.1.2 of the "EIA Systems Analysis Chart" (revised as of August 20, 1981)].

B) Figure 3 on page 365 of the 1980 article "Broadcast Text Information in France" by Marti is described as being an illustration of: "The general structure of an Antiope receiver". As illustrated, the "decoder" within the "general structure" of the Antiope receiver was implemented using a software driven computer (i.e. the illustrated "microprocessor").

C) Figure 3 of 1979 publication entitled "THE CONCEPT OF A UNIVERSAL 'TELETEXT' (BROADCAST AND INTERACTIVE VIDEOTEX) DECODER, MICROPROCESSOR

BASED" by Marti is described as being illustrative of: "Structure of a 'universal" videotex decoder". As illustrated, the "processing unit" of the "universal" decoder structure comprised a software driven computer (i.e. the illustrated "microprocessor").
[Here, it is also significant to note that Marti expilcitly indicates that the software used to program the "microcomputer" could be provided and loaded into the universal decoder "from a line (broadcast or telephone)" [see the paragraph in lines 22 on page 6 of this publication]].

C-5)

4) The "Mixed" display mode:

A) It was notoriously well known by those of ordinary skill in the Videotex art, at the time of applicants' alleged invention, that Videotex transmission systems encompassed two components: 1) A one-way teletext system component; and 2) A two-way viewdata system component.

> **"Videotex has two distinct forms of information transmission – Teletext and Viewdata. Teletext is the transmission of textual data and graphics to a consumer adapted television set using broadcast transmission techniques. Viewdata is the interconnection of a home terminal device to a host computer via narrow band transmission facilities, such as a telephone line.**
> **Although Teletext and Viewdata display information on a consumer TV screen in similar fashion, they have managed to evolve separately. Each of the two techniques has its own advantages and disadvantages. In Teletext, data is sent as a recirculating data stream. The amount of data stream is limited only by the number of transmission scan lines available for data transmission and the predetermined acceptable latency between page selection and display. Viewdata provides almost instant access to a large number of display pages with minimum access time. However, because it is similar to a timesharing service, telecommunication and computer port requirements have high associated cost burdens."**
> [Pages 14 and 15 of the article "Videotex Services via CATV – Hybrid Systems Approach" by Dages].

B) At the time of applicant's alleged invention, it was notoriously well known in the Videotex art for Videotex display devices to have provided a ***"mixed display mode"*** in which Videotext image data was simultaneously displayed, as an overlay or inset, within the video component of received TV programming. Such a state of the art is clearly established via the following citations:

> 1) That which occurs when signal V2 is selected for display via button 16 of the remote control unit 9 shown in figure figure 4 of Oono et al. [JP 55-028691];
>
> 2) That which occurs when a combined signal is selected via selector switch "S" that is shown in figures 2 and 3 of Yokoyama [JP 54-154215];
>
> 3) That which occurs when input "2" of switch "3" in figure 4 of Hutt et al. [US #3,961,137] is selected for output;

4) That which is described in lines 29-44 on page of Turner [GB Patent #1,486,424;

5) That which is described in the last paragraph on page 356 of the article entitled "Teletext/Viewdata LSI" to Harden;

6) That which is described in lines 40-45 of column 4 of Ciciora [US Patent #4,233,628].

C) During the present prosecution, applicants' have alleged that said well known a ***"mixed display mode"*** of Videotex pertained only to the teletext form of Videotex and did not pertain to the Viewdata form of Videotex. The examiner maintains that applicants' allegation is erroneous. That is, while the ***"mixed display mode"*** of Videotex is often described in the prior art with respect to the teletext component of Videotex given the fact that Teletext often carried "program related" information requiring simultaneous display, those of ordinary skill in the art recognized nonetheless that the ***"mixed display mode"*** of Videotex was applicable to the Viewdata form of Videotex too. This fact is evident in the following citations:

1) The first three lines on page 11 of the PTO provided Tsuboka et al. translation [JP 55-45248] evidences the fact that the ***"mixed display mode"*** of Videotex systems were known to have applied to the display of the Viewdata component of Videotex too; [21]

2) While the display mixed display mode described in lines 40-45 of column 4 in Ciciora [US #4,233,628] was described with respect to teletext data display, Ciciora explicitly indicated that this teletext display process described therein had equal applicability with respect to Viewdata display too [e.g. lines 46-52 of column 2];

3) The article "Teletext/Viewdata LSI" by Harden:

a) Described the system of figure 2 which was capable of receiving and displaying Teletext data or Viewdata data, wherein the circuitry of figure 2 comprised:

1. The illustrated "DATA ACQUISITION" chip (shown in detail in figure 3);

[21] "A display switching circuit 29 is a circuit which switches or superimposes a television signal demodulated by the color demodulation circuit 21 to/on the aforesaid character pattern display signal. By switching these signals, a conventional television broadcast may be switched to or superimposed on a character pattern information service broadcasted or sent over a tlephone circuit, and displayed on the CRT 31"

2. The illustrated "STORE"/ RAM; and

3. The illustrated "Video Generator" chip (shown in detail in figure 4).

b) Explicitly stated that once the Teletext and/or the Viewdata had been acquired and loaded into the "store"/RAM, the video generation and display by the Video Generator chip could proceed without knowledge as to whether the data being processed was acquired from the Teletext source or the Viewdata source [e.g. the first paragraph under the heading "II. Video Generator" on page 356 of the publication]; and

c) Explicitly stated:

1. That the "Video Generator" chip had the "***ability to display both text and picture [at] the same time***"; and

2. That "***if the TV circuitry is fast enough a MIX mode will enable all characters to be inset into the TV picture***".

[SEE: the last paragraph on page 356].

Clearly, the above noted descriptions in Harden, indicated:

1) That once acquired and stored, captured Viewdata data and Teletext data were, or at least could be, processed and displayed in like fashion by the Video Generator, wherein the video generator was described as having had the ability to display both text and video at the same time; and

2) That, in any event, **"all"** text data that was produced by the Video Generator, regardless of source, could be displayed in a "mixed" mode provided that the (switching) circuitry of the TV was fast enough.

D) On a more general note, the examiner maintains that it was notoriously well known in the art that TV receiver circuitry that was configured to operate in a ***"mixed display mode"*** were known to have been advantageous in that they permitted the display of auxiliary information (i.e. be it videotext data, computer data, auxiliary video information, on-screen display, etc,...) without interruption to the content of TV programming currently being viewed by the viewer [e.g. note, for example, lines 68-80 on page 4 of Yoshino et al. (GB 1,405,141)].

X

D. ADDITIONAL ISSUE:

D-1) The "Software" Issue:

A) The examiner notes that applicants instant 1987 CIP specification describes at least one embodiment of invention that used signaling, embedded within the VBI of TV programming, to download computer software to the ultimate receiving stations in order to have programmed/reprogrammed the station on the fly [note pages 20-27 of the instant 1987 CIP specification]. Throughout much of the present prosecution, applicants have alleged that the past 1981 parent specification implicitly described this same downloading of computer software via the 1981 "instruction signals" of the 1981 inventions that were embedded within the VBI of the 1981 TV programming. The examiner maintains that applicants' allegation is untrue for reasons that have been addressed throughout the record [SEE: Appendix IV of this Office action].

Now, within the "Declaration of Dr. George T. Ligler" filed with the response of January 31, 2003 in application #08/487,526, applicants' expert comments on this issue stating that the examiner has "overlooked" the fact that the 1981 specification explicitly states that the ultimate receiver station of the 1981 inventions might be "reprogrammed" from a remote location via a telephone line. The following is noted:

i. The fact that the 1981 specification taught that the 1981 receiver stations might be reprogrammed from a remote location over a telephone line has absolutely nothing to do with the examiner's longstanding position that the 1981 specification does not teach the downloading of software via the 1981 "instruction signals" that were embedded in the VBI of the 1981 TV programming. Clearly, the comment made by applicants' expert does not address the issue that it purports to address. If, however, the expert's position is representative of the kind of "dual" 112 support that he (and applicants) are still relying on for proof of "priority" under section 120 (i.e. that the 1981 description of reprogramming a receiver via a telephone line allegedly provides "priority" to the 1981 filing date for claims directed to the 1987 downloading of software via the embedded SPAM signaling), then the examiner cites it as another example of the diverse nature of the subject matter from the respective 1981 and 1987 CIP specifications that is being relied upon by applicants to allege, and attempt to obtain, the 1981 effective filing date for the 1987 subject matter that is now being claimed (i.e. further evidence that applicants have indeed confused "anticipation" under section 102 with the adequate written description requirement of section 112 that has been incorporated into section 120); and

ii. The 1987 CIP specification explicitly describes at least one embodiment of invention where the 1987 ultimate receiver station was reprogrammed on the fly, e.g. during a TV program, via instruct signaling embedded therein. The statements from the 1981 specification that have been cited by applicants' expert only indicate that that the 1981 receiver stations were capable of being

"reprogrammed' from a remote location via the telephone line, but it does not appear to give any indication whatsoever as to when this 1981 reprogramming process was to have occurred. That is, the cited 1981 teachings do not state or describe and embodiment in which the 1981 reprogramming of receivers occurred "on the fly" as applicants' expert suggests.[22] To the contrary, these cited 1981 teachings might only have been an indication that the 1981 receiver stations could be remotely initialized in the presence of a technician during installation and/or in the presence of a technician during a service "tier" modification - (who knows?). It appears that the expert has improperly imparted specific meaning/"purpose" to the cited 1981 remote "reprogramming" descriptions when in fact the 1981 descriptions were themselves silent as to such meaning/purpose (i.e. the specific meaning/"purpose" imparted onto the 1981 teachings by the expert appears to be speculation improperly imported back into the 1981 descriptions from the 1987 CIP). The examiner maintains that it is improper for applicants (or their expert) to read and/or import specific meanings that may be reasonably inferred from teachings of the 1987 CIP specification back into lesser teachings of the 1981 specification that do not reasonably infer these same meanings. Certainly, teachings imported into the 1981 parent specification from the 1987 CIP specification cannot legally serve as a basis for priority to the earlier effective filing date under section 120. [23]

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[22] Due to the synchronous nature of the 1981 "signal word" structure, it would appear that all of the receiver stations of the 1981 networks would have had to be reprogrammed with new detection "patterns" so as to know where and when to look for the instructions/information directed thereto whenever the content of the "words" was changed, thereby making the process of reprogramming the 1981 receivers "on the fly" a major undertaking (if possible at all within the allotted time). In any event, nowhere within the 1981 specification was such reprogramming on the fly ever described or suggested.

[23] The instant examiner continues to struggle with this issue. Clearly, the "new" 1987 CIP specification explicitly changes and/or expands the terms and teachings of the 1981 parent specification. In claiming a 1981 effective filing date for claims that necessarily derive their required section 112 support solely from these changed and expanded 1987 CIP disclosures, it appears to the instant examiner that applicants' are effectively transporting the changed/expanded 1987 CIP subject matter of the instant claims back in time to the 1981 date (i.e. effectively importing this changed/expanded 1987 subject matter back into the 1981 specification). This seems to be the reason why applicants have found it necessary to argue again and again, e.g. throughout the course of the present prosecution, that "common subject matter" is not a requirement of section 120 (i.e. rather than explaining where the claimed subject matter is disclosed in both applications and why this subject matter does in fact constitute "common subject matter").

D-2) THE "MODE II" CAPTIONING FEATURE OF "ANTIOPE":

1) Those of ordinary skill in the art, at the time of applicant's alleged invention, had recognized that there was a need and desire to transmit closed captioning data pertaining to multiple different languages within each TV program transmission. Because teletext captions had to be transmitted sequentially through the TV network, it was found to be difficult to simultaneously synchronize the display of all the different captions/languages to the same TV programming. Hence, a "Mode II" captioning feature was developed and added to new teletext "standards" (e.g. ANTIOPE) for the expressed purpose of simultaneously synchronizing multiple captions to the same program.

> **"The possibilities of teletext closed captioning for the hearing-impaired and for foreigners are well known and were first experimented in the United Kingdom. The problem of synchronizing the TV program and the captions was not really solved, except at the price of heavy time delay constraints. If several different languages are to be captioned at the same time with a given program, new developments are needed, because asynchronism appears for multilanguage captioning applications. The new standards make it very simple to add sophisticated captioning options to a normal teletext decoder: in this new process, the synchronism control signal are completely separate from the 'character attributes' - they are actually considered as a 'message attribute'.**
> [e.g. section 5.1.3 on page 33 of the 3/1980 publication "Development & Application of the Antiope-Didon Technology]

2) The way in which these "new" teletext standards solved the synchronism problem seems best explained within the prior art of record by the "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENDED ANTIOPE)" which is dated May 20, 1981. [SEE: sections 7.0-7.3 on pages 135-138; and sections 8.9.1 to 8.9.2.2.2 on pages 159-162]. That is, as explained within this publication:

a) Different classes of captioning (and different levels thereof) were transmitted from the transmitter as conventional teletext pages prior to the time that they were to be displayed;

b) Each receiver captured and stored (but did not display) the page of teletext data which corresponded to the class (and the level) of captioning that was selected and desired by the user;

c) At the desired time of display, a "reveal"/"unmask" message was transmitted from the transmitter station which caused/triggered the stored captions at the respective receivers stations to be simultaneously outputted and displayed in precise synchronism with the TV programming.

That is, the Mode II captioning feature provided the mechanism by which multiple program related messages/captions could now be transmitted sequentially and asynchronously within the TV programming, while enabling each of these sequentially transmitted captions to be displayed simultaneously and in precise synchronism with the same TV programming at different receiver stations in response to the receipt of the same reveal/unmask display signal.

"Through use of the "Y" bytes, program related pages can also be transmitted. Program related pages are those pages that are transmitted with a television program and are intended to be a complement to the television program. One example of a program related page is captioning"

"Captioning is a program related teletext message that is transmitted to the decoder and superimposed over the program video at a pre-designated time. The captioning message functions in a manner similar to a normal teletext message except that instead of having to select each page individually the user selects a classification of caption and a level (from 1 to 9) and the decoder automatically displays and erases the appropriate captions at the proper times.
In the case of captioning the session level identifies the fact that the message is a captions. A caption message is characterized by the fact that it is displayed, not over a blank screen, as in the case of normal teletext, but rather over program video. Depending on the decoder manufacturers' option, the caption may be displayed keyed over the video or inserted into the video in a box.
Captions are transmitted to the decoder with a bit in the header set so that the caption is captured and put into memory but not displayed. This way many different versions of the same caption may be sent an each decoder can capture the version it chooses. When the caption is to be displayed a simple control packet is sent with the caption type designator equal to the caption to be displayed along with a reveal bit. This causes the caption to be displayed over the program video. To erase the caption another message is sent to the decoder telling the decoder to erase the page and wait for the next caption"

It is noted that similar descriptions of this Mode II captioning feature can be found elsewhere in the prior art of record too; i.e. for example, as provided in sections

7.11.2.2 and 7.11.2.3 on pages 72 of Appendix B in the petition filed with the FCC by CBS on 7/29/1980. [24]

> **"When many captions are sent, at various levels and in various languages, forming classes, all varieties for a given class of captions are sent far enough in ahead to allow the decoder to store the one selected. The Y caption flag ($Y1_3$ b6=1) is raised on each one, implying transparent background and suppress page display. The conceal flag ($Y1_3$ b8=1) should also be raised. After all varieties of a given caption are sent, one additional record is sent with the conceal flag low [(equal reveal) $Y1_3$ b8=0]. This single command causes all decoders which have been storing a class of captions to display it. This last command is seen by all decoders, regardless of what page number they may have been instructed to look for because this page has not number and has the alarm flag raised in the Y's ($Y1_1$ b8=1)."**
>
> **"To remove a class of captions and leave a blank screen, an alarm page is sent with the conceal flag raised, ($Y1_3$ b8=1)."**

3) The 8/1980 publication "ANTIOPE TELETEXT CAPTIONING" also describes this same "MODE II" captioning feature of the ANTIOPE teletext standard. This publication has been cited in response to arguments that have been submitted by applicants throughout the present prosecution. [25] Namely:

a) This publication makes it clear that the "MODE II" captioning feature of ANTIOPE utilizes the same teletext equipment that is used for the teletext service itself being that the captions are transmitted as standard teletext pages.

> **"When Antiope is employed for captioning, it uses the same equipment as for teletext"** (the second column of page 618)
>
> **"Each caption is broadcast in the form of a page which is identical to a teletext page. The page number is used to select the language – this is the number the user keys on the decoder**

[24] Additionally, note sections 7.1.2 to 7.1.2.4 for systems "A" and "C" of the "EIA Systems Analysis Chart" (revised 8/20/1981).

[25] E.G., applicants' have attempted to distinguish the claimed invention over applied teletext prior art by arguing that the signals of teletext are not conveyed within pluralities of discrete packet signals that, therefor, must be assembled/re-assembled on the receiver side of the network. As is evident from the cited prior art, applicants' argument is simply untrue (i.e. even the shortest of teletext messages were conveyed within a plurality of discrete teletext packet signals).

> **keypad. The operation is the same as for the selection of a teletext page; the decoder functions are identical"** (the first column of page 619)

b) This publication makes it clear that all the teletext pages of the ANTIOPE standard were transmitted within the "discrete teletext transport packets" of the DIDON standard and that even the shortest of the captions (i.e. the word "yes") had to be transmitted using more than one of these discrete DIDON transport packet.

> **"The word 'yes', wherever it is located on the screen, if it is white on black, is coded in 23 bytes (i.e. 1.15 DIDON packets), and text containing 40 characters requires 60 bytes (i.e. 3 packets)"** (the second column on page 619)

c) This publication re-emphasizes that it was the ability of the ANTIOPE system to mask (conceal) and unmask (reveal) teletext messages which enabled the ANTIOPE system to separate the act of transmitting messages/captions from the act of displaying them (i.e. a key feature that is vital to the implementation of the MODE II captioning).

> **"Considerable flexibility is also given by the use of text masking and unmasking attributes. They enable us to differentiate reception, which can be stored, from display, which is requested a particular moment without being dependent on the time of transmission"** (page 619)

[In applicants' "WALL STREET WEEK" application, a "command signal" was embedded, at a specific time, within the "Wall Street Week" TV program being broadcast from a transmitter station. At each receiver station, said "Wall Street Week" program was received and the "command signal", embedded therein, was detected. At each receiver station, the detected "command signal" triggered a locally generated user specific graphic to be displayed as an overlay over the displayed video portion of said received "Wall Street Week" program. Thus, via the embedding of a single "command signal", the display of different locally generated user specific overlays at different receiver stations were all "synchronized" to occur at said specific time within the "Wall Street Week" program.

As is evident from the prior art of record, the MODE II caption feature of the ANTIOPE teletext standard also utilized a single common display "command signal" to cause different "locally generated" program related teletext images/captions to be simultaneously overlaid at respective TV receiver stations in precise synchronism with the TV programming to which they relate.

Namely, in mode II captioning, reveal/unmask "command signals" were embedded, at specific times within, a transmitted TV program being broadcast from a transmitter station. At each receiver station, said program was received and the reveal/unmask "command signals", embedded therein, were detected. At each receiver station, each detected reveal/unmask "command signal" triggered a locally generated user specific graphic (e.g. a respective "program related caption") to be displayed as an overlay over the displayed video portion of said received TV program. Thus, via the embedding of each reveal/unmask "command signal", the displays of different locally generated user specific program related messages/captions/overlays at different receiver stations were all "synchronized" to occur at the specific times within the TV program. [26]]

****

[26] Applicants' have attempted to distinguish the overlays of their "Wall Street Week" application from the "program related captioning" overlays of ANTIOPE's mode II captioning feature by arguing that teletext images/captions are not "locally generated" at the receiver. For the reasons discussed above in paragraph C-3 of this Office action, applicants' arguments are simply erroneous and misplaced.

D-3) "INTERACTIVE" TV:

1) The Interactive System of U.S. Patent #3,008,000 to Morchand:

As is illustrated on the cover page, Morchand disclosed an interactive multi-channel TV system that comprised:

a) A plurality of TV stations (12-1 to 12-N) for transmitting respective TV signal segments/fragments which, taken together, represent the complete interactive TV program; and

b) TV receiver stations each of which includes:

1. A TV tuner (@ 18A) for receiving selected ones of the program segments/fragments;

2. An audio display device (@22) for outputting the audio component of each selectively received program segment/fragment;

3. A video display device (@ 42) for outputting the video component of each selectively received program segment/fragment; and

4. Dedicated control circuitry (@ 18B, 26, 28, and 30) for controlling the TV tuner to sequentially select the program segments/fragments that are to be received based:

a. Control information that is embedded in the active video portion of TV programming segments/fragments (as detected/determined @ 40A-40n); and

b. User responses entered @ 44a-44n.

The result being a system in which each of the receiver stations, under control of dedicated circuitry, interactively "branched" through a selected sequence of the available program segments/fragments, comprised of multi-channel TV signal segments/fragments, based on a respective user's specific inputs/responses, thereby interactively producing a user specific multimedia (i.e. audio/video) presentation.

2) The Interactive System of U.S. #3,245,157 to Laviana:

Laviana disclosed an interactive TV system that comprised:

a) A transmitter station (not shown) for emanating interactive programming comprised of a plurality of program segments/fragments wherein, as illustrated in figure 1, the program segments/fragments comprised:

1) A common video signal portion for providing visual information; and

2) One or more audio signal portions providing a plurality of audio channels; and

b) At least on receiver station comprised of:

1) A TV receiver (@ 16) for receiving and displaying the common video signal;

2) Decoder circuitry (@ 18) for receiving the one or more audio signal portions and for locally "retransmitting" the plurality of audio channels provided therein as separate audio transmissions; and

3) And a plurality of user controlled devices (@ figure 2) each of which includes:

a) Input keys for allowing the respective user to input responses to received/displayed program segments; and

b) Receiving/tuning circuitry that, based on the user inputs/responses, selects and/or tunes to the one of the retransmitted audio channels which provides further information (i.e. an aural "explanation") pertaining to the user's input/response.

In Laviana, the separate audio transmissions were described as comprising separate radio transmissions requiring the user controlled device to have comprised one or more tuners for selecting the appropriate audio segment/fragment [e.g. lines 2-24 of column 4].

3) The Interactive System of D.E. Patent Document #2,904,981 to Zaboklicki:

Zaboklicki discloses and interactive TV system for transmitting and displaying complete interactive TV programming comprised of TV signal segments/fragments. Zaboklicki explicitly described two types of interactive programming:

a) Interactive programming that is to be watched by a plurality of viewers at each receiver location wherein, as in the case of Laviana above, the interactive programming was comprised a common video portion and a plurality of audio channel portions [e.g. "sports and entertainment" programs]; and

b) Interactive programming that is to be watched by a smaller number of viewers at each receiver location wherein, as in the case of Morchand above, the interactive programming was comprised pluralities of multi-channel video segments/fragments in addition to the plurality of audio channel portions [e.g. "educational and popular science broadcasts" programs].

That is:

A) As in the case of Laviana, Zaboklicki discloses an application of his invention in which each receiver station displayed a common video portion

and, in response to user inputs, selected and/or tuned to ones of the plurality of audio channel signals. The plurality of audio channels were described as having been "transmitted analogously to the known signals of foreign language translations ***on audio channels or radio channels***" (emphasis added); and

B) As in the case Morchand , Zaboklicki also disclosed an interactive multi-channel TV system application of his invention. However, the system disclosed by Zaboklicki was significantly enhanced relative to the system disclosed by Morchand. The following is noted:

a) In Zaboklicki, the segments/fragments of the complete interactive TV programs were not limited to TV signal segment/fragments as in Morchand, but included program segments/fragments of other sources and types such as:

1. Pages of teletext data;

2. Supplemental/Auxiliary audio signal components;

3. Locally stored video information;

4. Etc, ...

b) In Zaboklicki, the control information was not conveyed as mere modulations within the active image portion of the TV programming segments as in Morchand, but was conveyed as "Telesoftware" (i.e. computer software) via the pages of an embedded Teletext service;

c) In Zaboklicki, the control circuitry was not implemented merely using dedicated circuitry as in Morchand, but was instead comprised of:

1. A teletext decoder (@ 56 of figure 3); and

2. A software driven CPU (@ 6,7, 39, and 49 of figure 3) that was programmed, on the fly, via software (i.e. said "Telesoftware") that was downloaded to said CPU from the transmitter via pages of said Teletext service that was embedded within the VBI of the interactive programs TV signal segments/fragments;

d) In Zaboklicki, a telephone line was utilized as a return link whereby a recorded record of a user's inputs/responses could transmitted to a remote collecting station (see figure 4).

The result being a system in which the CPU (6) of each receiver station operated, under control of the downloaded Telesoftware, to interactively select and display a sequence of the available program segments/fragments (i.e. which segments/fragments included teletext images, secondary audio signals, and multi-channel TV signals), based on the specific responses that are inputted by the respective user to thereby create, interactively, a user specific *multimedia* presentation. That is, in Zaboklicki, the downloaded Telesoftware provided the CPU with the "instruction"/script that it needed to follow in order to have identified, selected, and displayed each "next" program segment/fragment from the user's specific response to each "current" displayed segment/fragment. That is, at any branch point within the interactive program, the CPU of each Zaboklicki receiver station had to have determined where in the script it was, i.e. it must have had some way of knowing/determining "content" of the segment/fragment currently being displayed, for it to have

identified the next segment/fragment that had to be interactively selected and displayed as a result of the specific response inputted by the user; i.e. hence the described segment/fragment identifiers of the Zaboklicki disclosure.

4) The Interactive System of U.S. Patent #4,413,281 to Thonnart:
Thonnart also disclosed an interactive TV system. The interactive TV system disclosed by Thonnart has many similarities to the interactive system that was described by Zaboklicki. The following is noted:

a) In Thonnart, the program segments/fragments of the complete interactive TV programs included:

1. Pages of digital teletext data;

2. Analog audio signals; and

3. Analog video signal representing sequences of still video frames;

4. Etc, ...

b) As in Zaboklicki, in the system disclosed by Thonnart segment/fragment "identifiers" were added to segments/fragments of the interactive program

to enable the receivers to identify the receipt of those which needed to be selected and displayed [note claim 1];

c) As in Zaboklicki, in the system disclosed by Thonnart:

1. Command logic sequences (i.e. "software") were generated at the transmitter [e.g. lines 37-46 of column 2];

2. Said command logic sequences were downloaded to the receiver station, as part of the digital data steam, with priority over the teletext data [e.g. lines 5-13 and 25-32 of column 4];

3. Said downloaded command logic sequences were received and stored within a logic memory (27) of the receiver stations [lines 33-40 of column 4]; and

4. Said stored logic sequences (i.e. software/"programming") were then executed by the receiver stations to control the selection and

display of the program segments/fragments, based on the user's inputs, to generate a multimedia user specific interactive presentation [e.g. lines 41-58 of column 4; lines 37-45 of column 2; etc,...]; and

d) In Thonnart, the digital and analog segments/fragments of the complete interactive program could be transmitted to the receiver station over respective/separate/different channels wherein, in such cases, the receiver stations would require respective/separate/different tuners so that the analog and digital segments/fragments could be received in simultaneously (i.e. in parallel) [note lines 14-24 of column 4];and

e) In Thonnart, the page of teletext data were displayed either in sequential fashion or simultaneous fashion with respect to the video still frames (see claim 1).

5) The Interactive System of D.E. Patent Document #2,550,624 to Haefner et al.:

Haefner et al. also disclosed an interactive TV system. As with Zaboklicki, the receiver station circuitry was controlled by a software driven processor (@ 13 of figure 2) which received the software from the transmitter station. However, in Haefner et al., all of the program segments/fragments of the complete interactive TV program, e.g. including the TV signal program segments/fragments, were downloaded and stored on a random access storage medium of the receiver station in advance of the user interaction, thereby eliminating the need for (and use of) dedicated TV transmission channels as utilized in the multi-channel systems of Zaboklicki and Morchand. That is, instead of controlling the tuner of the TV receiving circuitry to tune to the respective TV program segments/fragments that were to be selected and displayed, the computer (13) in Haefner et al. controlled its receiver to retrieve the respective program segments/fragments that were to be selected and displayed from said random access memory medium.

X

E. DETAILED OFFICE ACTION:

E-1) THE SECTION 120 PRIORITY ISSUE:

a. Contrary to applicants' recent objections, it was applicants who first introduced "blanket statements" into the record alleging that many of their 328 bulk filed related applications (i.e. all claims contained therein) were entitled to the 1981 effective filing date of their 1981 parent application under section 120.

b. In order to "prove" that these claims were entitled to the 1981 effective filing date, and to respond to section 112-1 rejections made by the Office, applicants initially alleged it was "clear" from "the law" that they only needed to show that each claim in question was supported in accordance with the requirements of section 112-1 by the disclosure of the *1981 parent specification* ***alone***. The Office was initially misled by applicants' allegation accepting it as truth.

c. Eventually, however, the Office realized that applicant's position concerning "the law" was both erroneous and flawed. That applicants' sole reliance on the 1981 parent disclosure for addressing both section 112 rejections and section 120 priority issues might have been correct had the disclosure of their 1981 parent application not been *discarded* at the time the 1987 CIP was drafted and filed; i.e. had the 1981 specification been formally "incorporated" into the 1987 CIP specification of applicants' 328 bulk filed applications. But the 1981 disclosure was not formally incorporated into the 1987 CIP specification and, because it was not, the Office realized that applicants:

i. Could (and still cannot) rely on the 1981 specification at all for rebutting section 112 rejections because, by law, section 112 support for the claims must come from the "instant specification" on which the claims depend. The "instant specification" is the 1987 CIP specification *alone* being that the 1981 parent specification was never incorporated therein; and

ii. Could (and still cannot) rely on the 1981 specification alone to establish section 120 priority to the 1981 filing effective date for that which is claimed because each of the instant claims is only entitled to section 120 priority if it recites "common subject matter" wherein, under the present circumstances, "common subject matter" is:

(1) That 1987 subject matter which is described and claimed within the instant 1987 CIP specification in accordance with all of the requirements of section 112; wherein the "instant specification" is the 1987 CIP specification ***alone*** because the 1981 parent specification was not incorporated therein; and

(2) That ***same*** claimed 1987 subject matter that can be shown, by applicants', as having been previously described in the past 1981 parent specification in accordance with all of the same requirements of section 112.

d. Given this "new" realization, the Office challenged applicants' notion that "the law" allowed the section 112 rejections and the section 120 priority issue to be addressed using the 1981 parent specification alone or even at all. In response to this challenge, applicants' conceded that that section 112 rejections must be addressed using the instant 1987 CIP specification alone. With respect to the section 120 priority issue, however, applicants only conceded that some type of "dual" section 112 support from the respective 1981 and 1987 CIP disclosures was necessary, however, applicants outright refuted the position taken by the Office that this required "dual" section 112 support must be provided by any kind of "common subject matter".[27]

e. Then, within ones of the bulk filed applications, applicants began submitting a chart that identified "correlated" subject matter that existed between the 1981 and the 1987 specification. Applicants also began submitting claim charts for establishing alleged "dual" section 112 support for the claims from both disclosures wherein these claim charts which appeared, for the most part, to regurgitate the information that was contained in the correlation chart on a claim-by-claim, limitation-by-limitation, basis.

f. In response to these submissions, the Office pointed out that the respective "correlated" citations from the 1981 and 1987 specifications that made up applicants' charts of alleged "dual" support were quite different and did not meet the required "common subject matter"/"same invention" requirement of section 120. Applicants responded to this by arguing that section 120 does not require that the respective 1981 and 1987 disclosure being relied upon for "dual" support have anything in common other than their ability to ***independently*** provide some kind of section 112 support for the claims. In taking this position, it appears that applicants have confused the issue of "support" required by section 112 (as incorporated into section 120) with the issue of

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[27] Applicants maintains that:

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under 120 have anything in common besides their ability to separately comply with 112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy 120 is show that each disclosure meets the requirements of 112-1 for a given claim."** (emphasis added)
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]
>
> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the 112 support from each application consists of 'common subject matter.'"**
> [See the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

The examiner disagrees:

> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications"** (emphasis added)
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]
>
> **"The inquiry required by section 120 demands a comparison of 1) the claims of the parent and CIP applications and 2) any other disclosures made in the applications such as specification and drawing. Acme Highway, supra, at 1079, 167 USPQ at 132-33."**
> [Stern v. Superior Distributing Company et al., (CA 6), 215 USPQ 1089 at 1094]

"anticipation" that exists under section 102. That is, the fact that applicants can show that all the limitations of a given claim can be "anticipated" (in a section 102 sense) by different teachings from the respective 1981 and 1987 disclosures does not mean that the section 112 requirement of section 120 has been fulfilled. Applicants must also show that these respective anticipatory 1987 and 1981 disclosures being relied upon for proof of section 120 priority do in fact describe/define the "same invention" and therefor constitute "common subject matter" with respect to that which is claimed; i.e. that the respective descriptions are in fact legal equivalents. This would have been a straight forward exercise had the 1981 parent specification been formally incorporated into the 1987 CIP specification by reference (or at least in some immediately discernible fashion) and had the claims been drafted to derive section 112 support directly from this incorporated 1981 subject matter. But this is not the case, and given the present circumstances, attempting to identify "common subject matter" between specifications has proven to be a most unpleasant and daunting task. Fortunately for the examiner, "the law" seems "clear" that the burden of proof is applicants' in that the claims are only entitled to the 1981 effective filing date under section 120 if/when applicants can show that the claims are directed to "common subject matter" found in both the 1981 and 1987 specifications (i.e. the examiner is under no obligation to accept mere allegations or to "prove" that applicants' claims are not entitled to section 120 priority).

g. From the case law, the steps that applicants must perform to show that a given claim is entitled to the 1981 effective filing date seem straightforward enough. Namely, it appears that applicants need only to:

i. Identify the respective 1981 and 1987 disclosures that are being relied upon for section 112-1 support of the given claim; and

ii. Show/explain how and why the so identified 1981 and 1987 disclosures describe/define "the same invention" and therefor constitute "common subject matter" with respect to that which is claimed; i.e. why the respective 1981 and 1987 CIP descriptions are legal equivalents and, therefor, result in identical 1981 and 1987 CIP claim constructions.

In the response filed 1/31/2003 in SN 08/487,526, applicants and applicants' expert both submit arguments alleging that each of the pending claims can find some kind of dual section 112 "support" in both of the respective the 1981 and the 1987 disclosures and therefor, so they conclude, the claims are entitled to the 1981 effective filing date. However, it is unclear from these arguments what "standard" of proof applicants and applicants' expert have adopted in support of their conclusions. That is, it is unclear whether applicants and their expert are alleging that the respective 1981 and 1987 disclosures being relied upon for "proof" of priority do in fact describe the "same invention" and therefor constitute "common subject matter" as is required under section 120 or, alternatively, whether applicants and their expert continue to base their arguments on the premise that "the same invention"/"common subject matter" is not a requirement of section 120 and are therefor continue to improperly base their conclusions of adequate "dual" support based on nothing more than alleged "correlated" 1981 and 1987 subject matter (i.e. based on different 1981 and 1987 subject matter that arguably "anticipates" the claims in a section 102 sense).
Clarification is needed.

h. The point being that that the long standing impasse concerning the section 120 priority issue is not the result of the examiner's refusal to consider the evidence that applicants have submitted as "proof" of priority. Rather it is the result of the examiner's belief and understanding that the evidence being submitted by applicants misses the mark (given the current fact pattern). As understood by the instant examiner, merely showing that a claim is "anticipated" by respective teachings from the 1987 CIP and 1981 parent disclosures does not constitute proof that a claim is entitled to the 1981 filing date. To the contrary, the examiner believes that the respective 1987 and 1981 *anticipatory* teachings that have been cited by applicants as proof of section 120 priority seem so diverse in nature that they do not meet, or at least have not been shown to meet, the very real "same invention"/"common subject matter" requirement of section 120 (i.e. a real requirement of section 120 that applicants', to this day, continue to refute and dismiss).

The examiner maintains that there is a very real difference between:

1) A claim in a later filed CIP application that recites subject matter that is described in both the CIP and parent specifications; and

2) A claim in the later filed CIP application that has been drafted in some "quasi-generic" fashion so that it can be anticipated, arguably, by diverse CIP and parent subject matter from the CIP and parent specifications, respectively.

Namely, the examiner understands that the former claim recites "common subject matter" and is therefor entitled to priority under section 120, whereas the latter claim does not and is not.

i) The examiner understands that applicants' claim to the 1981 priority date needs only be addressed and resolved for those claims which are properly rejected under sections 102 and 103 via intervening prior art. Thus, when applicant elects to amend the claims to overcome the intervening prior art, the section 120 priority issue becomes moot. However, in light of applicant's blanket claim to section 120 priority and the fact that these blanket claims were, and still appear to be, founded on an erroneous standard of proof, it is for clarity of record that the examiner provides corresponding "blanket" responses. It is also the reason why the examiner has made every attempt to find and properly apply intervening prior art against all of the claims of the present application (i.e. none of the "prior art" of record has been excluded from consideration against the claims of the instant application as a result of applicants' allegation that ones of their pending claims are entitled to the 1981 effective filing date).

SECTION 112 ISSUES:

E-2) Claims 2-18, 20-30, 33-42, and 67-104 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The following is noted:

A) It is true that, in applicants' 1987 "Wall Street Week" embodiment, an overlay command signal is embedded at a specific time within the transmitted "Wall Street Week" TV program so as to cause a locally generated overlay, at respective receiver stations, to be outputted and overlaid onto the displayed "Wall Street Week" programming at said specific time. It is also true that, to the extent that the occurrence of the embedded overlay command signal is synchronized with "content" of the "Wall Street Week" programming, said overlay command might properly be construed as being *indicative* of TV programming "content". However, as originally disclosed, the receiver station of applicants' "Wall Street Week" embodiment never actually utilized this synchronized relationship between the command signal and the TV programming content to "determine" anything about the "content" of the TV programming. Namely, by detecting the embedded overlay command signal the receiver stations of applicants' "Wall Street Week" embodiment, as originally described, only "determined":

1) That the overlay command had been received/detected; and

2) That the locally generated overlay was now to be outputted as a result of this receipt/detection.

That is, the receiver stations made no effort in "determining" actual "content" of the audio/video components of the TV programming based on the detection of the overlay command as appears to be claimed (i.e. according to applicant's arguments under section 112-1).

B) Specifically, amended claim 2 now recites a method that includes the step of:

"determining content of a second medium received in said plurality of signals" [see line 8 of claim 2]

In the response filed 1/29/2003 in 08/487,526, applicants appear to take the position that:

> 1) The section 112-1 support for the "act of determining" comes from the described "act of detecting" the overlay command signal that is embedded within the VBI of the "Wall Street Week" TV program of the 1987 "Wall Street Week" embodiment; and
>
> 2) That the section 112-1 support for the "content of the second medium" comes from the specific audio/video "content" of the 1987 "Wall Street Week" TV programming to which it is related/synchronized.

As addressed in part "A)" of this paragraph, the examiner disagrees with applicant's position that the cited teachings provide adequate support for that which is now recited. Namely, while the receiver stations of applicants' system were potentially capable of having used the detection of the overlay command signal for "determining content" of the "second medium" in the recited fashion, the instant disclosure as originally filed never described or suggested an embodiment in which this potential capability was ever put to use. That is, nowhere within the originally filed 1987 disclosure was the embedded overlay command signal ever described as having been used for "determining content" of the "Wall Street Week" program as applicant's arguments, under section 112-1, would now suggest and/or require.

C) Given the above, it is still unclear as to where the received step of ***"determining content of a second medium received in said plurality of signals"***, as recited in the context of claim 2, finds section 112-1 support within the instant disclosure as originally filed. Clarification is required.

D) The section 112-1 support for the "content" terminology in the context of claims 8-10 and 14-16 is, for similar reasons, not apparent and/or not understood. Clarification is required. Similar clarification regarding support for the "content" terminology is needed as recited in the context of claims 20, 24, 26, 29, 30, 33, 37, 38, 70, 74, 76, 85, and 95.

E-3) Claim 70-73 (and all claims dependent therefrom) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) Claim 70 is directed to an apparatus. However, includes functional language (as in method claims) that is not supported by recitations of corresponding structure. Namely, lines 7-9 of claim 70 include the following recitation:

> **"wherein, said information based on said second medium is generated based on identifying content of said second medium".**

The structure for providing the recited *generation* and structure for proving the recited *identification of content* has not been positively recited as is required of an apparatus claim. Clarification is required.

SECTION 102 ISSUES:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

E-4) Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Turner [G.B. #1,486,424].

As is illustrated in figure 5, Turner disclosed a system that comprised:

1) Tuning circuitry (not shown) for receiving a plurality of signals;

2) Circuitry (@ 41 & 42) for storing information pertaining to a first digital media;

3) Circuitry (@ 37) for determining a sync signal "content" of a second video media;

4) A decoding ***computer***[28], made up of elements 16 and 36-47, which coordinates a presentation (i.e. a combine video/text display @ 19) using the stored information and the video component based on the sync signal content that was determined (@ 37); and

5) A display device (@ 19) for outputting the so produced combined medium presentation to the respective user.

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[28] The term *computer*, by definition, refers to nothing more than "a device that computes".

E-5) Claims 3-6 and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Turner [G.B. #1,486,424]. The following is noted:

1) With respect to claim 6: All TV transmitter stations are intermediate stations in the sense that they receive TV programming from remote station/studio locations and broadcast it to the receiver station locations.

2) With respect to claims 13 -16: Sync signals are inherently "identifiers" of a specific timing content of the TV signal which includes audio and video signal components.

E-6) Claims 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Yoshino et al. [GB 1,405,141].

Yoshino et al. not only disclosed a television receiver station which operated to simultaneously display on a single CRT (18) locally generated image data provided from an "electronic table computer" and the video signal component of a received television signal,

> **"The present invention also provides a television receiver on the picture tube of which a television program and the result of the computing process are shown simultaneously"**
> [lines 11-113 on page 4]

but Yoshino et al. explicitly evidences the fact that those of ordinary skill in the art had understood it to be "advantageous", e.g. as of its 1975 publication date, to have enabled locally generated image data from a computer to be superimposed upon displayed TV programming at TV receiving stations.

> **"As described above there is obtained various advantages such as.....the display of computed information on the picture tube of a television receiver in superposition with the television program"**
> [lines 68-80 on page 4]

As is shown in figure 1, the receiver disclosed by Yoshino et al. comprised:

a) Circuitry for receiving a plurality of signals including:

1) A TV signal received (@ 56) from an external TV signal source; and

2) Signals (e.g. @ 19-24) that are received from a local "computer" (e.g. @ 78);

b) Circuitry (@5) which, as is shown in figure 2, includes a "memory circuit" for storing information from the local "computer";

c) Circuitry (@ 14) for determining a timing "content" of the received TV signal by detecting sync signals contained therein;

d) A display control ***computer*** [29] (e.g. @ 8) for coordinating (e.g. synchronizing" the display of the locally generated computer image data with the display of the received TV signal based on the determined timing "content" of the TV signal; and

---

[29] The term *computer*, by definition, refers to nothing more than "a device that computes".

e) A display device (e.g. @ 18) for outputting a multimedia presentation comprised of the computer generated image data superimposed over the video component of the received TV signal.

E-7) Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Zaboklicki [D.E. #2,904,981].

1) Throughout much of the prosecution history, applicants have tried to have the Zaboklicki prior art removed from consideration by arguing, among other things, that the description provided therein was not enabling. The examiner disagrees noting that the Zaboklicki disclosure must not be construed in a vacuum. The teachings of Zaboklicki must be considered in light of the knowledge (i.e. the state of the art) that existed at the time of applicant's alleged invention. In this regard, paragraph "D-3" of this Office action has been provided.

2) As evidenced via the two translations of record, Zaboklicki disclosed a system for transmitting and displaying interactive TV programming. Each interactive TV program was transmitted to a plurality of receiver stations using one or more TV signal transmissions. That is, some of the interactive TV programs that were transmitted in Zaboklicki utilized only a single TV signal transmission that was conveyed to the receivers over a single tunable TV channel, while others of the interactive TV programs were multi-channeled programs comprised of multiple TV signal transmissions conveyed to the receivers over multiple tunable TV channels.[30]
Each of the TV signal transmissions in Zaboklicki comprised a conventional tunable TV signal that included ones of the following:

1) A conventional *primary* video and audio components;

2) Additional *secondary* audio components that, as described in the translations, were to be conveyed in a conventional manner; [31]

3) Conventional teletext data transmissions, conveyed within the VBI of the TV signal transmissions, which conveyed:

A) "Pages" of display code which were used at the receivers to "locally generate" displayable teletext images; and

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[30] The 1961 publication to Morchand [US #3,008,000] illustrates the fact that such multi-channel interactive TV programming was notoriously well known in the art.

[31] The "conventional manner" being that used normally to carry secondary multi-lingual audio signals [See, for example, the 1965 U.S. patent #3,221,098 to Feldman et al].

B) Computer software, i.e. "Telesoftware", that was used to program the CPUs of the receivers with the appropriate control programs; [32] and

4) Program fragment/segment identification information.

At each receiver location, a CPU located therein operated under control of the downloaded Telesoftware to receive various inputs (e.g. initial user data, the program fragment/segment identifiers, user responses, etc,...) and in response thereto create an interactive multimedia presentation by:

1) Selectively tuning the TV receiver to sequentially receive and display one or ones of the multi-channel TV signal transmissions; and to

2) Selectively combine with the display thereof:

A) One or ones of the secondary audio components;

B) One or ones of the locally generated teletext images; and

C) One or ones of locally stored and or locally generated video/audio signal components; and

D) Outputted print data.

****

As to the claim limitations:

I. A first reading/interpretation of the Zaboklicki prior art:

As is shown in figure 3, Zaboklicki disclosed a receiver station for interactively outputting a multimedia presentation. The station comprised:

1) A TV receiver (54) for receiving a plurality of TV signal transmissions that include:

a) Primary video and audio TV signal components;

[32] Wherein Teletext transmissions that included "Telesoftware" were notoriously well known to those of ordinary skill in the art [See, for example, the 1980 publication "Broadcast Telesoftware: Experience with ORACLE" by Hedger, and the 1980 publication "Telesoftware- Value Added Teletext" by Hedger et al].

b) Secondary/additional audio signal components;

c) Teletext signal components including:

1. Pages of display data; and

2. Telesoftware;

2) A memory (7) for storing information of a first media [for storing "Telesoftware"];

3) A teletext decoder (@ 56) for determining "content" of other media [i.e. for detecting the page number content of the teletext media; for detecting the control signal content of the teletext media, for detecting program segment/fragment identifier content of the primary and secondary video/audio components, etc, ...]

4) A computer (e.g. including "CPU" 6) which, under control of the stored "telesoftware" coordinates a presentation of the teletext page data and secondary audio components with the presentation of primary video/audio TV signal components; and

5) A display device (@ 54) for outputting the coordinated presentation.

II. A second alternative interpretation of the Zaboklicki prior art:

As is shown in figure 3, Zaboklicki disclosed a receiver station for interactively outputting a multimedia presentation. The station comprised:

1) A TV receiver (54) for receiving a plurality of TV signal transmissions that include:

a) Primary video and audio TV signal components;

b) Secondary/additional audio signal components;

c) Teletext signal components including:

1. Pages of display data; and

2. Telesoftware;

2) A memory (44) for storing information of a first media [for storing selected pages of teletext data];

3) A teletext decoder (@ 56) for determining "content" of other media [i.e. for detecting a "telesoftware" content of the program segments/fragments; for detecting program segment/fragment identifier content of the primary and secondary video/audio components, etc, ...]

4) A computer (e.g. including elements 6, 7, and 49) for coordinating, under control of "telesoftware", the presentation of the stored teletext page data and secondary audio components with the presentation of primary video/audio TV signal components; and

5) A display device (@ 54) for outputting the coordinated presentation.

E-8) Claim 3-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Zaboklicki [D.E. #2,904,981] for the reasons that were set forth for claim 2 above. Additionally, the following is noted:

1) With respect to claims 3 and 4:

a) With respect to the first reading/interpretation, note that the telesoftware is stored in the RAM (7) of the CPU (6);

b) With respect to the second interpretation, it is noted that the terms *computer* refers to "a device that computes". Therefor, element (56) also falls within a fair reading of "computer".

2) With respect to claims 6:

a) All TV stations are "intermediate station" because they are located between/intermediate local and remote program feeds/suppliers and the receiver station locations. Local TV stations (and CATV headends) also constitute "intermediate transmitted stations" being that they receive and rebroadcast TV signals that are transmitted to them from other network station locations.

3) With respect to claims 8-10 and 13-16:

a) The examiner notes that, based on the detection of program segment/fragment identifier "content" at (56), CPU (6) generates channel switching signals (@ 27) which are provided to receiver

(54) to control a tuner therein to select new TV signal transmissions comprises primary and secondary video and audio signal content. At least the secondary audio signal content includes "explanations".

4) With respect to claims 11 and 12:

a) "TELEXT" data is provided, inherently, via digital data channel.

5) With respect to claims 17 and 18:

a) The receiver includes circuitry for storing at least three types of received media (e.g. @ 7, 44, and/or 50).

E-9) Claims 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Zaboklicki [D.E. #2,904,981] for the reasons that were set forth for claims 3-18 above. Additionally, the following is noted:

To create its "coordinated" multi-media presentation, each receiver necessarily received the described segment/fragment "identification information" pertaining to a "content" of all multi-channel transmissions, and the additional components therein, that were selected and displayed as part of its multimedia presentation [e.g. each receiver must have at least known that the "content" contain therein belonged to the specific interactive TV program that was being displayed].

That is, inherently, a "content" of each multi-channel transmission must have been be determined/"identified" by each receiver station before it was tuned and received [e.g. the receiver must know that the "content" contained therein belongs to the interactive TV program currently being displayed/presented];

E-10) Claims 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Zaboklicki [D.E. #2,904,981] for the reasons that were set forth for claim 20 above.

E-11) Claims 26, 27, 37-42, 67-69, and 82-84 are rejected under 35 U.S.C. 102(b) as being anticipated by Zaboklicki [D.E. #2,904,981] for the reasons that were set forth for claim 20 above.

E-12) Claim 33 is rejected under 35 U.S.C. 102(b) as being anticipated by Morchand [U.S. Patent #3,008,000].

As is shown in figure 1, Morchand disclosed a system for presenting a multimedia TV presentation; i.e. a TV presentation comprising a video "media" component and an audio "media" component. The system comprised:

a) Tuner circuitry (@ 18a and 18b) for receiving a first multimedia TV signal from a first one of the illustrated transmitter stations;

b) Circuitry for outputting the first multimedia TV signal to a plurality of output device (@ 22 and 42);

c) An input device (@ 28) for receiving user inputs based on the outputted/displayed first signal;

d) Control logic (@ 26, 28, and 30) for "comparing" said user response to information, e.g. to the pattern of light impulses detected @ 40a-40n, that corresponds to "content" of the first signal [i.e. the pattern of light corresponds to a limited number of answers that can be selected by the user in response to a question asked of the user via the first signal, wherein the logic circuit effects a comparison between the user response and the displayed pattern to determine which answer has been selected (note lines 26-49 of column 3)];

e) Said tuner circuitry (@ 18a and 18b) for tuning the receiver station to receive a second multimedia TV signal from a second one of the illustrated TV signal transmitters;

c) Circuitry for outputting the audio and video information that corresponds to the second signal;

wherein the resulting multimedia TV signal presentation comprises audio and video information from both received TV signals.

SECTION 103 ISSUES:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

E-13) Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnaby [US #3,982,064] in view of Okada et al. [JP 56-8975].

I. The showing of Barnaby:
Barnaby discloses a TV transmission system. The system includes the transmitter station circuitry that is shown in figure 2, and the receiver station circuitry that is shown in figure 1. The following is noted:

1) As is evidenced in figure 2, the transmitter station circuitry of Barnaby comprised:

a) A "source" of TV programming (not shown in the figure) which provides the video component of the TV program signal ("VIDEO"); and

b) A "source" of teletext data (e.g. 100, 102, 104, 106, 110, 112, and 114), that is different from the source of TV programming, for providing teletext data ("DATA").

The teletext data from the second named source was embedded in the VBI of the video from the first named source to create a combined signal ("OUTPUT DATA AND VIDEO") for transmission to the receiver stations.

2) As evidenced in figure 1, the receiver station circuitry of Barnaby comprised:

a) A storage device (14) for storing "first information" representing a received teletext page address;

b) An input device (22) for inputting "second information" representing a desired teletext page address;

c) Comparing circuitry (21) for comparing said "first information" stored at the receiving station (@14) with said "second information" to determine whether to generate and present a "second medium" comprised of a locally generated teletext text/graphic image (@ the output of 35), wherein said generation and presentation of the second medium occurs based on the selective receipt of the "third information" comprising the teletext page instruction set that is associated with said "first information" and is stored @ 26;

d) Switching circuitry (2) for coordinating the display of the video component of the received TV programming with the display of the locally generated teletext based on said "determination"; and

e) An output device (4) for displaying the coordinated first and second mediums.

II. Differences:

Claim 24 differs from the showing of Barnaby only in that:

a) Barnaby does not state that the page number input (@ 22) "corresponds to content" of the received TV programming; and

b) Barnaby only illustrates a single output/display device (@ 4) and does not show/suggest separate display/output devices for the first and second mediums.

III. Obviousness:

The following is noted:

a) The examiner takes Official Notice that it was notoriously well known to those of ordinary skill in the art at the time of applicant's alleged invention for the user entered page numbers to have pertained to "program-related" teletext pages and, therefor, for the entered page numbers to have "corresponded to content" of the received TV programming.[33] The examiner maintains that it would have been obvious to one of ordinary skill in the art for the receiver described in Barnaby to have been utilized for the notoriously well-known and conventional purpose of displaying "program related" teletext pages.

b) As is evidenced by figures 2 and 3 of Okada et al., it was known and desirable to those of ordinary skill in the art at the time of applicant's alleged invention to have added appropriate selection and switching circuitry (e.g. 30, 31, 32, 40) to conventional teletext receiving stations to enable users to selectively output received teletext images to a separate output printing devices (@ 33) in order to obtain hardcopies thereof. Given this showing, it would have been obvious to one of ordinary skill in the art to have modified the conventional teletext receiver described by Barnaby to provide this conventional desirable feature.

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[33] e.g. Note: lines 12-20 of the second column on page 30 of the 1976 article "Oracle on Independent Television" by Green et al.; lines 2-7 on page 26 of WO 81/02961 to Campbell et al.; etc,...

E-14) Claims 74 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnaby [US #3,982,064] in view of Okada et al. [JP 56-8975], for the same reasons that were set forth for claims 24 and 25 above, in view of Betts [GB 1,556,366].

1) Claims 74 and 75 differ from the system disclosed by Barnaby, modified by Okada et al., only in that the Teletext decoding circuitry of the modified system was implemented using dedicated logic circuitry rather than in software using a microcomputer.

2) Betts evidences the fact that such software implementations of conventional teletext decoder circuitry was known to have had significant advantages over the dedicated logic approach [e.g. lines 50-55 and 70-74 on page 1].

3) The examiner maintains that it would have been obvious to one of ordinary skill in the art to have utilized a software driven decoder to provide the processing of the dedicated circuitry in the modified system of Barnaby given the known advantages provided thereby (as evidenced by Betts).

E-15) Claims 103 and 104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnaby [US #3,982,064] in view of Okada et al. [JP 56-8975] for the same reason that is set forth for claims 74 and 75 above. Further, the following is noted

Multi-channel cable TV systems began (and continue) to be used to convey conventional TV broadcast signals to household receiving locations that are unable to receive the broadcasted TV signals directly (due to distance and/or environment). Thus, utilizing a multi-channel cable system to convey conventional broadcast TV signals of the type described by Barnaby and Okada et al. would have been obvious given that such simply represents a utilization for which cable was intended.[34]

[34] Note, for example, WO/02961 to Campbell et al.

E-16) Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori [JP 52-22423] and Long et al. [US #4,081,990].

I. The showing of Komori:
As is shown on the cover page, Komori disclosed a video signal processing device which:

a) Received a first information signal (V1) representing a first analog video signal medium;

b) Received a second information signal (V2) representing a second binary video signal medium;

c) Identified (@ 11) a sync signal "content" of the analog video signal media;

d) Identified (@ 13) a sync signal "content" of the binary video signal media;

e) Stored information (@ 17) based on the second binary video signal media; and

f) Outputting (@20) a signal (V3) representing a multimedia presentation comprised of selected portions of analog video information and selected portions of the binary video signal information. [see figure 4]

The claims differ from the showing of Komori only in that Komori does not explicitly illustrate at least one of the signals V1 and V2 as having been provided from a remote transmitter source.

II. The showing of Long et al.:
As is shown in figures 1 and 15, Long et al. disclosed a video signal processing device which:

a) Received a first information signal ("LOCAL" of figure 15) representing a first video signal medium;

b) Received a second information signal ("REMOTE" of figure 15) representing a second video signal medium, wherein this second information signal is provided from a remote signal transmission source (not shown);

c) Identified (@ "16" of figure 1) a sync signal "content" of the first video signal media;

d) Identified (@ "14" of figure 1) a sync signal "content" of the second video signal media;

e) Stored information (@ "15" of figure 1) based on the second video signal media; and

f) Outputting (@ "14" of figure 15) a signal ("VIDEO OUTPUT") representing a combined presentation comprised of selected portions of the first video signal information and selected portions of the second video signal medium.

The claims differ from the showing of Long et al. only in that Long et al. does not explicitly describe an application of the illustrated system in which the first and second video signals represent different "media".

III. Obviousness:

A) Given the showing of Long et al., one of ordinary skill in the art would have recognized the obviousness of having provided at least one of the video signals V1/V2 in Komori from a remote transmission station location.

B) Alternatively, given the showing of Komori, one of ordinary skill in the art would have recognized the obviousness of having utilized the system of Long et al. to have combined two video signals of different "media".

E-17) Claim 82 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komori [JP 52-22423] and Long et al. [US #4,081,990] for the same reason as explained for claims 26 and 27 above.

One of ordinary skill in the art would have understood the fact that the respective video signals included an audio component processed therewith in a like manner.

E-18) Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashigi et al. [US patent # 4,218,710] in view of Komori [JP 52-22423] and Long et al. [US #4,081,990].

I. The showing of Kashigi:
As is shown in figure 1, Kashigi et al. disclosed a processing system for combining multiple received non-synchronous video signals (e.g. @ 11 and 12) into a single combined video signal output (@14). The system:

a) Received a first information signal (@ 11) representing a first video signal medium;

b) Received a second information signal (@ 12) representing a second video signal medium;

c) Identified (@ "21", "24", and "25" of the "1st FRAME synchronizer" @ "16") a sync signal "content" of the first video signal media;

d) Identified (i.e. @ "21", "24", and "25" of the "2nd FRAME synchronizer" @ "17") a sync signal "content" of the second video signal media;

e) Stored information (@ "30" of the "1st FRAME synchronizer" @ "16") based on the first video signal media;

f) Stored information (i.e. @ "30" of the "2nd FRAME synchronizer" @ "17") based on the second video signal media; and

g) Outputting (@ "14") a signal ("VIDEO OUTPUT") representing a combined presentation comprised of selected portions of the first video signal information and selected portions of the second video signal medium.

II. Differences:
The claims differ from the showing of Kashigi et al. only in that Kashigi et al. did not explicitly describe or show:

1) That at least one of the video signal inputs (@ 11/12) was provided from a remote transmission signal source; and

2) That the video signal inputs (@ 11/12) represented different video signal "media".

III. Obviousness:

The applied prior art of Long et al. and Komori have been described above. The following is noted:

1) Given the showing of Long et al., one of ordinary skill in the art would have recognized the obviousness of having provided at least one of the video signals (@ 11/12) in Kashigi et al. from a remote transmission station location; and

2) Given the showing of Komori, one of ordinary skill in the art would have also recognized the obviousness of having utilized the modified system of Kashigi et al. to have combined two video signals of different "media".

E-19) Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of:

A) Marsden [GB 871,238];

B) Germany [GB 959,274]; and

C) Diederich [DT 2,356,969],

in view of the 1980 publication "Controlling Cable Head Ends and Generating Messages by Means of a Micro Computer" by Schloss et al.

I. The automated insertion of advertising at local TV stations:
The examiner maintains that it was notoriously well known in the art for central/network TV stations to have embedded one or more "instruction signals" into their broadcasted network TV programming transmission in order to have automated the process of inserting local/regional advertising into the network TV programming at local/regional TV station location prior to re-transmission therefrom. That is, the embedded "instruction signal" identified those portions/"content" of the network TV programming that was to be replaced, at the local/regional stations, by local/regional advertising. Such conventional "automated" system technology is illustrated by any one of Marsden, Germany, and Diedrich.

In the automated system discussed above, the local/regional TV stations correspond to the recited "receiving station" in that the local/regional TV stations of the automated system necessarily comprised:

1) Circuitry for receiving and decoding the "instruction signal" that are embedded within the received network TV programming to "***identify content***" of the network TV programming; i.e. to identify portions/segments of the network TV programming that are to be replaced with local/regional advertising;

2) Circuitry that, in response to said identified content, "**causes at least one video image of a series of discrete video images to be outputted from a local/regional advertising TV program source subsequent to the content identification process**"; and

3) **Combining/switching circuitry for sequentially combining the at least one video image that is outputted from the local/regional**

program source with and received network TV programming to create a combined TV signal presentation which is inherently

"multimedia" by its very nature; i.e. such TV signals inherently comprised audio and video media components.

II. Differences:

Claim 29 differs from the automated system discussed above only on that the automated system discussed above did not necessarily generate the series of discrete images that comprised the local/regional TV advertising by "processing a command signal that causes the execution of processor instructions to create" said series of images.

III. The showing of Schloss et al.:

A) The publication by Schloss et al. has been cited as evidencing the fact that:

1) It was conventional for TV stations to have been controlled by a computer whereby the computer was programmed with program event file (i.e. a "control signal") that, when processed by the computer", caused the execution of software (i.e. "processor instructions") to create, at the video output of the computer, a series computer generated message and advertising video frames; and

2) That the computer included its own receiver (i.e. a the "modems") for receiving information from remote sources (i.e. from advertisers).

That is, Schloss et al. explicitly taught the following:

"The purpose of this project was to program an Apple Micro-Computer to perform the following functions in Omega's cable system in Brazil, Indiana.
1. Channel Switching;
2. Character Generation;
3. Perpetual clock and calendar.
The clock calendar function and the keyboard command furntion interact with the computer to produce output voltages. These voltages switch coaxial switches to perform the above functions. Audio switching is similarly performed with the computer output voltages. The video output of the computer is used as a character generation and is routed to the switcher as an input. Upon command the computer will play messages and/or advertisements which the switcher will route to an output channel. At a cost of less than $3500 complete, the Apple II computer and switcher is an economical controller and character generator"
[lines 2-22 in the first column on page 136 of the publication]

"A modern cable television system has a need to control multiple inputs (normally television signals) into a limited number of cable television channels.
The system needs to control these signals by time of day, day of week, and day of the month" [lines 25-30 in the first column on page 136 of the publication]

"Utilizing an Apple II micro computer and custom switcher, the computer will control three audio and video inputs into one output channel and any three audio and video inputs into a second output channel. One of these video inputs can be the video output of the computer which we have utilized as a message and advertising input to our two channels" [lines 37-44 in the first column on page 136 of the publication]

"The operating program, messages, and event file of times of channel changes are stored on the disk and loaded into the computer when needed" [lines 3-6 in the second column on page 136 of the publication]

"Any video and audio sources could be [substituted] for those listed above and extra relays could be wired in parallel with the coaxial relays. For example, the computer could energize a remote controlled audio cart player or video player whenever it's video output was selected by the computer" [lines 3-9 in the first column on page 137 of the publication]

"The computer program was written by John Turpin of Home Computer Center in Indianapolis, consists basically of three parts:

1. **A message entry program to input messages and store them of disk.**
2. **An event entry program to input times and dates of events and store these in chronological order on the disk.**
3. **An event handling program to compare the time from the real time clock with the times in the event file and carry out the specified events as necessary."**

[lines 13-24 in the first column on page 137 of the publication]

"The most important strength of the controller is that the system is 'software' controlled rather than 'hardware' controlled. Any system changes and additions require only additional programming."
[lines 22-26 in the second column on page 137 of the publication]

"Through the use of telephone interconnection devices (modems), the computer at the head end can be remotely programmed. The cable TV office could change the event file without going to the head end. Similarly, any advertiser could access the computer and change his advertisment on a daily or hourly basis" [lines 4-11 on page 138 of the publication]

IV. Obviousness:

The examiner maintains that it would have been obvious to one of ordinary skill in the art to have modified the local/regional TV stations in any one of Marsden, Germany, and Diederich, to have included the "computer" implemented station "controller" that was described in Schloss et al. given the many strengths and advantages provided thereby.

"The most important strength of the controller is that the system is 'software' controlled rather than 'hardware' controlled. Any system changes and additions require only additional programming."
[lines 22-26 in the second column on page 137 of the publication]

> **"Upon command the computer will play messages and/or advertisements which the switcher will route to an output channel. At a cost of less than $3500 complete, the Apple II computer and switcher is an economical controller and character generator"** [lines 16-22 in the first column on page 136 of the publication]
>
> **"Through the use of telephone interconnection devices (modems), the computer at the head end can be remotely programmed. The cable TV office could change the event file without going to the head end. Similarly, any advertiser could access the computer and change his advertisment on a daily or hourly basis"** [lines 4-11 on page 138 of the publication]

Wherein, as described in Schloss et al., the modified system would have utilized the control "computer" to generate all, or at least some, of the local/regional advertisements that replace the identified portion of the network programming.

E-20) Here, for completeness of record, it is noted that while conventional TV stations typically operated to "sequentially" mixed/combine the advertising sequences with the TV program sequences, it was a notoriously well known alternative to have simultaneously mixed/combined the advertising sequences with the TV program sequences. This alternative approach was known to have been advantageous in that it allowed the advertising to be displayed without causing a disruption to the TV programming. See, for example:

A) U.S. patent #2,723,307 to Baracket et al. which was patented in 1955 [note lines 23-31 of column 1]; and

B) Japanese patent document #51-126712 to Kubota et al. which was published in 1976.

E-21) Claims 2-6, 11-16, 20-23, 76-81, and 85-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of:

A) Marsden [GB 871,238];

B) Germany [GB 959,274]; and

C) Diederich [DT 2,356,969],

in view of the 1980 publication "Controlling Cable Head Ends and Generating Messages by Means of a Micro Computer" by Schloss et al., for the same reasons that were set forth for claims 29 and 30 above.

E-22) Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of:

A) Marsden [GB 871,238];

B) Germany [GB 959,274]; and

C) Diederich [DT 2,356,969],

in view of the 1980 publication "Controlling Cable Head Ends and Generating Messages by Means of a Micro Computer" by Schloss et al., for the same reasons that were set forth for claim 2 above, further in view of the 1978 re-print of the article "Automated Videotape Delay Of Satellite Transmissions" by Chiddix.

The Chiddix article has been cited as evidencing the fact that it was known to have recorded the TV programming being broadcast to local/regional stations for delayed re-broadcast therefrom. In the case of automated commercial insertion systems, it was noted in Chiddix that one had to be sure to record the insertion control signal too [note the second full paragraph in the last column of the article].

Given the showing of Chiddix, the examiner maintains that it would have been obvious to have further modified the local/regional receiver stations of Marsden, Germany, and Diedrich to have included the recording means described by

Chiddix to delay the received network programming where appropriate (i.e. when the network station and the local regional stations are located in different time zones).

E-23) Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morchand [US patent #3,008,000] in view of Zaboklicki [DE 2,904,981].

1) Morchand discloses a multi-channel interactive TV display system as was set forth above in the rejection of claim 33.

2) Claims 34 and 36 differ from the showing of Morchand only in that Morchand did not disclose circuitry for recoding the user's responses and for conveying the so recorded responses to a remote location via the telephone line;

3) Zaboklicki also disclosed a multi-channel interactive TV display system as was set forth above in the rejection of claim 2. Zaboklicki evidences the fact that it was known to have been desirable within such interactive systems to have recorded the users responses and conveyed them to a remote location via the telephone line [note figure 4 of Zaboklicki].

4) The examiner maintains that it would have been obvious to one of ordinary skill in the art to have modified the system disclosed by Morchand in accordance with the teachings of Zaboklicki thereby enabling the user's responses recorded and conveyed to a remote location via the telephone line.

E-24) Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morchand [US patent #3,008,000] in view of Zaboklicki [DE 2,904,981].

1) Morchand discloses a multi-channel interactive TV display system as was set forth above in the rejection of claim 33.

2) Claim 35 differs from the showing of Morchand only in that Morchand did not disclose circuitry for printing out information corresponding to the second information;

3) Zaboklicki also disclosed a multi-channel interactive TV display system as was set forth above in the rejection of claim 2. Zaboklicki evidences the fact that it

was known to have been desirable to provided the receiver in such systems a printing capability [e.g. note element 37 of figure 3].

4) The examiner maintains that it would have been obvious to one of ordinary skill in the art to have modified the system disclosed by Morchand in accordance with the teachings of Zaboklicki thereby enabling the second information to be conveyed to a printer for hardcopy reproduction.

E-25) Claims 76-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thonnart [US patent #4,413,281] and Zaboklicki [DE 2,904,981].

I. The showing of Thonnart and Zaboklicki:

As was described above within paragraph D-3 of this Office action, Thonnart and Zaboklicki both disclosed interactive TV systems which:

1) Transmitted interactive TV programming to a plurality of receiving stations wherein the TV programming comprised pluralities of analog and digital program segments/fragmenst;

2) Downloaded "logic" sequences (i.e. "software") to the receiver stations so as to instruct the receiver stations as to how to select and assemble/display ones of the transmitted program segments/fragments into a user specific multimedia interactive presentation based on the specific inputs/responses of the user; and

3) Added program segment/fragment identifiers to the transmitted program segments/fragments in order to have allowed the receiver station to find and identify those of the transmitted segments/fragments that it needs for its given user specific presentation.

II. Differences:

The claims differ from the showing of Thonnart and Zaboklicki in the following ways:

1) While the receiver stations in Thonnart comprised first and second receivers (i.e. tuners) for receiving the analog and digital program segments/fragments respectively, Thonnart did not explicitly indicate the receiver stations as having comprised a "microcomputer" for executing the downloaded logic sequences; and

2) While the receiver stations in Zaboklicki comprised a "microcomputer" for executing the downloaded logic sequences (i.e. Telesoftware),

Zaboklicki did not explicitly show or indicate an embodiment of invention in which the analog and digital program segments/fragments were conveyed over separate TV channels; i.e. wherein the receiver stations comprised first and second receivers (i.e. tuners).

III. Obviousness:

1) Even if the receiver stations in Thonnart were to have comprised dedicated circuitry for executing the downloaded logic sequences, the examiner maintains that modifying the receivers with a "microcomputer" represents an obvious upgrade of technology known to those of ordinary skill in the art at the time of applicant's alleged invention (as evidenced by the showing of Zaboklicki); and, alternatively

2) That transmitting the analog and digital program segments/fragments in Zaboklicki via separate/different channels, thereby requiring the receivers to have had separate receivers/tuners, represents a known and obvious design alternative (as evidenced by the showing of Thonnart).

E-26) Claims 85-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thonnart [US patent #4,413,281] and Zaboklicki [DE 2,904,981] for the same reasons that were set forth for claims 76-81 above.

E-27) Claim 95 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zaboklicki [DE 2,904,981] in view of Field et al. [U.S. #4,398,216] and Laviana [U.S. #3,245,157].

I. The showing of Laviana and Zaboklicki:
As was described above within paragraph D-3 of this Office action, Laviana and Zaboklicki both disclosed interactive TV systems in which ones of a plurality of transmitted audio signal fragments/segments were selected at each receiver station, based on respective user's inputs, to interactively create a user specific multimedia presentation thereat. In both systems, the multimedia presentation included: at least one video component that was outputted to a video output device; and selected audio signal segments/fragments which were outputted to an audio output device.

II. Differences:

Zaboklicki explicitly indicates that the plurality of audio segments/fragments were to be transmitted to the receiver station locations in a manner analogous to conventional foreign language audio transmissions and, being such, that the audio segments/fragments were to be transmitted to the receiving station using via conventional "***audio channels or radio channels***". [35] With respect to the figure 3 receiver station embodiment, Zaboklicki indicates that the audio fragments/segments were selected (i.e. turned on and off) under computer control via some type of audio channel selection circuitry (@ 43) located within the TV receiver (@ 54). Zaboklicki, however, does not explicitly describe this computer controlled audio channel selection element as having comprised a computer controlled "tuner".

III. Obviousness:

While Zaboklicki does not explicitly described the audio selection circuitry (43) of his figure 3 receiver station embodiment as having comprised a computer controlled RF "tuner", such a controlled RF "tuner" implementation of the selection circuitry (43) seems to be suggested within the Zaboklicki prior art itself by its noted reference to conventional "**radio channels**" [36]; i.e. obviously, RF "tuning" circuitry was required to receive RF audio signal segments/fragments conveyed by such explicitly described "radio channels". In case of doubt, however, one needs only turn to Laviana which evidences the fact that it was well known within the interactive TV arts to have utilized separate "radio channels", e.g. separate RF carriers, to have conveyed the respective RF audio program segments/fragments of a complete interactive TV program to the receiving station locations; i.e. wherein the receiving station circuitry necessarily comprised controlled RF tuning circuitry for selectively receiving and outputting the audio signals from ones of the "radio channels"/RF carriers based on the user's inputs/responses [note: lines 69-72 in column 3; and lines 31-40 of column 4]. That is, given such teachings of Laviana, having implemented the audio segment/fragment selection circuitry (43) within Zaboklicki using an RF tuner represents nothing but an obvious choice of design. That is, the receiver station of Zaboklicki was described as receiving its audio program segments/fragments over RF radio channels via a computer controlled selection device and, as evidenced by the showing of Laviana, a RF "tuner" was a well known device by which such RF segments/fragments were known to have been selected.

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[35] Such conventional transmission schemes having been known to those of ordinary skill in the art as evidenced by U.S. Patent #4,398,216 to Field et al. [e.g. note: the prior art that is described in lines 1-17 of column 2; and the invention of figures 1, 2, and 8].

[36] Again, such a conventional transmission scheme having been known to those of ordinary skill in the art as evidenced by U.S. Patent #4,398,216 to Field et al. [e.g. note the prior art that is described in lines 1-17 of column 2].

With respect to the limitations of the claim:

a) The "first receiver" of claim 95 reads on that portion of TV receiver (54), e.g. the circuitry controlled by signal (27), of the modified system of Zaboklicki that receives the multi-channel TV signals;

b) The "second receiver" of claim 95 reads on that portion of TV receiver (54), e.g. the RF tuning circuitry (@ 45), **of the modified system of Zaboklicki** that receives the RF audio segments/fragments of the additional audio "radio channels";

c) The "microcomputer" of claim 95 reads on elements (6, 7, 34, 39, and 49) of the modified system of Zaboklicki which inherently compares the user entered responses to information of the interactive programming "script", i.e. provided via the downloaded "Telesoftware", to determine which of the RF audio program segments/fragments were to be tuned to next; and

d) Wherein the receiver presents a multimedia presentation that includes a the multi-channel TV signal component provided at a first output device (e.g. the CRT of the TV receiver) and an additional audio segment/fragment component provided at a second output device (i.e. the speaker of the receiver (54)).

E-28) Claims 96, 97, 99, and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zaboklicki [DE 2,904,981] in view of Field et al. [U.S. #4,398,216] and Laviana [U.S. #3,245,157], for the same reason that were set forth for claim 95 above. Additionally, the following is noted:

a) With respect to the claims 96 and 97, note figure 4 of Zaboklicki.

E-29) Claims 33, 34, 36, 101 and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zaboklicki [DE 2,904,981] in view of Field et al. [U.S. #4,398,216] and Laviana [U.S. #3,245,157], for the same reason that were set forth for claims 96, 97, 99 and 100 above.

E-30) Claim 98 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zaboklicki [DE 2,904,981] in view of Field et al. [U.S. #4,398,216] and Laviana [U.S. #3,245,157], for the same reason that were set forth for claim 95 above, further in view of the publication "A Television Facsimile System" by Soejima. The following is noted:

1) The receiver station of modified system of Zaboklicki also comprised a "printer" (@ 37) for outputting hard-copy information related to the interactive programming. Zaboklicki, however, does not indicate that this outputted information is obtained from the controlled RF tuner (@45).

2) As shown in figure 7, Soejima has been cited to evidence the fact that it was known to have embedded print data within the audio component of TV programming;

3) Given the showing of Soejima, the examiner maintains that it would have been obvious to one of ordinary skill in the art to have utilized the "printer" (@37) of the modified system of Zaboklicki to have printed print data obtained from the RF audio channels; i.e. locating such print data within these RF channels having being an obvious location for data that pertains to specific explanations provided by the audio segments/fragments carried therein.

E-31) Claims 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zaboklicki [DE 2,904,981] in view of Field et al. [U.S. #4,398,216] and Laviana [U.S. #3,245,157], for the same reason that were set forth for claim 95 above, further in view of the publication "A Television Facsimile System" by Soejima, for the same reason that was set forth for claim 33 above [see the explanation provided in regard to the limitations of claim 98].

E-32) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuboka et al. [JP 55-45248] in view of the 1979 article "'TOUCH-TONE' TELETEXT: A COMBINED TELETEXT-VIEWDATA SYSTEM" to Robinson et al.

I. Conventional TELETEXT/VIEWDATA receiver/decoder structure:
As is shown in figure 2, Tsuboka et al. disclose a conventional computer controlled videotex decoder that comprises:

1) Inputs (@ 2 and 12) for receiving a plurality of signals from external signal sources including:

a) TV programming from an external TV programming source;

b) Teletext data signal from an external teletext data source; and

c) Viewdata from an external viewdata source.

2) The memory of a "computer" (e.g. @ 9 and/or 72) for storing first information representing a first Teletext/Viewdata media;

3) Computer circuitry (e.g. including CPU 35) which, based on inputs (@ 30) from a user, coordinates (via elements 14 and 19-30) the display/presentation of teletext and/or viewdata images, which images are locally generated from the stored first information, with the display/presentation of the demodulated video component (@21) of the received TV programming; and

4) Display circuitry (@ 31) for outputting the resulting combined multi-media presentation to the user.

II. Differences:
Claim 2 differs from the showing of Tsuboka et al. only in that Tsuboka et al. did not indicate a process in which the coordinated display of teletext/viewdata and video was produced based on the a "determined" content of the TV programming.

III. "Program-related" videotext data:
The examiner takes Official Notice that it was notoriously well known to those of ordinary skill in the art at the time of applicant's alleged invention for conventional teletext services to have carried "program-related" teletext pages; i.e. pages having a "content" that is related to the "content" of associated TV

programming.[37] Robinson et al. evidences the fact that it was known for the associated TV programming to have a "content" that explicitly refers to the associated "program-related" videotex pages; e.g.

> **"Viewers could get the latest details on breaking stories or more detail on stories that interest them. News programs on television could refer a viewer to these pages to get the detail that is cut out due to time limitations"**
> [lines 18-20 of the first column on page 300 of Robinson et al.]

In accessing such a page, the user inherently selected the program-related videotex page by:

> 1) "***Determining a content***" of the TV programming medium; i.e. the user determines that the content of the TV programming contains explicit reference to (i.e. an "identifier" of) the program-related teletext page that was to be selected by the user.

IV. Obviousness:
It would have been obvious to one of ordinary skill in the art to have used the receiver circuitry described in Tsuboka et al. for the intended purpose of receiving and displaying conventional videotex data, wherein the "program-related" videotext data described in Robinson et al. obviously represented a specific example/subset of the conventional videotex data that was to be received and displayed by the Tsuboka et al. receiver.

E-33) Claims 3, 5-8, and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuboka et al. [JP 55-45248] in view of the 1979 article "'TOUCH-TONE' TELETEXT: A COMBINED TELETEXT-VIEWDATA SYSTEM" to Robinson et al. for the same reasons that were set forth for claim 2 above.

[37] e.g. Note: lines 12-20 of the second column on page 30 of the 1976 article "Oracle on Independent Television" by Green et al.; lines 2-7 on page 26 of WO 81/02961 to Campbell et al.; etc,...

E-34) Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuboka et al. [JP 55-45248] in view of the 1979 article "'TOUCH-TONE' TELETEXT: A COMBINED TELETEXT-VIEWDATA SYSTEM" to Robinson et al. for the same reason that is set forth for claim 2 above. The following is noted:

a) The system disclosed by Tsuboka et al., modified by Robinson et al., inherently included conventional TV video and audio component processing circuitry for processing the received TV signal to provide a first TV media presentation having an "identifier" therein (i.e. containing the explicit reference to a program-related videotext image);

b) The user of the system disclosed by Tsuboka et al., modified by Robinson et al., processed the identifier to identify "content" of the TV programming (i.e. the user processed the explicit reference contained therein to identify the page number of the program-related videotex page that is to be inputted/selected by the user;

c) The user then entered the page number into the receiver (@ 37) upon which said receiver, under control of the software being executed by CPU (35), caused the program-related videotext image "medium" to be provided in a coordinated fashion with the TV programming "medium"; and

d) The output device (31) for outputting the resulting combined medium presentation to the user.

E-35) Claims 21-23, 37, 67, 68, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuboka et al. [JP 55-45248] in view of the 1979 article "'TOUCH-TONE' TELETEXT: A COMBINED TELETEXT-VIEWDATA SYSTEM" to Robinson et al. for the same reason that is set forth for claim 20 above. The following is noted:

E-36) Claims 2 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betts et al. [GB 1,556,366] in view of the "MODE II" captioning feature of the "ANTIOPE" teletext standard as discussed in: the 1980 article "Development & Applications of the Antiope-Didon Technology" by Guillermin; the 5/1981 "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENDED ANTIOPE)' publication; and the 1980 article entitled "ANTIOPE TELETEXT CAPTIONING" by Sechet.

I. The showing of Betts et al.:

Betts et al. has been cited as evidencing the fact that it was widely known to those of ordinary skill in the art, at the time of applicants' alleged invention, that it was both desirable and advantageous to have implemented teletext receiving/decoding circuitry using a software driven CPU/computer in place of dedicated circuitry [NOTE: lines 50-54 and 70-74 on page 1].

II. "MODE II" captioning:

1) Those of ordinary skill in the art, at the time of applicant's alleged invention, had recognized that there was a need and desire to transmit closed captioning data pertaining to multiple different languages within each TV program transmission. Because teletext captions had to be transmitted sequentially through the TV network, it was found to be difficult to simultaneously synchronize the display of the different captions/languages to the same TV programming. Hence, a "Mode II" captioning feature was developed and added to new teletext "standards" (e.g. ANTIOPE) for the expressed purpose of synchronizing multiple captions to the same program.

> **"The possibilities of teletext closed captioning for the hearing-impaired and for foreigners are well known and were first experimented in the United Kingdom. The problem of synchronizing the TV program and the captions was not really solved, except at the price of heavy time delay constraints. If several different languages are to be captioned at the same time with a given program, new developments are needed, because asynchronism appears for multilanguage captioning applications. The new standards make it very simple to add sophisticated captioning options to a normal teletext decoder: in this**

new process, the synchronism control signal are completely separate from the 'character attributes' - they are actually considered as a 'message attribute'.
[e.g. section 5.1.3 on page 33 of the 3/1980 publication "Development & Application of the Antiope-Didon Technology]

2) The way in which these "new" teletext standards solved the synchronism problem was best explained among the prior art of record by the "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENDED ANTIOPE)" which is dated May 20, 1981. [SEE: sections 7.0-7.3 on pages 135-138; and sections 8.9.1 to 8.9.2.2.2 on pages 159-162]. That is, as explained within this publication:

a) Different classes of captioning (and different levels thereof) were transmitted from the transmitter as conventional teletext pages prior to the time that they were to be displayed;

b) Each receiver captured and stored (but did not display) the page of teletext data which corresponded to the class (and the level) of captioning that was selected and desired by the user;

c) At the desired time of display, a "reveal"/"unmask" message was transmitted from the transmitter station which caused/triggered the stored captions at the respective receivers stations to be simultaneously outputted and displayed in precise synchronism with the TV programming.

That is, the Mode II captioning feature provided the mechanism by which multiple program related captions could now be transmitted sequentially and asynchronously within the TV programming, while enabling each of these sequentially transmitted captions to be displayed simultaneously and in precise synchronism with the same TV programming at different receiver stations in response to the receipt of the same reveal/unmask display signal.

3) The 8/1980 publication "ANTIOPE TELETEXT CAPTIONING" also describes this same "MODE II" captioning feature of the ANTIOPE teletext standard. This

publication has been cited in response to arguments that have been submitted by applicants throughout the present prosecution. [38] Namely:

a) This publication makes it clear that the "MODE II" captioning feature of ANTIOPE utilizes the same teletext equipment that is used for the teletext service itself being that the captions are transmitted as standard teletext pages.

> **"When Antiope is employed for captioning, it uses the same equipment as for teletext"** (the second column of page 618)

> **"Each caption is broadcast in the form of a page which is identical to a teletext page. The page number is used to select the language - this is the number the user keys on the decoder keypad. The operation is the same as for the selection of a teletext page; the decoder functions are identical"** (the first column of page 619)

b) This publication makes it clear that all the teletext pages of the ANTIOPE standard were transmitted within the "discrete teletext transport packets" of the DIDON standard and that even the shortest of the captions (i.e. the word "yes") had to be transmitted using more than one of these discrete DIDON transport packet.

> **"The word 'yes', wherever it is located on the screen, if it is white on black, is coded in 23 bytes (i.e. 1.15 DIDON packets), and text containing 40 characters requires 60 bytes (i.e. 3 packets)"** (the second column on page 619)

c) This publication re-emphasizes that it was the ability of the ANTIOPE system to mask (conceal) and unmask (reveal) teletext messages which enabled the ANTIOPE system to separate the act of transmitting messages/captions from the act of displaying them (i.e. a key feature that is vital to the implementation of the MODE II captioning).

> **"Considerable flexibility is also given by the use of text masking and unmasking attributes. They enable us to differentiate reception, which can be stored, from display, which is requested**

[38] E.G., applicants' have attempted to distinguish the claimed invention over applied teletext prior art by arguing that the signals of teletext are not conveyed within pluralities of discrete packet signals that, therefor, must be assembled/re-assembled on the receiver side of the network. As is evident from the cited prior art, applicants' argument is simply untrue (i.e. even the shortest of teletext messages were conveyed within a plurality of discrete teletext packet signals).

a particular moment without being dependent on the time of transmission" (page 619)

III. Applicants' Disclosed Invention and MODE II captioning:

1) In applicants' disclosed "WALL STREET WEEK" application, a "command signal" was embedded, at a specific time, within the "Wall Street Week" TV program being broadcast from a transmitter station. At each receiver station, said "Wall Street Week" program was received and the "command signal", embedded therein, was detected. At each receiver station, the detected

"command signal" triggered a locally generated user specific graphic to be displayed as an overlay over the displayed video portion of said received "Wall Street Week" program. Thus, via the embedding of a single "command signal", the display of different locally generated user specific overlays at different receiver stations were all "synchronized" to occur at said specific time within the "Wall Street Week" program.

2) As is clearly evident from the prior art of record, the MODE II captioning feature of the ANTIOPE teletext standard also utilized a single common display "command signal" to cause different "locally generated" program related teletext captioning images to be simultaneously overlaid at respective TV receiver stations in precise synchronism with the TV programming to which they relate.

Namely, in mode II captioning, reveal/unmask "command signals" were embedded, at specific times within, a transmitted TV program being broadcast from a transmitter station. At each receiver station, said program was received and the reveal/unmask "command signals", embedded therein, were detected. At each receiver station, each detected reveal/unmask "command signal" triggered a locally generated user specific graphic (e.g. a respective "program related caption") to be displayed as an overlay over the displayed video portion of said received TV program. Thus, via the embedding of each reveal/unmask "command signal", the displays of different "locally generated" user specific overlays at different receiver stations were all "synchronized" to occur at the specific times within the TV program.

IV. Obviousness:

Given the known advantages provided thereby, the examiner maintains that it would have been obvious to one of ordinary skill in the art to have utilized computer implemented teletext receivers/decoders, e.g. of the type described in Betts et al., for receiving and displaying conventional teletext data of the "ANTIOPE" teletext standard including conventional "Mode II"

captioning provided therein. [39] **Such computer implemented teletext receivers/decoders would have necessarily comprised:**

1) Circuitry/software for receiving a plurality of signals from an external signal source
[*i.e. the teletext receiver/decoder necessarily receives the TV programming containing the mode II captioning*];

2) Circuitry/software for storing information from the received plurality of signals corresponding to a first media
[*i.e. the teletext receiver/decoder necessarily receives and stores that portion of the Mode II captioning that pertains to the language and level selected by the user*];

3) Circuitry/software for determining "content" of a second medium received in said plurality of signals
[*i.e. as in the case of applicants' own alleged invention, this limitation refers to nothing more than the detection of the "display control signal" being that said display control signal at least represents the "content" of the audio component of the TV programming to which the locally generated images/captions are to be synchronously displayed*];

4) Circuitry/software for coordinating, under the computer implemented receiver/decoder control, the display of the stored information with said second medium
[i.e. *the computer implemented decoder necessarily coordinates the display of the Mode II captions with the displayed audio and video component of the received TV programming in response to the received "display control signal" (i.e. the "reveal"/"unmask" signals of Mode II captioning)*]; **and**

5) Circuitry for outputting the multimedia presentation to the respective user base on the step of coordinating
[*i.e. the receiver/decoder necessarily comprises a display device for displaying the resulting captioned TV presentation*].

And, for completeness of the record, the examiner continues to reject applicants' assertion that teletext images, e.g. such as *ANTIOPE* captions, were not "locally generated" images, because teletext images clearly were "locally generated" images. [SEE: paragraph 13 of this Office action].

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[39] Note too that section 5.3.1.2 on page 47 of the 8/1981 "EIA System Analysis Chart" publication indicates that a "computer/software" implementation was "mandatory" for "System C" teletext decoder applications.

E-37) Claims 3-8, 11, 12, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betts et al. [GB 1,556,366] in view of the "MODE II" captioning feature of the "ANTIOPE" teletext standard as discussed in: the 1980 article "Development & Applications of the Antiope-Didon Technology" by Guillermin; the 5/1981 "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENDED ANTIOPE)' publication; and the 1980 article entitled "ANTIOPE TELETEXT CAPTIONING" by Sechet, for the same reasons that were set forth for claims 2 (and 13-16) above. Further, the following is noted:

1) With respect to claim 6: The examiner maintains that it would have been obvious for the received TV programming to have been "Network" TV programming rebroadcast to the receivers/decoders video local/intermediate TV stations as was notoriously well known in the art;

2) With respect to claims 7 and 8: As noted above, with respect to applicant own alleged invention (i.e. the alleged section 112 support), the recited "content" merely refers to the fact that the "display command signal" of applicant's "Wall Street Week" embodiment arguably identified location of a "content" in the audio/video components of the TV programming with which the display of the "locally generated" images are to be synchronized. The same is true of the "display control signal" of Mode II captioning too; i.e. the display control signal (i.e. the reveal/unmask signal) identifies the location of a "content" of the audio/video components of the TV programming with which the display of the Mode II captions are to be synchronized;

3) With respect to claims 11 and 12: The examiner maintains that a teletext channel is, by definition, a "digital data channel".

4) With respect to claims 17 and 18: The examiner takes Official Notice that it was notoriously well known in the TV art to have been desirable to have included video recording devices at household receiving locations for recording broadcasted TV programming for later/delayed playback (i.e. for the convenience of the users). The examiner maintains that it would have been obvious for the TV programming being provided to the mode II captioning receiver to have comprised such conventionally recorded/delayed TV programming.

E-38) Claims 37-41 and 67-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betts et al. [GB 1,556,366] in view of the "MODE II" captioning feature of the "ANTIOPE" teletext standard as discussed in: the 1980 article "Development & Applications of the Antiope-Didon Technology" by Guillermin; the 5/1981 "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENDED ANTIOPE)' publication; and the 1980 article entitled "ANTIOPE TELETEXT CAPTIONING" by Sechet, for the same reasons that were set forth for claims 3-8, 11, 12, 17, and 18 above.

E-39) Claims 70-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betts et al. [GB 1,556,366] in view of the "MODE II" captioning feature of the "ANTIOPE" teletext standard as discussed in: the 1980 article "Development & Applications of the Antiope-Didon Technology" by Guillermin; the 5/1981 "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENDED ANTIOPE)' publication; and the 1980 article entitled "ANTIOPE TELETEXT CAPTIONING" by Sechet, for the same reasons that were set forth for claims 2 (and 13-16) above. Further, the following is noted:

1) The recited "second medium" of the claims reads on the teletext service of the prior art that is providing the teletext data stream that includes the MODE II captions;

2) The recited "information" of the claims, i.e. that is "generated based on identifying content of said second medium", reads on the respective caption information that is selectively captured at each receiver pertaining to a specific "content" of the "second medium" (i.e. a specific language/level of captioning) that is identified by the respective receiver stations based on inputs inputted by the user;

3) The recited "first medium" of the claims reads on the TV programming that has been captioned using MODE II captioning; and

4) The recited "identifier" of the claims reads on the reveal/unmask code which identifies a "content" of the second medium (i.e. a specific location therein as in the case of applicant's own alleged invention as argued under section 112-1) at

which the display of the locally generated MODE II captions are to be simultaneously displayed at the respective receiver locations.

E-40) Claims 85-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betts et al. [GB 1,556,366] in view of the "MODE II" captioning feature of the "ANTIOPE" teletext standard as discussed in: the 1980 article "Development & Applications of the Antiope-Didon Technology" by Guillermin; the 5/1981 "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENDED ANTIOPE)' publication; and the 1980 article entitled "ANTIOPE TELETEXT CAPTIONING" by Sechet, for the same reasons that were set forth for claims 70-72 above.

E-41) Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the 1979 publication entitled "TELESOFTWARE: HOME COMPUTING VIA BROADCAST TELETEXT" by Hedger in view of the 1980 publication entitled "A Public Broadcaster's View of Teletext in the United States" by Gunn et al. and the 1975 U.K. Patent document #1,405,141 to Yoshino et al.

I. The Showing of Hedger:
Hedger evidences the fact that it was notoriously well known in the art:

a) To have provided a software driven "computer" at each of respective TV receiver locations of a TV network (note figure 1); and

b) To have used the pages of a standard teletext service as the transport vehicle for downloading computer software (i.e. "Telesoftware") to said respective computers [see the discussion under the heading "1. INTRODUCTION" on page 279].

II. The Showing of Gunn et al:
Gunn et al. evidences the fact that it was known in the art for "Telesoftware" (i.e. computer software downloaded within via a standard teletext data service) to be associated with broadcast TV programming and, thereby, "program related". For example, in a Gunn et al. "Wall Street Week" application, each user at a respective TV receiver station location:

a) Downloaded specific program related "Telesoftware", e.g. software for analyzing a stock portfolio, to the computer at their receiving station location; and

b) Received verbal instruction from a guest on the broadcasted "WALL Street Week" TV show explaining exactly how to use this downloaded software to analyze their stock portfolio,

Whereby each user utilized the downloaded software to perform the respective analysis concurrent with the TV program and the verbal instruction provided therein.

[SEE: the "WALL STREET WEEK" application that is described in lines 2-17 on the fifth page of the Gunn et al. publication].

III. The Showing of Yoshino et al.:

Yoshino et al. not only disclosed a television receiver station which operated to simultaneously display on a single CRT (18) locally generated image data provided from an "electronic table computer" and the video signal component of a received television signal,

> **"The present invention also provides a television receiver on the picture tube of which a television program and the result of the computing process are shown simultaneously"** [lines 11-113 on page 4]

but Yoshino et al. also explicitly evidences the fact that those of ordinary skill in the art had understood it to be "advantageous", e.g. as of its 1975 publication date, to have enabled locally generated image data from a computer to be superimposed upon displayed TV programming at TV receiving stations.

> **"As described above there is obtained various advantages such as.....the display of computed information on the picture tube of a television receiver in superposition with the television program"** [lines 68-80 on page 4]

IV. Obviousness:

1) One of ordinary skill in the art would have understood the fact that the receiver structure shown in figure 1 of Hedger was implemented for the generic purpose of receiving and executing "Telesoftware" pertaining to *any* application and was not limited only to the specific applications that were discussed in the publication. [e.g. note the discussion under the heading "6. APPLICATIONS FOR TELESOFTWARE" on page 285]

One of ordinary skill in the art would have recognized the fact that the program related "Telesoftware" of the "WALL Street Week" application described in Gunn et al. merely represents a program related "Telesoftware" application that was not explicitly described/exemplified within the Hedger publication itself.

Being such, the examiner maintains that it would have been obvious to one of ordinary skill in the art one of ordinary skill for the conventional Telesoftware receiver structure of Hedger to have been utilized to receive and execute the "Telesoftware" pertaining to the "Wall Street Week" application that was described in Gunn et al. When executing Telesoftware pertaining to "program related" applications, it would have been obvious, and in fact necessary, to have enabled the display device in Hedger's figure 1 (i.e. the "Television Receiver") to simultaneously display the computer generated video and the received "Wall Street Week" TV programming; i.e. a display feature that, as evidenced by Yoshino et al., was notoriously well known in the TV/Computer display arts.

2) With respect to the limitations of claims 2, the following is noted:

a) The step of "receiving" a plurality of signals is met by the modified system of Hedger being that said modified system necessarily receives the broadcasted "WALL STREET WEEK" programming and the standard teletext service that provides the required program related "Telesoftware";

b) The step of "storing" information is met by the modified system of Hedger being that said modified system necessarily received, extracted, and stored the machine code pertaining to the downloaded program related "Telesoftware";

c) The step of "determining content" of the second medium is met by the modified system of Hedger being that said user of the modified system necessarily determines "audio" content of the received TV programming when receiving the verbal instruction;

d) The step of "coordinating", under computer control, a presentation using the stored information with the second medium based on the determined content is met by the modified system of Hedger being that said user of the modified system necessarily controls the computer to analyze his portfolio and create displays thereof based on the determined instruction content of the audio; and

e) The step of "outputting" is met by the modified display device the modified Hedger system for reasons that are fully addressed above.

E-42) Claims 3, 5-8, and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the 1979 publication entitled "TELESOFTWARE: HOME COMPUTING VIA BROADCAST TELETEXT" by Hedger in view of the 1980 publication entitled "A Public Broadcaster's View of Teletext in the United States" by Gunn et al. and the 1975 U.K. Patent document #1,405,141 to Yoshino et al.

1) With respect to claim 6: The examiner maintains that it would have been obvious for the received TV programming to have been "Network" TV programming rebroadcast to the receivers/decoders video local/intermediate TV stations as was notoriously well known in the art;

2) With respect to claims 11 and 12: The examiner maintains that a teletext channel is, by definition, a "digital data channel".

3) With respect to claims 17 and 18: The examiner takes Official Notice that it was notoriously well known in the TV art to have been desirable to have included video recording devices at household receiving locations for recording broadcasted TV programming for later/delayed playback (i.e. for the convenience of the users). The examiner maintains that it would have been obvious for the TV programming being provided to the mode II captioning receiver to have comprised such conventionally recorded/delayed TV programming.

E-43) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hutt et al. [U.S. #3,961,137] in view of Betts et al. [GB 1,556,366]

I. The showing of Hutt et al.:

As is shown in figures 1 and 6, Hutt et al. disclosed a receiver station for outputting/displaying a multimedia presentation [i.e. the "VIDEO AND SUPERIMPOSED TEXT" signal of figure 4], wherein the receiver station is "adapted to " receive a plurality of signals [i.e. within element 11 of figure 4], which received signals are transmitted to the receiver station from an external TV transmitting station source [not shown]. These received signals are provided to element 12 of figure 4. The receiver station comprises:

1) Circuitry for receiving the plurality of signals [within element 11] wherein the received signals include a first digitally encoded text-type media and a second analog video type media;

2) Circuitry [e.g. the "PAGE STORE" of figure 6 that is located within the "TEXT SIGNAL GENERATOR" of figure 4] for storing information of the digitally encoded text-type media;

3) Circuitry for detecting [i.e. thereby "determinining"] the sync signal "content" of the video-type media [the "Sync. Separator" of figure 4];

4) Circuitry [i.e. figure 6] for coordinating the generation of the multimedia presentation using the stored information and the sync signal content [e.g. the "LINE SYNC" and the "FIELD SYNC" of figure 6] that as detected/"determined" above; and

5) Outputting the so coordinated multi-media presentation so that the that portion of the presentation which is provided by the information has a predetermined relationship to said detected/"determined sync signal contents [note that the portion of the presentation that is generated from the stored information necessarily has a specific time relationship to the detected/determined sync signal content of the video media in order for it to have been properly superimposed over the video].

II. Differences:

Claim 2 differs from the showing of Hutt et al. only in that claim 2 recites that the "coordinating step is performed at the receiver station under "computer control".

III. Obviousness:

At the time of applicant's alleged invention, it was widely recognized by those of ordinary skill in the art that "computer" implementations of text receiving and generating circuitry of the type described in Hutt et al. had real advantages over the dedicated circuit approach [SEE: lines 50-55 on page 1 of Betts et al.]. In light of such knowledge, the examiner maintains that it would have been obvious to one of ordinary skill in the art to have implemented the the text receiving and generating circuitry in Hutt et al. via a computer to obtain those same advantages (i.e. "simplification").

E-44) Claims 3-6, 11 -14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutt et al. [U.S. #3,961,137] in view of Betts et al. [GB 1,556,366] for the same reason that was set forth for claim 2 above. Additionally, the following is noted:

1) With respect to claims 6 and 18: It is noted that most conventional TV stations which broadcast/cablecast TV signals to household receiving location are intermediate station in that they re-broadcast Network TV programming that is broadcasted to them.
One of ordinary skill in the art would have understood the fact that the "receiver station" described by Hutt et al. was intended for use in such conventional TV networks.

2) With respect to claims 13 and 14: The examiner note that the sync signal components of a video signal are "identifiers" which identify the specific sync/timing content of the video signal.

E-45) Claims 2, 3, 4, 10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino et al. [U.S. #4,675,737].

I. The showing of Fujino et al.:

As is shown in figures 1, Fujino et al. disclosed a receiver station for outputting a multimedia presentation (note lines 1-16 of column 3). The receiver station is "adapted to receive a plurality of signals" in that it comprises:

1) A video reproducing apparatus (e.g. 1 of figure 1) which receives a first signal representing an encoded video signal "media", wherein the first

signal is received from an external source via a first recording medium (e.g. via a video disc); and

2) A supplemental apparatus (e.g. 2 of figure 1) which receives a second signal representing encoded textual "media", wherein the second signal is received from an external source via a second recording medium (e.g. the ROM cartridge 65 of figure 2).

In operation, the receiver station operated to:

a) To receive said plurality of signals comprised of at least two media as has addressed above;

b) To store textual "media" from the second signals via latching circuitry (e.g. 52 and 53 of figure 2);

c) To determine "content" of a second medium within said plurality of signals wherein this limitation read on:

1. The sync separator 12 of figure 2 which detects (and thereby "determines") the sync signal content of the video signal "media"; or

2. Data detection circuitry (e.g. 13, 20, 22 of figure 2) which detects (and thereby "determines") a data signal content of the video signal "media";

d) To coordinate, via the determined sync and data contents, the display/presentation of the stored information with the display/presentation of the video signa media; and

e) Outputting the coordinated presentations as said multimedia presentation.

II. Differences:

Claims 2-4, 10, and 17 differ from the showing of Fujino et al. only in that the claim recites "a computer" wherein the supplemental circuitry of figure 2 in Fujino et al., e.g. as illustrated, seems to be implemented using dedicated circuitry.

III. Obviousness:

The examiner takes Official notice that it was notoriously well known in the signal processing art to have used software driven "computers" in place of dedicated

hardware when implementing signal processing circuitry; i.e. wherein the "computer" implementation was known to have been advantageous in its flexibility (i.e. the software could be easily upgraded and modified). The

examiner maintains that it would have been an obvious choice of design to have implemented the processing circuitry shown in figure 2 of Fujino et al., i.e. in place of dedicated circuitry, to obtain advantages associated therewith.

E-46) Claims 7, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino et al. [U.S. #4,675,737] for the same reasons that were set forth for claims 2-4, 10, and 17 above.

a) With respect to claim 7: It is noted that the audio signal of TV programming it inherently used to explain the action that is occurring within the video portion. Since subtitle information is a text version of the audio, the subtitle information also explains said video action.

b) With respect to claims 13-15: It is noted that data detection circuitry (e.g. 13, 20, 22 of figure 2) detects an "identifier" that is embedded within the video signal wherein the identifier identifies, directly and indirectly, time and audio content of the video signal.

E-47) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the notoriously well known "Mode II" captioning feature of a conventional ANTIOPE teletext data service (as discussed in paragraph D-2 of this Office action) in view of notoriously well known computer driven Teletext decoder structure (as discussed in paragraph C-4 of this Office action). Specifically, the following is noted:

I. Mode II captioning of ANTIOPE:
At the time of applicant's alleged invention, one of ordinary skill in the art would have recognized the fact that the "MODE II" captioning feature of ANTIOPE, as described within the prior art that was discussed in paragraph D-2 of this Office action, necessarily included the following structure:

a) TV signal transmission circuitry that was required to transmit:

1) The video programming signals that were to be captioned via the explicitly described program related MODE II captioning; and, embedded therein,

2) The packets of teletext data signals which carried the teletext information of the ANTIOPE teletext service including the explicitly described teletext information of said MODE II captioning; and

b) A multiplicity of TV receiving household TV receiver stations each of which included:

1) A respective one of the explicitly described multiplicity of teletext data decoders each of which, as described, necessarily operated to:

a. Receive the transmitted video and teletext signal from the TV signal transmitter;

b. Extract the embedded packets of ANTIOPE teletext data therefrom;

c. Decode the extracted packets to detect instruction information pertaining to the user specified type of captioning, e.g. the "language" and "level" of captioning, that was selected by the respective user;

d. Capture/store, but not displaying, the detected user specified instruction information in memory;

e. Decode subsequent ones of the extracted packets to detect the described "reveal" command which corresponds to the "class" of the user selected captioning (corresponding to the recited step of "determining content");

f) Provide the captured instruction information to a character generator to locally generate image data representing the user specific captioning signals; and

g) Transmit the locally generated user specific captioning image signals to an "output display device" for display with the video programming signal of the received TV programming thereby providing a coordinated multimedia presentation (e.g. captioned video).

II. Differences:

Claim 2 differs from MODE II captioning of ANTIOPE as discussed above only in that it in that it is unclear whether the "MODE II" feature of ANTIOPE constituted a "basic" or "intermediate" level feature that could be performed by a "basic" or "intermediate" level ANTIOPE decoder or, alternatively, whether the MODE II captioning feature constituted an "advanced" level feature which had to be performed by an "advance" level ANTIOPE decoder. Thus, it is unclear whether or not a "computer" implementation of an ANTIOPE decoder which performed MODE II captioning was "mandatory"/required.

III. Obviousness:

Regardless, for the reasons discussed in paragraph C-4 of this Office action, the examiner maintains that having implemented the ANTIOPE decoder for MODE II captioning using a "computer" represented, at best, a notoriously well known and obvious choice of design given the well known advantages associated therewith.

E-48) Claims 3-8, 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the notoriously well known "Mode II" captioning feature of a conventional ANTIOPE teletext data service (as discussed in paragraph D-2 of this Office action) in view of notoriously well known computer driven Teletext decoder structure (as discussed in paragraph C-4 of this Office action), for the same reasons that were set forth for claim 2 above. Specifically, the following is noted:

1) With respect to claims 3 and 4, the examiner notes that a "computer" is simply a device that computes. Thus, the question as to whether the "memory" of the decoder in part of the "computer" or peripheral to the "computer" is merely a question of semantics.

2) With respect to claim 6, the examiner notes that TV receivers typically received their TV signals from local TV stations that were "intermediate" to a major national network station. It would have been obvious to one of ordinary skill in the art for the TV signal in the modified system set forth above to have been received from the local station of such a typical TV network.

3) With respect to claims 7 and 8, it is noted that the audio content of the audio portion of a TV programming, and hence the captioning portion thereof too, inherently functions to provide a verbal explanation of the programming.

4) With respect to claims 11 and 12, it is noted that the teletext service is inherently provided via a digital data channel.

5) With respect to claims 13-16, it is noted that the "reveal" code(s) of the prior represent "identifier(s)" [e.g. for example, they identify a time in the second medium (i.e. the TV programming signal) signaat which program related captions are to be displayed].

6) With respect to claims 17, it is noted that it was notoriously well known in the TV art to have recorded transmitted TV programming via a VCR to have allowed the transmitted programming to be reproduced at a time that is more convenient to the user. The examiner maintains that it would have been obvious for the TV programming of the modified prior art to have been recorded at at least some of the receiver station in this notoriously well known fashion.

7) With respect to claims 18, it is noted that "cable" is a known and obvious way in which TV programming signals were transmitted to households from intermediate TV stations.

E-49) Claims 20-23, 37-41, 67-72 and 85-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over the notoriously well known "Mode II" captioning feature of a conventional ANTIOPE teletext data service (as discussed in paragraph D-2 of this Office action) in view of notoriously well known computer driven Teletext decoder structure (as discussed in paragraph C-4 of this Office action), for the same reasons that were set forth for claims 3-8 and 11-18 above. The following is noted:

1) Each page of displayable Teletext data, including each page of caption data, inherently represents a series of instructions which must be executed by the teletext decoder in order to locally generate a corresponding displayable image [see paragraph C-3 of this Office action];

2) In MODE II captioning, each the "reveal" codes represent a "control signal" which identifies content of the first TV signal medium (e.g. a timing content, an audio content, etc, ...), and which causes the instructions from a series of caption pages to be executed by the decoder (i.e. by the "computer" implemented decoder) so as to generate a corresponding series of caption images;

Wherein the caption images of MODE II captioning, by definition, are displayed over the video component of the TV signal with which it is "related" so as to create a combined multimedia (video/text/graphic/audio) presentation.

E-50) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the 1979 publication "The Concept of a Universal 'Teletext' (broadcast and interactive Videotex) Decoder, Microcomputer Based" by Marti in view of the notoriously well known Mode II Captioning feature of the ANTIOPE teletext standard as described in the 1981 "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENTED ANTIOPE)" publication.

I. The showing of Marti:
Marti recognized the fact that "all" videotex decoders have a similar structure.

> **"A decoder for Videotex services, (whatever the name given to the various systems, Teletext, Antiope, Viewdata, T.V. text, ...) is composed of four main parts:**
> - **a data acquisition unit;**
> - **a processing unit;**
> - **a page store;**
> - **a display processor."**
>
> [see the last 8 lines on page 1 of the publication]

Based on this recognition, Marti describes and illustrates the "universal" videotex decoder structure of figure 3 that comprises a software driven microprocessor/"computer" [see section "3" of the publication and, in particular, section 3.2 of the publication]. As described, the "universal" decoder could be configured (and/or reconfigured) to decode and display "any" kind of videotex data/services simply by programming (and/or re-programming) the microprocessor/"computer" of the universal decoder with the appropriate application specific software [note lines 3-22 on page 6 of the publication]. Marti also taught a process by which the application specific software was provided to the decoder from:

1) a local memory (cassette or bubble); or

2) from "the line (broadcast or telephone)".

[see lines 13-14 on page 6 of the publication]

One of the specific applications that is described as being provided for is "software" pertaining to the decoding and display of ANTIOPE videtext data [e.g. lines 3-8 on page 6 of the publication].

II. The showing of the "CBS/CCETT" publication:
The examiner takes Official Notice that the "MODE II" captioning feature of the ANTIOPE videotext specification was notoriously well known in the art at the time of applicant's alleged invention; i.e. evidence of this fact being illustrated by the cited "CBS/CCETT" publication [note pages 135-138 therein].

In MODE II captioning:

1) Different "pages" of program related teletext information, pertaining to different classes and levels of captioning, are superimposed onto the TV programming signal to which they are related as part of a normal ANTIOPE teletext service;

2) The combined TV signal transmission is distributed to a plurality of receiver locations, at least some of which include ANTIOPE videotex decoders which are capable of displaying "MODE II" captioning;

3) Each of the decoders that are capable of displaying MODE II captioning, received an input from its respective user specifying the class and level of captioning which he/she desires;

4) Each of the MODE II capable decoders then receives and captures, but does not display, the "page" of data which corresponds to the specific class and level that its user selected;

5) Upon the detection and receipt of a subsequently transmitted "reveal" command, each of said MODE II capable decoders then executes the captured page of data pertaining to its user selected class and level of captioning to generate and output respective user specific image data that is displayed, in a coordinated fashion, over (i.e. "boxed" or "keyed" into) the video "data" component of the TV signal within which it was embedded.

III. Obviousness:

When implementing the "universal" decoder that was described by Marti, to receive, decode, and display ANTIOPE videotext data as was also described by Marti, it would have been obvious to one of ordinary skill for the software being loaded into the decoder to have included programming needed to execute any and all of the features that were defined by ANTIOPE specification. More specifically, given the showing above, the examiner maintains that it would have been obvious to one of ordinary skill in the art to have programmed the "universal" decoder of MARTI with software which enabled the "universal" decoder to have received and displayed "MODE II" captioning according to the ANTIOPE videotex specification.

E-51) Claims 3-8, 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the 1979 publication "The Concept of a Universal 'Teletext' (broadcast and interactive Videotex) Decoder, Microcomputer Based" by Marti in view of the notoriously well known Mode II Captioning feature of the ANTIOPE teletext standard as described in the 1981 "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENTED ANTIOPE)" publication, for the same reason that was set forth for claim 2 above. Specifically, the following is noted:

1) With respect to claims 3 and 4, the examiner notes that a "computer" is simply a device that computes. Thus, the question as to whether the "memory" of the decoder in part of the "computer" or peripheral to the "computer" is merely a question of semantics.

2) With respect to claim 6, the examiner notes that TV receivers typically received their TV signals from local TV stations that were "intermediate" to a major national network station. It would have been obvious to one of ordinary skill in the art for the TV signal in the modified system set forth above to have been received from the local station of such a typical TV network.

3) With respect to claims 7 and 8, it is noted that the audio content of the audio portion of a TV programming, and hence the captioning portion thereof too, inherently functions to provide a verbal explanation of the programming.

4) With respect to claims 11 and 12, it is noted that the teletext service is inherently provided via a digital data channel.

5) With respect to claims 13-16, it is noted that the "reveal" code(s) of the prior represent "identifier(s)" [e.g. for example, they identify a time in the second medium (i.e. the TV programming signal) signaat which program related captions are to be displayed].

6) With respect to claims 17, it is noted that it was notoriously well known in the TV art to have recorded transmitted TV programming via a VCR to have allowed the transmitted programming to be reproduced at a time that is more convenient to the user. The examiner maintains that it would have been obvious for the TV programming of the modified prior art to have been recorded at at least some of the receiver station in this notoriously well known fashion.

7) With respect to claims 18, it is noted that "cable" is a known and obvious way in which TV programming signals were transmitted to households from intermediate TV stations.

E-52) Claims 20-23, 37-41, 67-72, and 85-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over the 1979 publication "The Concept of a Universal 'Teletext' (broadcast and interactive Videotex) Decoder, Microcomputer Based" by Marti in view of the notoriously well known Mode II Captioning feature of the ANTIOPE teletext standard as described in the 1981 "CBS/CCETT NORTH AMERICAN BROADCAST TELETEXT SPECIFICATION (EXTENTED ANTIOPE)" publication, for the same reasons that were set forth for claims 3-8 and 11-18 above. The following is noted:

1) Each page of displayable Teletext data, including each page of caption data, inherently represents a series of instructions which must be executed by the teletext decoder in order to locally generate a corresponding displayable image [see paragraph C-3 of this Office action];

2) In MODE II captioning, each the "reveal" codes represent a "control signal" which identifies content of the first TV signal medium (e.g. a timing content, an audio content, etc, ...), and which causes the instructions from a series of caption pages to be executed by the decoder (i.e. by the "computer" implemented decoder) so as to generate a corresponding series of caption images;

Wherein the caption images of MODE II captioning, by definition, are displayed over the video component of the TV signal with which it is "related" so as to create a combined multimedia (video/text/graphic/audio) presentation.

Double Patenting:

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

E-53) Claims 2-18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. #4,694,490. Although the conflicting claims are not identical, they are not patentably distinct from each for the following reasons:

The examiner maintains that the meaning of the instant claims is confusing and is not immediately apparent due to the fact that the claims have been drafted using terms/recitations that are not supported by the instant specification as originally filed (SEE paragraph E-2 of this Office action). However, when one considers the claims in light of the alleged section 112-1 support currently argued by applicants' and their expert, their alleged meaning becomes more apparent. Specifically, in the response of 1/29/2003, applicants have alleged/indicated that claims 2-18 of the instant application are supported by the "Wall Street Week" processing/embodiments of both the 1981 and the instant 1987 CIP disclosures [SEE: Exhibit II and Tab "F" of the 1/29/2003 communication]. From these allegations, it is apparent that:

a) The section 112 support for the recited "stored information of the first medium" of the instant claims is nothing more that the users locally stock portfolio information;

b) The section 112 support for the recited "presentation using said information" of the instant claims is nothing more than the locally generated overlay showing how the users portfolio performed;

c) The section 112 support for the recited "second medium" of the instant claims is nothing more than the "WALL Street Week" TV programming;

d) The section 112 support for the recited "determination" of "content" of the "second medium" of the instant claims is nothing more than the detection of the "graphics-on" instruction signal which, because it occurs in synchronism with specific content of the TV programming, is allegedly used at the receiver station (via its detection) to "determine" the content of the "Wall Street Week" programming to which it is synchronized (i.e. specifically an audio content);

e) The section 112 support for the recited "coordination" of presentation based on the detected content of the instant claims is nothing more that the process of overlaying the first presentation (i.e. the graphic showing the users portfolio performance) over the second presentation (the "Wall Street Week" programming) based on said determined "content" (i.e. which is, again, nothing more than the detected "graphics on" signal) to produce and output the "Multimedia" presentation (i.e. which is nothing more than the "combined" presentation).

When the alleged section 112 support for the limitation of instant claims 2-18 have been identified in this manner, it is becomes apparent that the instant claims have simply adopted different language to recite/describe the same receiver side "Wall Street Week" overlay method/processing that has already been covered/recited via claims 1-13 of U.S. Patent #4,694,490 - note too that claims 9-13 of said US Patent appear to invoke a more comprehensive section 112 (paragraph 6) "means-plus-function" interpretation.

E-54) Claims 20-30, 33-42, and 67-104 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. #4,694,490 for the same reasons that were set forth for claims 2-18 above.

E-55) The art of record has been applied to the claims to the extent of the examiner's understanding given the section 112 problems which have been noted above.

E-56)

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

E-57) Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID E HARVEY whose telephone number is (703) 305-4365. The examiner can normally be reached on M-F from 9 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile can be reached on 703 305-4380. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAVID E HARVEY
Primary Examiner
Art Unit 2614

XXX

APPENDIX I: **(The 1981 and 1987 CIP "WALL STREET WEEK" applications)**

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The respective 1981 and 1987 "Wall Street Week" embodiments of the *discarded* 1981 parent specification and the instant 1987 CIP specification:

A) The 1981 "Wall Street Week" application:

The 1981 "Wall Streets Week" application was described with respect to figure 6c of the 1981 specification, via columns 19 and 20 of the specification as contained in U.S. Patent #4,694,490 [namely, column 19, line 31 to column 20, line 11]. As described in this 1981 specification:

1) The 1981 microcomputer (205) of the 1981 receiver station operated to receive each day, via a digital information channel, all closing stock prices applicable that day. This receiving step was accomplished directly from the digital channel or by automatic query to a data service. In either case, the 1981 microcomputer (205) recorded the stock prices that pertained to its stored stock portfolio;
[SEE: lines 35 –41 of column 19]

2) The 1981 microcomputer (205) was **pre-programmed** to respond to the 1981 instruction signals that were transmitted in the "Wall Street Week" program transmission; [1]
[SEE: lines 41-44 of column 19].

3) At the beginning of the 1981 "Wall Street Week" program transmission, the 1981 decoder (203) of the 1981 receiver detected several instruction signals embedded in the programming transmission and transferred these detected instruction signals to the 1981 **pre-programmed** microcomputer (205). These received instruct signals instructed the 1981 microcomputer to generate several overlays being that the 1981 microcomputer had been provided with the means to generate such overlays. Said 1981 microcomputer (205) was also provide with the means to supply these generated overlays to the 1981 TV set (202) when commanded to do so. The 1981 TV set (202) was provided with the means to display the provided overlays.
[SEE: lines 45-53 of column 19]

4) Within the 1981 "Wall Street Week", i.e. subsequent to the beginning, the host says, "Here is what the Dow Jones Industrials did this past week," and a studio generated graphic is pictured/transmitted. The host then says, "Here is what the broader NASDAQ did," and a studio generated graphic overlay is displayed on top of the pictured/transmitted first graphic.

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[1] The "preprogramming" of the 1981 microcomputer represents an extremely significant difference between the 1981 and the 1987 "Wall Street Week" applications. In the 1987 application, the 1987 embedded instruction signals provided the software that was used to program the microcomputer of the 1987 embodiment on the fly [e.g. note lines 1-21 on page 24 of the instant 1987 specification]

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Then the host says, "Here is what your portfolio did." At this point a 1981 instruction signal was generated at the originating studio and transmitted in the programming. This transmitted instruction signal was identified at the 1981 receiver station by the 1981 decoder (203) and then transferred, via the 1981 processor (204) to the 1981 microcomputer (205). This 1981 instruction signal instructed the 1981 microcomputer (205) to transmit a first generated overlay to the 1981 TV set (202) for as long as the microcomputer (205) received the same instruction from the processor (204). As a result of this process, the user sees the 1981 microcomputer generated graphic of his own stock's performance overlaid on the studio generated graphic. When the studio generated graphics are no longer displayed, the 1981 studio simply stopped sending the 1981 instruction signal. This caused:

a) The 1981 microcomputer (205) to cease transmitting is own graphic to the 1981 TV set (202); and

b) The 1981 microcomputer (205) to prepare to send a next locally generated graphic overlay to the 1981 TV set (202) upon instruction from the studio.

[SEE: the description that starts on line 53 of column 4 and extend to line 7 of column 20]

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B) The instant 1987 CIP "Wall Street Week" application:

The 1987 "Wall Streets Week" application is ***initially*** described (i.e. introduced) by the instant 1987 specification, with respect to figure 1 of the 1987 specification, and via pages 19-28 thereof. Further details/discussions of this 1987 "Wall Street Week" application are found throughout the 1987 specification. Simply by volume of description, it is immediately apparent that the description of the 1987 "Wall Street Week" application has, in the words of applicants, been extensively "expanded", "enhanced", "improved" when compared to the description of the 1981 "Wall Street Week" application of the discarded parent specification. The true magnitude to which the 1987 descriptions have been "expanded"/"enhanced"/"improved" starts to emerge when one compares the 1987 descriptions as exemplified below with the scant 1981 description that have been cited above. That is, as described in the instant 1987 CIP specification:

> 1) The 1987 microcomputer (205) of the 1987 receiver station includes a 5 ¼" floppy disk at a designated one of its disk drives that holds a data file, wherein this data file contains "information" on a portfolio of "financial instruments" owned by the "subscriber". This stored "information" of financial instruments identifies the particular stocks owned by the subscriber, the number of shares of each stock that are owned by the subscriber at the close of each business day, and the closing share prices applicable each day;
> **[SEE: lines 5-14 on page 21 of the instant 1987 CIP specification]**
>
> 2) The 1987 decoder (203) which is itself preprogrammed to detect digital information on a particular line or lines in the VBI of video programming received thereat. In addition to detecting the information, the 1987 decoder in preprogrammed to correct errors in the detected information, to convert the information into digital signals that are usable by the 1987 microcomputer (205), and to input said so produced digital signals to the asynchronous communications adaptor of said 1987 microcomputer (205).
> **[SEE: lines 14-24 on page 21 of the instant 1987 CIP specification]**
>
> 3) At the beginning of a 1987 "Wall Street Week" programming transmission, the 1987 originating studio generates and embed "a first series of control instructions" wherein the instructions of this first series are addressed to, and control, the 1987 microcomputer (205) of each 1987 subscriber station.
> **[SEE: lines 1-8 on page 22 of the instant 1987 CIP specification]**
>
> 4) A tuner (215) of the 1987 receiver receives the "Wall Street Week" transmission and converts it into a received video and audio signal. The video component is then divided by the 1987 divider and is supplied to

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both an input of the 1987 microcomputer (205) and the input of the 1987 decoder (203).[2]
[SEE: lines 19-27 on page 22 of the instant 1987 CIP specification]

5) The "first set of instruction commands", i.e. presumably from said "first series of control instructions", causes the 1987 microcomputer (205) at each of the 1987 receiver stations to interrupt the operation of its CPU, and any other designated processor contained therein, so as to effect a "warm boot." This first set of instruction commands being labeled "control invoking instructions" by the 1987 CIP specification.[3]
[SEE: line 28 of page 22 to line 26 of page 23 in the instant 1987 CIP specification]

6) Subsequent to transmission of the first set of embedded instructions, a "second set of instructions" is embedded at, and transmitted from said 1987 program originating studio. This second set is received by the 1987 decoder (203) at each 1987 receiver station where it is detected and converted into usable digital signals which are provided to the 1987 microcomputer (205). The 1987 microcomputer evaluated the initial word(s) therein which instruct the 1987 microcomputer to load and run "the information of a particular set of instructions" that follow the initial word.
[SEE: line 35 on page 23 to line 10 on page 24 of the instant 1987 CIP specification]

This 1987 "set of instructions", the one that is loaded and run by the 1987 microcomputer (205), receives the label "program instruction set" and comprises downloaded program related "computer software" pertaining to the specific program into which it was embedded (namely, the 1987 "Wall Street Week" application).
[SEE: line 5 on page 24 to line 8 on page 25 if the instant CIP specification]

7) The 1987 microcomputer (205) at each of the 1987 receiver stations runs this downloaded software which causes the 1987 microcomputer (205) to process said "information" that was stored as a data file on its 5 1/4" floppy disc and to generate and store graphic image data that is then

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[2] While elements of the 1981 and 1987 specification share common labels and reference numerals, they are by no means the same in structure of operation. For example, the 1987 microcomputer (205) receives the video signal from the 1987 divider (4) because it was the 1987 microcomputer which operated to overlay its locally generated graphics on the received video whereas, in contrast, the 1981 microcomputer (205) did not receive the video signal because it was the 1981 TV set which operated to overly the locally generated graphics from the 1981 microcomputer (205) over the received video signal; i.e. clearly, the 1987 microcomputer (205) is different from the 1981 microcomputer (205).

[3] The apparent interchangeable use of the "command" and "instruction" terminology here begs to question whether there is any difference between "a command" and "an instruction".

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stored within the RAM the 1987 microcomputer's graphic card; i.e. the image that is shown in figure 1A of the 1987 specification which comprises "a line" on a transparent/"black" background. Once the graphic is generated and stored, the 1987 microcomputer (205) commences waiting for further instructions to be provided from the 1987 decoder (203).
[SEE: line 22 on page 24 to line 22 on page 25 of the instant 1987 CIP disclosure]

8) Subsequent to the generation of the graphic image data at the 1987 receiver stations, the host of the "Wall Street Week" program says, "Now as we turn to the graphs, here's what the Down Jones Industrials did in the week just past," and a 1987 studio generated graphic, i.e. that of figure 1B of the 1987 specification, is transmitted. Then the host says, "And here is what your portfolio did." At this point an "instruction" signal is generated at the 1987 originating studio, embedded in the "Wall Street Week" programming, and transmitted to the 1987 receiving stations.
[SEE: line 23 on page 25 to line 1 on page 26 of the instant 1987 CIP specification]

9) This last named 1987 "instruction signal" is identified by the 1987 decoder (203), is transferred to the 1987 microcomputer, and is "executed" by the 1987 microcomputer (205) as a "Graphic On" signal. At this point the 1987 microcomputer itself overlays its generated graphic stored in its graphic card onto the video signal received from the 1987 divider (4), e.g. via the 1987 microcomputer's (205) "PC-Microkey 1300", to generate a combined video presentation that is provided to a 1987 TV monitor (202M).
[SEE: lines 1-11 on page 26 of the instant 1987 CIP specification]

This last named "Graphic On" *instruction signal* being labeled a "combining sync *command*" due to the fact that it synchronized the combining operation at the receiver stations.[4]
[SEE: lines 20-24 on page 26 of the instant 1987 CIP specification]

10) At some subsequent point in time a "further instruction signal" is generated, embedded, and transmitted to the 1987 receiving stations wherein this "further instruction signal" is executed as a "Graphics Off" signal. This caused the 1987 microcomputer (205) to cease the overlaying of its generated graphic. [5]
[SEE: line 33 on page 26 to line 9 on page 27 of the instant 1987 CIP specification]

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[4] Again, there seems to be no difference in the way "command" and "instruction" are being used (i.e. they seem to be used interchangeably).

[5] This represents another clear difference between the 1987 and 1981 embodiments. That is, in the 1981 embodiment one continuously transmitted instruction signal was used to identify the beginning and end of the overlay period whereas in the 1987 embodiment a first instruction signal marked the beginning and a second instruction signal marked the end of the overlay period.

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C) The respective 1981 and 1987 signaling of the respective 1981 and 1987 "Wall Street Week" *applications*:

1) The discrete 1981 "Signal Units" and "Signal Words" signaling technology of the 1981 "WALL STREET WEEK" application:

With respect to the 1981 systems, all of the 1981 instruction, identification, and information signals that were embedded within the VBI of the TV programming appear to have been simple discrete digital codes that were to be located and identified on the receiving side of the system in order to trigger/cue a corresponding response thereat. These simple codes were labeled: "signal units". Not surprisingly, a simple transmission scheme comprised of "signal words" was used by the 1981 systems to convey these "signal units" as embedded data through the 1981 transmission networks.

That is, to transmit the 1981 "signal units", the bits from one or more "signal unit" were organized into one or more discrete strings of bits. Each of these discrete bit strings was then embedded, at a respective discrete time and/or location, within the transmitted TV programming as a "signal word". Specifically, as defined and used within the 1981 specification, each "signal word" represented a respective occurrence/"appearance" of ancillary signaling within the distributed programming:

> **"The term 'signal word' hereinafter means one full discrete appearance of a signal as embedded at one of time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial and whole signal units or combinations"** [6] [note lines 3-12 of column 3 in US Patent #4,694,490]

[6] "The term 'signal units' hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programing unit, or a unique purchase order number identifying the prior use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission." [note: lines 64-68 of column 2 and lines 1-3 of column 3 in US Patent #4,694,490; and lines 25-32 of the instant disclosure]

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2) The discrete 1987 "SPAM" packet signaling technology of the 1987 CIP "WALL STREET WEEK" application:

The 1987 instruction and information signals that were embedded in the VBI of the TV programming of the 1987 systems were not limited to simple digital codes as in the 1981 inventions. Most notably, the 1987 instruction signals explicitly included long sequences of assembled machine code representing computer software.

Clearly, such 1987 instruction and information code sequences was not conducive to being handled and transmitted as 1981 "Signal Units"/"Signal Words" and indeed, as is evident by the 1987 CIP disclosure, it was not. To the contrary, the 1987 CIP specification introduces a new sophisticated transmission packets structure, i.e. the 1987 "SPAM" packet structure of figures 2E-2K of the 1987 specification, which appears to be the "real" mechanism by which the 1987 instruction, identification, and information signals were (and had to be) conveyed within the programming.

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> Here, it must be noted that the 1981 definition of "signal word" has been inserted into the "summary" section of the instant 1987 CIP specification [SEE: line 25 on page 14 to line 6 on page 15 of the instant 1987 specification]. In fact, not only has this 1981 "signal word" definition been inserted into the 1987 CIP specification, but some effort has been made early in the 1987 CIP specification to:

> a) Suggest that the 1981 "signal word" technology might be used in some undefined manner convey all of the 1987 instruct and information signaling, e.g. including 1987 "computer software", through the 1987 networks as an alternative to the disclosed 1987 "SPAM" packet transport mechanism; and/or

> b) Suggest that the 1987 "SPAM" transport mechanism actually comprises the 1981 "signal words" in a way that is never defined, described, addressed, or developed within the 1987 CIP disclosure.
> [e.g. note line 1-6 on page 22 of the instant 1987 CIP specification]

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Regardless of motive, the examiner maintains that the presence of the 1981 "signal word" terminology within the 1987 CIP specification is a red herring for the following reasons:

A) The 1987 specification never explains how the 1981 "signal word"/ "signal unit" technology was, or even could be used, to convey the long sequences of digital code which comprised the 1987 CIP instruction, identification, and information signals. That is while the described 1981 "signal word" technology seems more than adequate to handle the transmission of the simple 1981 digital codes that comprise the auxiliary signaling of the 1981 inventions, this 1981 technology seems woefully inadequate to handle the longer sequences of data (i.e. the "computer software") which comprised the 1987 instruction and information signals given:

1) The rigid synchronous format of the 1981 "signal words"; and

2) The fact, because of this synchronous format, that all the 1981 microcomputers on the receiving side of the 1987 system had to be preprogrammed so as to know exactly where to look for the digital code(s), or fragments thereof, that were to be received (i.e. as to which bit locations of which "signal word" appearances each digital code, or fragment thereof, was to be found).

[The more sophisticated asynchronous nature of the 1987 SPAM transport scheme effectively eliminates this problem];

B) Since the 1981 "signal word" technology is woefully inadequate to handle the 1987 signaling, then it would seem that the described 1987 "Wall Street Week" application discussed above has serious section 112-1 problems and, thus, that claims supported therefrom should be rejected under section 112-1 accordingly. However, this is not true, because the 1987 CIP specification effectively removes such 112-1 issues via its subsequent descriptions in which the 1987 disclosure makes it clear that it is the 1987 "SPAM" packet signals, and not the 1981 "signal words", that are actually being used as the transport mechanism for the 1987 inventions. For example:

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1. First, immediately following the above noted 1987 "WALL STREET WEEK" description, the 1987 CIP specification introduces and describes a new 1987 "SPAM" packet technology that is clearly capable of handling the long sequences of code which comprise the new 1987 signaling; and

2. After introducing this new "SPAM" technology, the 1987 CIP specification continues its description of the 1987 "Wall Street Week" application in a way which not only incorporates the initial 1987 discussion of the application that was cited above, but which leaves no doubt that it is the new "1987 SPAM" technology that is being utilized by this 1987 "Wall Street Week" application [SEE lines 7-24 on page 354 of the 1987 CIP specification];

C) The 1981 definition of "signal word" not only defines the term "signal word" to have an unconventional 1981 meaning, but explicitly indicates that this unconventional 1981 definition will be adopted and used consistently, thereinafter, throughout the disclosure.

> "**The term 'signal word' hereinafter means one full discrete appearance of a signal as embedded at one of time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial and whole signal units or combinations**" (emphasis added)
> [note lines 3-12 of column 3 in US Patent #4,694,490]

The 1981 disclosure is true to the 1981 "signal word" definition in that the "signal word" terminology was actually used throughout the *discarded* 1981 specification in this explicitly defined unconventional manner.

This same 1981 "signal word" definition was carried forward into the "summary" section of the instant 1987 CIP specification too [e.g. note lines 52-61 in column 8 of US patent #5,233,654]. However, in the case of the instant 1987 disclosure, the reproduced 1981 "signal word" definition was true to the definition in that throughout the remainder of the 1987 CIP disclosure the "signal word" terminology was not used as defined but was, instead, used

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in a conventional manner to refer to bytes of digital data. This fact further shows/suggests that the 1981 "signal word" definition from the 1981 specification was "cosmetically" copied into the instant 1987 CIP specification; i.e. that the 1981 definition of "signal word" is out of place within the context of the 1987 disclosure and, more particularly, the "present invention" described therein.

D) The instant 1987 CIP specification explicitly defines the 1987 "SPAM" acronym to be:

> **"Signal Processing Apparatus and Methods of the present invention"** (emphasis added)
> [e.g. note page 40 of the instant 1987 CIP specification]

That is, ***by definition***, the "SPAM" acronym actually refers to the SPAM systems and methods described in the 1987 CIP specification that comprise its "present invention". And what discrete signals do 1987 "SPAM" systems and methods utilize? Obviously, they utilize the "SPAM signals" that are also described therein - the "signals" of said SPAM (**"Signal Processing Apparatus and Methods of the present invention").**

Said "SPAM signals" of the "SPAM" systems/methods being those that are explicitly shown and described with respect to figures 2E-2K of the instant 1987 specification.

Thus, the 1987 "SPAM" acronym itself, as coined by and used throughout the 1987 specification, provides an explicit indication that the "present invention" of the 1987 CIP specification pertained to the "SPAM" system/methods and the discrete "SPAM" signaling described therein.

Given the above, it is maintained that the section 112 support for the "discrete"/"embedded"/"instruct"/"command"/"control" signal recitations of the pending claims comes, necessarily, from the 1987 "SPAM signals" of figures 2E-2K and not from the 1981 "signal word" (or definition thereof) as has been alleged by applicant's when attempting to establish section 120 priority back to the 1981 effective filing date. [SEE, for example, item "47)" on page 18 of Exhibit II in the response filed 1/9/203 in 08/470,571].

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APPENDIX II: (SECTION 120 PRIORITY AND CASE LAW)

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A. Applicants' claim to the 1981 priority date under Section 120, whenever alleged, should be based on the "*adequate written description*" requirement of Section 112-1 which has been incorporated into Section 120 (as opposed to the "*anticipation*" standard provided for under Section 102):

1) Section 120 provides a tool whereby claims of a second application are entitled to the earlier filing date of a first application with, and only with, respect to "common subject matter." That is, the filing date of the first application is preserved in the second application only for that subject matter described in the second application that was previously described in the first application. Section 120 does not provide an avenue whereby the subject matter described in the first application is magically carried forward into the written description of the second application (i.e. the written description of the second application must incorporate the description from the first application either physically or by reference). Nor does section 120 provide an avenue for surreptitiously adding new matter to an existing written description without the loss of the original filing date with respect to the added "new matter." [7]

> **"Section 120 merely provides mechanism whereby application becomes entitled to benefit of filing date of earlier application disclosing same subject matter; common subject matter must be disclosed in both applications, either specifically or by express incorporation by reference of prior disclosed subject matter; nothing in Section 120 itself operates to carry forward earlier application; it contains no magical disclosure -- augmenting powers able to pierce new matter barriers; therefor, it cannot "limit" absolute and express prohibitions against new matter contained in Section 251."**
> **[Dart Industries, Inc. v. Banner, Commissioner of Patents and Trademarks, (CA DC), 207 USPQ 273]**

It is unclear as to how much (if any) of the subject matter that was described in the 44 pages of applicant's 1981 parent application was actually carried forward into the 557 pages of the instant 1987 CIP specification in a form that does not constitute "New Matter". That is, it is unclear as to which (if any) of the currently pending claims are directed *solely* to subject matter from the 1981 specification that has been carried forward into the instant 1987 specification. The reason for the confusion stems from the fact that:

(1) The 1981 parent specification was not incorporated into the 1987 specification formally or in any immediately discernible fashion;

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[7] Wherein "new matter" is, by definition, "matter involving a departure from or in addition to the original disclosure" [37 C.F.R. 1.118]

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(2) Those portions of the 1987 descriptions which look as though they might have originated from the 1981 parent specification have themselves been thoroughly intermixed with new 1987 subject matter during their migration to the 1987 specification that they too appear to constitute "new matter"; and

(3) Applicants make no attempt to show that any of the pending claims are directed *solely* to subject matter described in the instant 1987 CIP specification that was previously described in their 1981 parent specification; i.e. to prove that the subject matter now being claimed is in fact "common subject matter". Instead, applicants have elected:

> (a) To submit parallel 1981 and 1987 citations of alleged section 112-1 support for each of the claim in question, wherein these parallel 1981 and 1987 citations point to different 1981 and 1987 subject matter from the 1981 parent and 1987 CIP specifications; and
>
> (b) To argue that the examiner's position concerning the need for a showing of "common subject matter" under section 120 to be wrong.

That is, all of applicants' attempts to establish section 120 "priority" back to the 1981 parent specification for the pending amended claims in question, appear to be based on an erroneous standard. Namely, applicants have presented showings that do not even attempt to present the standard of proof that is needed to establish priority under section 120. That is, providing evidence that given claims meet the requirements of section 120 is a "burden" that falls to applicant (and not the examiner) whenever "priority" under section 120 is alleged by the applicants.

> **"A party who, like Hiraga, relies on an earlier-filed application under 35 U.S.C. 119 or 120 has the burden to show that the foreign or patent application supports later-added claims under 35 U.S.C. 112-1"**
> **[Utter v. Hiraga 6 USPQ 2d 1709, 1713 (Fed. Cir. 1988)]**

2) Applicants continue to allege that the written description requirement of section 112-1, e.g. that which has literally been incorporated into section 120, permits applicants to obtain priority to the 1981 effective filing date of the parent application by demonstrating that each pending amended claim, i.e. each claim that for which the 1981 date is sought, can be given respective 1987 and 1981 claim interpretations which permit the claim to be read, separately, on different

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1987 and 1981 subject matter from the different 1987 and 1981 specifications. Specifically, applicants have taken the positions: (1) that there is nothing in Section 120 which requires the respective 1987 and 1981 written descriptions being relied upon for establishing "priority" to be the same and/or equivalent; and (2) that, being such, it is improper for the examiner to compare the respective 1981 and 1987 disclosures being relied upon to determine whether or not it is "common subject matter".

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim."** (emphasis added)
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]

> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the § 112 support from each application consists of 'common subject matter.'"**
> [see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

The examiner continues to disagree with applicants' positions. Specifically, the examiner notes:

(A) That the need to compare the disclosure of the CIP application with that of the parent application, to ensure that "common subject matter" is being claimed, is a necessary inquiry that must be made when determining the validity of an allegation to "priority" made under section 120.

> **"The inquiry required by section 120 demands a comparison of 1) the claims of the parent and CIP applications and 2) any other disclosures made in the applications such as specification and drawing. Acme Highway, supra, at 1079, 167,USPQ at 132-33."**
> **[Stern v. Superior Distributing Company et al., (CA 6), 215 USPQ 1089 at 1094]**

(B) That, in taking the positions cited above, applicants appear to have confused the showing that is needed for "anticipation" under section 102

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(where a showing of "common subject matter"/"the same invention" is not required) with the showing that is needed to establish "priority" to an earlier filing date under section 120 (where a showing of "common subject matter"/"the same invention" is required).

(C) The mere fact that a claim can be broadly drafted in a subsequent CIP application so as to "generically" read on different subject matter from an earlier filed parent application too (i.e. to be "anticipated" within the meaning of section 102) does not necessarily mean that said claim is entitled to the earlier filing date of the parent [note: Tronzo v. Biomet Inc., (CA FC), 47 USPQ2d 1829]. Hence, applicants' parallel citations of alleged claim support that are based on different 1987 and 1981 subject matter, at best, only established the fact that the claims are "anticipated" by the respective 1981 and 1987diclosures in a section 102 sense. The parallel citations do not establish the fact that the claims are supported by "common subject matter" found in both specifications as is actually required for section 120 priority.

3) Throughout the present prosecution, the examiner has noted many differences and *inconsistencies* that exist between applicants' instant 1987 CIP specification and applicants' 1981 parent specification. For example: ***all*** of the "systems and methods" that are described in the 1987 disclosure utilize 1987 "control and instruct signaling" that conveys an "expanded"/broadened range of information including, most significantly, downloadable software; b) The meaning and definitions explicitly given to terminology that is used to describe the 1987 systems/methods in the 1987 specification has itself been "expanded"/broadened with respect to the same terminology used to describe the 1981 systems/methods in the 1981 disclosure, thereby *quietly* imparting "expanded"/broadened meaning to most (if not all) of the 1987 descriptions [e.g. terms such as "programming", signal "words", etc, ...]; c) ***All*** of the 1987 systems/methods utilize the more advanced 1987 "SPAM" transmission packet technology which enables the 1987 systems and methods to dynamically transport carry the "expanded"/broader form 1987 "control and instruct signals" (i.e. "software"), and enables the 1987 systems/methods to operate within a "expanded"/broader range of disclosed communication system environments [i.e. the 1987 systems and methods are explicitly described within environments outside radio and television whereas the previously described 1981 systems/methods were not). These "expanded"/broadened descriptions expand and broaden the descriptions of ***all*** of the 1987 systems/methods within the instant 1987 CIP specification to a point where the 1987 descriptions themselves appear to constitute "new matter" (with respect to the 1981 parent). The following is noted:

"In 1967, the Court of Custom and Patent Appeals first separated a new written description (WD) requirement from the enablement requirement

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of [Section] 112. The reason for this new judge-made doctrine needs some explanation. Every patent system must have some provision to prevent applicants from using the amendment process to update their disclosures (claims or specification) during their pendency before the patent office. Otherwise applicants could add new mater to their disclosures and date them back to their original filing date, thus defeating accurate accounting of the priority of invention."
[Enzo Biochem Inc. v. Gen-Probe Inc. 63 USPQ2d 1618,1624 (CA FC 2002)]

"New matter is matter involving a departure from or in addition to the original disclosure"
[37 C.F.R. 1.118]

"To the extent that a CIP application adds new matter, claims that are dependent upon the new matter are entitled to the filing date of the CIP only and not that of the parent application"
[Stern v. Superior Distributing Company et al., (CA 6), 215 USPQ 1089 at 1094]

"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time, as opposed to the situation in which the subsequent application merely contains either a language change not effecting the meaning of the prior application or a specification which narrows the scope of that which was previously claimed.
[Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]

And, because the specification of the 1981 parent application was not carried forward during the drafting of the 1987 CIP, it is the "new" written description of the 1987 CIP systems and methods alone which must describe that which is now claimed in accordance with requirements of 112-1; i.e. necessarily making that which is now claimed the much improved/enhanced/expanded 1987 systems and methods of the 1987 CIP specification. Why should/would these improved/enhanced/expanded 1987 CIP systems and methods be entitled to the 1981 filing date of the lesser 1981 systems and methods whose descriptions were literally left behind during the drafting of the instant 1987 CIP specification? In any event, by electing to leave the 1981 written description behind during the drafting of the instant 1987 CIP, applicants have not only forfeited their right to now claim any 1981 subject matter that is determined not to have been carried forward into the 1987 CIP, but applicants have made "their" burden of establishing proof of section 120 priority a heavy one indeed. That is, by failing to incorporate the 1981 description into the 1987 CIP application, applicants need to prove (as opposed to allege) that that which is now claimed is directed solely

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to 1981 systems and methods from the discarded 1981 specification whose descriptions have actually been carried forward into the 1987 CIP.

4) In reviewing case law, one finds that the courts have warned everyone again and again not to confuse the issue of "anticipation" under section 102 with the issue of adequate "written description" under section 112-1 as incorporated into section 120. To this point, when current applicants show that the recitations of a given claim can be separately read on different subject matter from their two very different 1987 and 1981 specifications [8], applicants have at best only established the fact that the given claim's recitations are in some way "anticipated" by different 1987 and 1981 subject matter. Such a showing fails to establish priority under section 120. Namely, applicants have failed to establish, as fact, that the "subject matter" being claimed comprises "common subject matter" that is "adequately described" in accordance with section 112-1 by both the 1987 and the 1981 disclosures:

> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications"** (emphasis added)
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"Any claim in a continuation-in-part application that is directed solely to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application."**
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 *and be the same invention as that disclosed in the later application.*"** (emphasis added)
> *[Kirschner*, 305 F.2d 897 (C.C.PA1962)]

5) Again, turning to the case law, it is seems quite apparent that whenever a claim for priority under section 120 is made to an earlier filed application in a Continuation-In-Part (CIP) application, the validity of the claim is determined in the following manner:

> A) First, the court turns to the disclosure of the CIP application in order to determine precisely what the "subject matter" is that is being claimed.

[8] i.e. the instant 1987 CIP disclosure and the past 1981 disclosure of the parent.

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Namely, in accordance with section 112-1, the CIP disclosure must provide a "description" of that which is being claimed by the claims in the CIP application and, therefor, the court turns to said CIP specification to locate the required description of that which is claimed; and

B) Having determined from the CIP application precisely what the *described* "subject matter" is that is being claimed, the court then turns to the disclosure of the parent application to determine whether this **same** "subject matter" was previously described in disclosure of the parent application in the same or equivalent fashion. Only if the answer to this determination is "yes" is priority to the filing date of the parent accepted/established.

As can be seen, the process used by the courts effectively compares the disclosure of the CIP application with the disclosure of the parent application to ensure that the invention that is described/claimed in the CIP application is the **same** subject matter that was previously described in the parent application.

> **"The inquiry required by section 120 demands a comparison of 1) the claims of the parent and CIP applications and 2) any other disclosures made in the applications such as specification and drawing. Acme Highway, supra, at 1079, 167,USPQ at 132-33."**
> **[Stern v. Superior Distributing Company et al., (CA 6), 215 USPQ 1089 at 1094]**

The above process/standard applied by the courts is, however, far different from the process/standard/showings put forth by applicants. According to applicants, one establishes section 120 priority by *blindly* identifying separate 1987 and 1981 grounds of alleged "claim support" wherein the respective grounds of claim support may be based on vastly different subject matter described in the respective specifications:

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim." (emphasis added)**
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]

> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third**

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element of the test whereby the § 112 support from each application consists of 'common subject matter.'"
[see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

As currently understood by the examiner, it appears that applicants have failed to heed the warnings of the court and have confused the issue of "anticipation" under section 102 (i.e. where a showing of "common subject matter" is not required) with the issue of "adequate written description" of section 112-1 as literally incorporated into section 120 (i.e. where a showing of "common subject matter" is unquestionably required).

6) Again, applicants take the position that there is nothing is section 120 which requires the respective 1987 and 1981 written descriptions relied upon to be the same and/or equivalent.

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim."**
> (emphasis added)
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]

If such a position were true, then there would be nothing in the law to prevent an inventor from "surreptitiously expanding a patent" through the filing of one or more CIP applications. Indeed, in such a world, one could describe and claim the proverbial "apples" in a later filed CIP application and obtain the earlier filing date of a parent application which only described the proverbial "oranges" via nothing more than the act of creative claim construction [i.e. as was noted in the *Interview Summary* of 6/29/00 (paper # 27) in SN 08/487,526]. However, preventing an inventor from improperly using section 120 in this fashion is one of the historical reasons why the "adequate written description" requirement of section 112-1 was incorporated into section 120 in the first place: e.g.

> **"Unlike the enablement provision of section 112, where the disclosure of a single species might be sufficient to enable a practitioner skilled in the art to make and use any member of the genus,....., the written description requirement of section 112 requires more. *See Vas - Cath, supra.* *This strict reading of the written description requirement prevents an inventor from surreptitiously expanding a patent through successive continuation-in-parts.* *See Id. At 1562.* Essentially, it limits the claims of an applicant to those inventions he clearly discloses, either expressly or inherently"** (emphasis added)

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[Tronzo v. Biomet Inc. (DC SFla) 41 USPQ2d 1403 [9] citing Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111]

"Section 120 merely provides mechanism whereby application becomes entitled to benefit of filing date of earlier application disclosing same subject matter; common subject matter must be disclosed in both applications, either specifically or by express incorporation by reference of prior disclosed subject matter; nothing in Section 120 itself operates to carry forward earlier application; it contains no magical disclosure – augmenting powers able to pierce new matter barriers; therefor, it cannot "limit" absolute and express prohibitions against new matter contained in Section 251."
[Dart Industries, Inc. v. Banner, Commissioner of Patents and Trademarks, (CA DC), 207 USPQ 273]

"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time, as opposed to the situation in which the subsequent application merely contains either a language change not effecting the meaning of the prior application or a specification which narrows the scope of that which was previously claimed. [Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]

"In 1967, the Court of Custom and Patent Appeals first separated a new written description (WD) requirement from the enablement requirement of [Section] 112. The reason for this new judge-made doctrine needs some explanation. Every patent system must have some provision to prevent applicants from using the amendment process to update their disclosures (claims or specification) during their pendency before the patent office. Otherwise applicants could add new mater to their disclosures and date them back to their original filing date, thus defeating accurate accounting of the priority of invention."
[Enzo Biochem Inc. v. Gen-Probe Inc. 63 USPQ2d 1618,1624 (CA FC 2002)]

[9] NOTE: this case was appealed [Tronzo v. Biomet (CA FC) 47 USPQ2d 1829]

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The courts have also indicated the following:

"To be entitled to the filing date of a previously filed application, appellant's application on appeal would have to satisfy the requirements of 35 U.S.C. 120, among which is the requirement that the subject matter now claimed be disclosed in a manner prescribed by the first paragraph of section 112 in the prior application. Since, to conform to section 112, claimed subject matter must be described in the specification relied upon, subject matter which is first introduced in a continuation-in-part application is not entitled to the filing date of the parent application"
[In re van Langenhoven, 173 USPQ 426 (CCPA 1972)]

"[The] bottom line is that, no matter what term is used to describe a continuing application, that application is entitled to the benefit of the filing date of an earlier application only as to common subject matter" [Transco Products Inc. v. Performance Contracting Inc. (CA FC) 32 USPQ2d 1077)].

"In terms of the statute, 35 U.S.C. 120, this means that, for an application to be entitled to the benefit of the date of a previously filed, copending application such application must contain a written description of the invention claimed in the second application which complies with the first requirement of the first paragraph of 35 U.S.C 112 ..... However, as we said in In re Lukack, ..., 'the invention claimed [in the later application] does not have to be described [in the parent] in ipsis verbis in order to satisfy the description requirement of 112' ..... The question in cases in which the parent application does *not* contain language contained in the claims of the later application is whether the language which *is* contained in the parent application is the legal equivalent of the claim language, in the sense that the '*necessary and only reasonable* construction to be given the disclosure [in the parent application] by one skilled in the art' ..... is the same as the construction which such person would give language in claims of the later application." [WAGONER AND PROTZMAN v. BARGER AND HAGGERTY, 175 USPQ 85, 86 (CCPA 1972)].

"It must be understood that the introduction of a new best mode disclosure would constitute the injection of 'new matter' into the application and automatically deprive the applicant of the benefit of the earlier filing date of the parent or original application for any claim whose validity rests on the new mode disclosure"

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[Transco Products Inc. v. Performance Contracting Inc. (CA FC) 32 USPQ2d 1077, 1083)]

In Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111, 1114, it was noted that one might be inclined to question the purpose of a separate written description requirement of section 112 in view that "the invention" is in fact the subject matter that is defined by the *claims* being considered:

> **"One may wonder what purpose a separate "written description" requirement serves, when the second paragraph of § 112 expressly requires that the applicant conclude his specification "with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.'"**

Reasons for having the separate descriptive requirement, as noted in In Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111, 1115, included the following:

> **1) An adequate written description of the invention provides a "warning an innocent purchaser, or other person using a machine, of his infringement of the patent;**
>
> **and at the same time taking from the inventor the means of practicing upon the credulity or fears of other persons, by pretending that his invention is more than what it really is, or different from its ostensible objects, that the patentee is required to distinguish his invention in his specification"; and**
> **2) An adequate written description of the invention "guards against the inventor's overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation."**
> **[Vas-Cath Inc. V. Mahurkar (CA FC) 19 USPQ2d 1115]**

"The purpose of the 'written description' requirement is broader than to merely explain how to 'make and use'; the applicant must also convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention.* The invention is, for purposes of the 'written description' inquiry, whatever is now claimed" [Vas-Cath Inc. V. Mahurkar (CA FC) 19 USPQ2d 1117].

"Lockwood argues that the district court erred by looking solely at the applications themselves. We do not agree. *It is the disclosures of the applications that count.* Entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what

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is expressly disclosed. It extends only to that which is disclosed" (emphasis added)
[Lockwood v. American Airlines Inc. (CA FC) 41 USPQ2d 1961, 1966]

"Lockwood argues that all that is necessary to satisfy the descriptive requirement is to show that one is 'in possession' of the invention. Lockwood accurately states the test .....but fails to state how it is satisfied. One shows that one is 'in possession' of *the invention* by describing *the invention*, with all its claimed limitations, not that which makes it obvious. *Id.* ('[T]he applicant must also convey to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention* . The invention is, for purposes of the 'written description inquiry' whatever is now claimed.').....One does that [i.e. describes *the invention*] by such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the invention. Although the exact terms need not be used in haec verba, ...the specification must contain an equivalent description of the claimed subject matter. A description which renders obvious the invention for which an earlier filing date is sought is not sufficient"
[Lockwood v. American Airlines Inc. (CA FC) 41 USPQ2d 1961, 1966]

"Thus the earlier application must meet the written description requirement of Section 112. The test for sufficiency of the written description is the same, whether for a design or utility patent. This test has been expressed in various ways; for example, 'whether the disclosure of the application 'reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter'.....*When the earlier disclosure is less than clear on its face, courts have explained that the prior application must 'necessarily have described the later claimed subject matter'*"
(emphasis added)
[In re Daniels (CA FC) 46 USPQ2d 1790]

"It is insufficient as written description, for purposes of establishing priority of invention, to provide a specification that does not unambiguously describe all limitations of the count"
[Hyatt v. Boone (CA FC) 47 USPQ2d 1128]

"Entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what is expressly disclosed. It extends only to that which is disclosed. While the meaning of terms, phases, or diagrams in a disclosure is to be explained or interpreted

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from the vantage point of one skilled in the art, all limitations must appear in the specification. The question is not whether a claimed invention is an obvious variant of that which is disclosed in the specification. Rather, a prior application itself must describe an invention, and do so in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought"
[Lockwood v. American Airlines Inc. (CA FC) 41 USPQ2d 1961, 1966]

7) The original specification of the instant application is the same as the specification of applicants' 1987 parent CIP application. Thus, to establish a 1987 priority date for that which is currently claimed under section 120, applicants need only establish the fact that there was adequate section 112-1 support in the instant 1987 CIP disclosure for *the invention* that is now claimed. However, the same is not true of the alleged 1981 priority date. Specifically, the 1987 CIP specification is not the same as the 1981 specification nor has the 1981 specification been incorporated into the 1987 CIP in any immediately discernible fashion. The mere fact that the 1987 CIP application specifically identifies itself as being a CIP application of one having the 1981 specification, is not sufficient to incorporate any part of the 1981 specification thereto. The 1981 specification itself has therefor been left behind in the drafting and filing of the 1987 CIP. What this means in term of priority under section 120, is that the currently pending claims are only entitled to the 1981 priority date if it can be determined that they recite an invention that was not only described in the instant 1987 specification, but that was also described 1981 parent specification.

"Applicant is confusing two distinctly different things:

(1) the right to have benefit of the filing date of an earlier application under § 120 for subject matter claimed in the later application because that subject matter is *disclosed in an earlier application* to which a 'specific reference' is made - i.e., a reference to the earlier application per se, and

(2) the incorporation *by reference* in an application of matter elsewhere written down (not necessarily in a patent application), for economy, amplification, or clarity of exposition, by means of an incorporating statement clearly identifying the subject matter which is incorporated and where it is to be found"
[In re DE SEVERERSKY, 177 USPQ 146 (CCPA 1973)]

"Statement in application that it is 'continuation-in-part' of prior application is insufficient to incorporate therein any part of prior

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application; all that it means is that insofar as disclosure of application finds corresponding disclosure in prior application, the application is entitled to filing date of prior application"
[In re DE SEVERERSKY, 177 USPQ 144 (CCPA 1973)]

"All it means insofar as the *disclosure of the parent* finds corresponding disclosure in the grand parent, the parent is entitled to the filing date of the grand parent. 35 U.S.C. 120"
[In re DE SEVERERSKY, 177 USPQ 146 (CCPA 1973)]

"Section 120 merely provides mechanism whereby application becomes entitled to benefit of filing date of earlier application disclosing same subject matter; common subject matter must be disclosed in both applications, either specifically or by express incorporation by reference of prior disclosed subject matter; nothing in Section 120 itself operates to carry forward earlier application; it contains no magical disclosure -- augmenting powers able to pierce new matter barriers; therefor, it cannot "limit" absolute and express prohibitions against new matter contained in Section 251."
[Dart Industries, Inc. v. Banner, Commissioner of Patents and Trademarks, (CA DC), 207 USPQ 273]

More specifically, because the 1981 specification was discarded in the drafting of the 1987 CIP, applicants' currently pending amended claims would only be entitled to the 1981 priority date if applicant's can show/prove that they are directed to an invention that was described in both the 1987 and 1981 specifications; i.e. the claimed invention must be shown to comprise "common subject matter". Being such, if a currently pending claim is necessarily directed to so much as a ***smudge*** of "new matter"[10], i.e. subject matter introduced via the filing of the 1987 CIP specification, said claim is **not** entitled to the 1981 priority date:

"Unlike the enablement provision of section 112, where the disclosure of a single species might be sufficient to enable a practitioner skilled in the art to make and use any member of the genus,....., the written description requirement of section 112 requires more. *See Vas - Cath, supra. This strict reading of the written description requirement prevents an inventor from surreptitiously expanding a patent through successive continuation-in-parts. See id. At 1562.* Essentially, it limits

[10] Wherein "new matter" is, by definition, "matter involving a departure from or in addition to the original disclosure" [37 C.F.R. 1.118]

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the claims of an applicant to those inventions he clearly discloses, either expressly or inherently" (emphasis added)
[Tronzo v. Biomet Inc. (DC SFla) 41 USPQ2d 1403 [11] citing Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111]

"To be entitled to the filing date of a previously filed application, appellant's application on appeal would have to satisfy the requirements of 35 U.S.C. 120, among which is the requirement that the subject matter now claimed be disclosed in a manner prescribed by the first paragraph of section 112 in the prior application. Since, to conform to section 112, claimed subject matter must be described in the specification relied upon, subject matter which is first introduced in a continuation-in-part application is not entitled to the filing date of the parent application"
[In re van Langenhoven, 173 USPQ 426 (CCPA 1972)]

"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time, as opposed to the situation in which the subsequent application merely contains either a language change not effecting the meaning of the prior application or a specification which narrows the scope of that which was previously claimed. [Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]

"**However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications**" (emphasis added)
[In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

"**Any claim in a continuation-in-part application that is directed solely to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application.**"
[In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

"**Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to**

[11] NOTE: this case was appealed [Tronzo v. Biomet (CA FC) 47 USPQ2d 1829]

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comply with the first paragraph of section 112 *and be the same invention as that disclosed in the later application.*" (emphasis added)
[Kirschner, 305 F.2d 897 (C.C.PA1962)]

"Lockwood argues that all that is necessary to satisfy the descriptive requirement is to show that one is 'in possession' of the invention. Lockwood accurately states the test .....but fails to state how it is satisfied. One shows that one is 'in possession' of *the invention* by describing *the invention*, with all its claimed limitations, not that which makes it obvious. *Id.* ('[T]he applicant must also convey to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention* . The invention is, for purposes of the 'written description inquiry' whatever is now claimed.').....One does that [i.e. describes *the invention*] by such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the invention. Although the exact terms need not be used in haec verba, ...the specification must contain an equivalent description of the claimed subject matter. A description which renders obvious the invention for which an earlier filing date is sought is not sufficient"
[Lockwood v. American Airlines Inc. (CA FC) 41 USPQ2d 1961, 1966]

"Lockwood argues that the district court erred by looking solely at the applications themselves. We do not agree. *It is the disclosures of the applications that count.* Entitlement to a filing date does not extend to subject mater which is not disclosed, but would be obvious over what is expressly disclosed. It extends only to that which is disclosed" (emphasis added)
[Lockwood v. American Airlines Inc. (CA FC) 41 USPQ2d 1961, 1966]

8) Applicants' position pertaining to the requirements of Section 120 priority does not appear to make sense. Specifically, applicants' position, if accepted, means that a significant advantage is bestowed on inventors who are willing to file CIP applications. Namely, in such a world, an inventor can describe and claim invention B in a later filed CIP application, and yet obtain the earlier filing date of a different invention A that was described in an earlier filed parent application for invention B, simply by drafting quasi-generic claims in the CIP application having limitations that are "anticipated" by the descriptions of invention A in the parent application. Clearly, the purpose of Section 120 was to allow an applicant to file a later "continuing" application while ***preserving*** the earlier filing date of the parent application for that subject matter, and only that subject matter, that was disclosed in the earlier filed parent. The purpose of Section 120 was not to provide filers of CIP applications advantages over non-filers of CIP applications;

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i.e. such as the right to an earlier filing date for a later filed invention via creative claim construction. To the contrary, as has been addressed above, Section 112-1 was specifically incorporated into Section 120 for the purpose of ensuring that filers of CIP applications were not bestowed with such "advantages".

> **"In 1967, the Court of Custom and Patent Appeals first separated a new written description (WD) requirement from the enablement requirement of [Section] 112. The reason for this new judge-made doctrine needs some explanation. Every patent system must have some provision to prevent applicants from using the amendment process to update their disclosures (claims or specification) during their pendency before the patent office. Otherwise applicants could add new mater to their disclosures and date them back to their original filing date, thus defeating accurate accounting of the priority of invention."**
> [Enzo Biochem Inc. v. Gen-Probe Inc. 63 USPQ2d 1618,1624 (CA FC 2002)]

9) The courts have made it clear that, under section 120, the subject matter described and claimed in a CIP application does not have to be described the same way in a parent application to be entitled to the filing date of the parent application; e.g.

> **"A continuation-in-part application, by definition, contains a substantial portion or all of the earlier application plus additional, previously undisclosed subject matter. A mere embellishment, or technical improvement, of features disclosed in the original application, which does not contribute to its novelty, utility, or non-obviousness, does not deprive a continuation application of its validity, or a patentee of the original filing date of the parent application"**
> [Acme Highway Products Corporation v. The D.S. Brown Company et al., (CA 6) 167 USPQ 129 at 134]

> **"New matter is not introduced by amendments, continuation applications or CIPs which merely clarify or make definite that which was expressly or inherently disclosed in the parent application or which conform the specification to matter originally disclosed in the drawings or claims"**
> [Stearn v. Superior Distributing Company et al., (CA 6), 215 USPA 1089 at 1094]

However, the courts have also made it clear that simply because an application purports to be a "continuation" or "CIP" application does not mean that it is a true continuation or true CIP application. Namely, to be a "*true continuation*"

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application, the application must in fact disclose and claim subject matter previously disclosed in the parent application; e.g.

> **"Thus, if an application is, in fact, a true continuation application, it is entitled to the filing date of the original parent application. If, however, it discloses and claims subject matter not common to or not supported by the parent application, it is not a true continuation application and any claims therein that include new matter are only entitled to the actual filing date of the later-filed application, and not the earlier parent application"**
> [Reynolds Metals Company v. The Continental Group, Inc., (DC NIII), 210 USPQ 911 at 929]

The more one compares applicants' 1987 subject matter, i.e. that is disclosed and claimed with respect to the instant 1987 CIP specification, with applicants' 1981 subject matter that was described in the now discarded 1981 parent specification, the more one becomes aware of the differences and inconsistencies that exist between these two disclosures [e.g. note appendix II of this Office action]. These differences and inconsistencies occur at all levels of the CIP disclosure and go far beyond those which merely clarify or make definite the 1981 subject matter previously described in the now discarded 1981 parent specification. In fact, the 1987 systems/methods described in the 557 pages of the 1987 CIP specification appear to be so completely *"expanded", "enhanced", and "improved"* relative to those of the discarded 1981 parent specification that it not only seems reasonable to question whether or not the instant 1987 is a "*true continuation*" of the 1981 parent, but it seem necessary to question it. Proving their allegations of priority under section 120 to an earlier 1981 filing date is, after all, applicants' burden.

> **"A party who, like Hiraga, relies on an earlier-filed application under 35 U.S.C. 119 or 120 has the burden to show that the foreign or patent application supports later-added claims under 35 U.S.C. 112-1"**
> **[Utter v. Hiraga 6 USPQ 2d 1709, 1713 (Fed. Cir. 1988)]**

This burden is not met by citing diverse 1981 and 1987 disclosures from the respective 1981 and 1987 CIP specifications that arguably "anticipate" all of a given claim's limitations in respectively different 1981 and 1987 ways (as applicant has alleged throughout the record). To the contrary, a proper Section 120 inquiry demands that the respective 1987 and 1981 teaching be relied upon to establish section 120 priority be compared to determine if they truly represent "common subject matter" required for priority under section 120.

> **"The inquiry required by section 120 demands a comparison not only of the claims of the parent and continuation-in-part application, but also of any other disclosures made in the applications" [Acme Highway Products Corporation v. The D.S. Brown Company et al., (CA 6), 167 USPQ 129 at 133]**

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B. It is believed that Applicants' have improperly dismissed, as irrelevant, the significant differences and inconsistencies that clearly exist between the written description that is provided in the 557 pages of the instant 1987 CIP specification and the written description provided in the 44 pages of the past 1981 parent specification (i.e. as they pertain to the issue of priority under section 120):

1) Applicant alleges that the issue of Section 120 priority pertains only to that which is claimed. Namely, applicants contend that:

a) The examiner should first give each of applicants' currently pending amended claims its "broadest reasonable interpretation";

b) Next, the examiner should determine if this "broadest reasonable interpretation" allows the claim to be "supported" (e.g. in sense of "anticipation" under Section 102) by subject matter found somewhere in the 557 pages of the instant 1987 CIP specification;

c) Then, that the examiner should determine if this "broadest reasonable interpretation" also allows this same claim to be "supported" (e.g. in sense of "anticipation" under Section 102) by subject matter found in the past 1981 parent specification; and

d) If the answer to steps "b" and "c" is *yes*, then applicants contend that the claims are entitled to the 1981 filing date of the parent application irrespective of the many noted difference that exist between the 1987 and 1981 written description that have been relied upon; i.e. differences/conflicts that the current examiner has cited throughout the present prosecution.

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim."** (emphasis added)
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]

> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test**

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whereby the § 112 support from each application consists of 'common subject matter.'"
[see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

However, as noted above, Applicants appear to have confused the requirement of "anticipation" under section 102 with requirements of "adequate written description" under section 112-1 as incorporated within Section 120.

2) As has been set forth in "Section I" of the Office action mailed 7/17/2002 in SN 08/470,571, the 1987 subject matter that is described in the 557 pages of the instant CIP specification is vastly different from and inconsistent with the 1981 subject matter that was previously described in the 44 pages of applicants' past 1981 parent specification. By applicants' own admissions, the inventions described in the 44 pages of his 1981 specification have been ***expanded*** by the description that is contained in the 557 pages of the instant 1987 specification so as to contain, at best, "many improvements and enhancements":

"Certainly, I made an effort early on to determine whether or not the disclosures of the '490 patent made their way into the '277 and although they're spread around and sometimes stated a little bit differently, for all relevant purposes of this hearing, the '490 patent is *expanded* by the '277. Its certainly not inconsistent." (emphasis added)
[Applicant counsel argument before the ITC (1997 ITC LEXIS 307, *252)]

"In fact, both [the 1981 and 1987] specifications describe the inventions disclosed in the 1981 specification, although the 1987 specification contains many enhancements and improvements."
[see the last two lines on page 9 of applicant's supplemental response filed 5/6/02 in SN 08/470,571]

Because only expanded descriptions containing "enhanced and improved" 1987 versions of the 1981 inventions exist within the instant 1987 CIP specification, when citing alleged section 112-1 support for the pending claims of the instant 1987 CIP disclosure, applicants' citations inevitably rely on "enhanced and improved" 1987 subject matter [12]. Applicants contend that the fact that the current claims must derive "adequate written description" under Section 112-1 from such expanded 1987 descriptions is irrelevant to the Section 120 priority issue.

"The fact that the [section 112-1] support [that applicant] identified in the 1987 specification for a certain [claimed] features (or limitation)

[12] The examiner notes that this fact is blatantly obvious whenever applicant attempts to specifically show alleged dual section 112-1 support for each claim limitation of any given pending amended claim [e.g. as is exemplified via Appendix A of the amendment filed 6/7/2000 in 08/470,571]

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also happens to include additional features or details relating to the same underlying feature (or limitation) disclosed in the 1981 specification , does not mean that both specifications do not support the feature or limitation with similar and valid 'common subject matter' support." [13]
[lines 5-8 on page 10 of the supplemental response]

To the contrary, it seems that preventing an applicant from relying on such expanded written descriptions in a later CIP application, one in which claims priority to an earlier filed parent application not having such expanded descriptions is sought, is precisely why the written description requirement of Section 112-1 was incorporated within Section 120 in the first place.

"Unlike the enablement provision of section 112, where the disclosure of a single species might be sufficient to enable a practitioner skilled in the art to make and use any member of the genus,....., the written description requirement of section 112 requires more. *See Vas - Cath, supra.* *This strict reading of the written description requirement prevents an inventor from surreptitiously expanding a patent through successive continuation-in-parts.* *See id. At 1562.* Essentially, it limits the claims of an applicant to those inventions he clearly discloses, either expressly or inherently" (emphasis added)
[Tronzo v. Biomet Inc. (DC SFla) 41 USPQ2d 1403 [14] citing Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111]

"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time, as opposed to the situation in which the subsequent application merely contains either a language change not effecting the meaning of the prior application or a specification which narrows the scope of that which was previously claimed. [Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]

"In 1967, the Court of Custom and Patent Appeals first separated a new written description (WD) requirement from the enablement requirement of [Section] 112. The reason for this new judge-made doctrine needs some explanation. Every patent system must have some provision to prevent applicants from using the amendment process to update their

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[13] Throughout the prosection history, applicant has maintained that "common subject matter" is not a real/actual requirement of section 120 but is instead a requirement that the examiner himself has created and imposed on the current applicant. It is not clear whether this quote reflects a departure from applicant 's past positions (?)

[14] NOTE: this case was appealed [Tronzo v. Biomet (CA FC) 47 USPQ2d 1829]

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disclosures (claims or specification) during their pendency before the patent office. Otherwise applicants could add new mater to their disclosures and date them back to their original filing date, thus defeating accurate accounting of the priority of invention."
[Enzo Biochem Inc. v. Gen-Probe Inc. 63 USPQ2d 1618,1624 (CA FC 2002)]

After all, the written description requirement of Section 112-1 requires an applicant to provide a written description of *the invention* within his specification, i.e. to describe that which is claimed, in order put the public on notice as to exactly what it is that applicant has invented.

An adequate written description of the invention "guards against the inventor's overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation."
[Vas-Cath Inc. V. Mahurkar (CA FC) 19 USPQ2d 1115]

Thus, when considering the adequate written description requirement of Section 112-1 that has been incorporated into Section 120, one actually considers/compares the respective disclosures themselves to determine whether *the invention* as described in the instant CIP specification was also described in the parent specification.

"The inquiry required by section 120 demands a comparison of 1) the claims of the parent and CIP applications and 2) any other disclosures made in the applications such as specification and drawing. Acme Highway, supra, at 1079, 167,USPQ at 132-33."
[Stern v. Superior Distributing Company et al., (CA 6), 215 USPQ 1089 at 1094]

"Lockwood argues that the district court erred by looking solely at the applications themselves. We do not agree. *It is the disclosures of the applications that count.* Entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what is expressly disclosed. It extends only to that which is disclosed" (emphasis added)
[Lockwood v. American Airlines Inc. (CA FC) 41 USPQ2d 1961, 1966]

Only if the respective written descriptions from the respective disclosures, i.e. those which are relied upon to describe "the invention", are the same or equivalent is the section 112-1 requirement of section 120 met; e.g. the respective written descriptions must define "common subject matter".

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> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications"** (emphasis added)
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

Being such, the differences and inconsistencies that exist between the 1987 and 1981 written descriptions being relied upon by applicant to allegedly support the claims cannot be simply dismissed as being irrelevant to the Section 120 priority issue as applicants wish, hope, and most likely need. That is because these differences define different subject matter and therefor describe different inventions (i.e. by applicants' own admission, that which is described by the 1987 written description has clearly being "expanded" when compared to that which was described in the 1981 written description).
Clearly, to obtain priority under section 120, the written description of the instant 1987 CIP specification must describe *the invention* that is being claimed, and the written description of the 1981 parent specification must describe ***this same invention.*** And, contrary to applicants assertions, the only way that this can be determined is by comparing the respective 1987 and 1981 descriptions/disclosures themselves (e.g. for the presence of common subject matter).

> **"The inquiry required by section 120 demands a comparison of 1) the claims of the parent and CIP applications and 2) any other disclosures made in the applications such as specification and drawing. Acme Highway, supra, at 1079, 167,USPQ at 132-33."**
> **[Stern v. Superior Distributing Company et al., (CA 6), 215 USPQ 1089 at 1094]**

3) As noted above, due to the complexity of the Section 120 priority issue that has been created by the way in which applicants have elected to draft their 1987 CIP specification and pending claims, the burden of establishing priority under Section 120 is a daunting task. It is fortunate for the examiner/Office that the burden of showing and establishing section 120 priority falls on applicants:

> **"A party who, like Hiraga, relies on an earlier-filed application under 35 U.S.C. 119 or 120 has the burden to show that the foreign or patent application supports later-added claims under 35 U.S.C. 112-1"**
> [Utter v. Hiraga 6 USPQ 2d 1709, 1713 (Fed. Cir. 1988)]

In light of all the ambiguities that have been shown to exist between applicants' 1987 and 1981 written descriptions, applicants' allegations of priority to the 1981 filing date for that which is claimed, when made, will not be accepted until such time that applicant shows that the claim(s) in question fulfill the actual requirement of Section 120; the examiner has not (and will not) accept the "anticipation" standard of alleged claim support which applicants have (and continue) to rely upon improperly [SEE section II of this Office action].

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4) Before the ITC, applicants' own counsel seems to have alleged that he was "unaware of any significant differences" between the specification of applicant 1987 CIP application and the specification of applicant' 1981 parent application.

> **"To the extent -- and I'm unaware of any significant differences between the '490 patent [*the 44 pages of applicants' past 1981 Parent specification*] and the '277 patent [*the 557 pages of applicants' instant 1987 CIP specification*]. I haven't seen one, and I don't remember it. Certainly, I made an effort early on to determine whether or not the disclosures of the '490 patent made their way into the '277 and although they're spread around and sometimes stated a little bit differently, for all relevant purposes of this hearing, the '490 patent is expanded by the '277. Its certainly not inconsistent."**
> [Applicant counsel argument before the ITC (1997 ITC LEXIS 307, *252)]

Administrative Law Judge Luckern responded to this allegation by pointing out that there was at least one very "significant difference" between applicant's 1987 and 1981 specifications -- namely, the fact that the 557 page of applicants instant 1987 CIP specification was more than 500 pages longer than the 44 pages of applicants' 1981 parent specification.

> **"There is at least one significant difference in the specifications of the '490 [*the 44 pages of the past 1981 Parent specification*] and '277 *[the 557 pages of the present 1987 CIP specification*] patents, viz. the fact that the '277 specification is more than ten times the length of the '490 specification. More over, assuming no inconsistencies between the two specifications, it is indisputable that the '277 specification contains a significant amount of material that was added to the disclosure of the '490 specification in 1987 (i.e. over 500 pages of text)."**
> [Administrative Law Judge Luckern's response to the applicant counsel testimony (1997 ITC LEXIS 307, *252)]

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However, the number of pages added by the 1987 CIP goes far beyond the 500 pages cited by Judge Luckern in light that the 500 page calculation assumes that the 44 page text from the 1981 specification had in fact been carried forward into the specification of the 1987 CIP. Such an assumption is clearly erroneous as is evident by applicants' counsels' allegation:

> **"Certainly, I made an effort early on to determine whether or not the disclosures of the '490 patent made their way into the '277 and although they're spread around and sometimes stated a little bit differently, for all relevant purposes of this hearing, the '490 patent is expanded by the '277. Its certainly not inconsistent."**
> [Applicant counsel argument before the ITC (1997 ITC LEXIS 307, *252)]

Within this statement, it is unclear as to exactly what applicants' counsel meant by "inconsistent". Namely, it seems to be an undisputable fact that the 1987 systems and methods which are described in the 1987 CIP are "inconsistent" with respect to the systems and methods that were previously described in the 1981 specification to the extent that the 1987 systems/methods clearly represent "expanded", "enhanced", and "improved" versions of the system/method that were described in the 1981 parent.

> **"Certainly, I made an effort early on to determine whether or not the disclosures of the '490 patent made their way into the '277 and although they're spread around and sometimes stated a little bit differently, for all relevant purposes of this hearing, the '490 patent is *expanded* by the '277. Its certainly not inconsistent."** (emphasis added)
> [Applicant counsel argument before the ITC (1997 ITC LEXIS 307, *252)]

> **"In fact, both [the 1981 and 1987] specifications describe the inventions disclosed in the 1981 specification, although the 1987 specification contains many *enhancements* and *improvements*."** (emphasis added)
> [see the last two lines on page 9 of applicant's supplemental response filed 5/6/02 in SN 08/470,571]

However, preventing *"expansion"/"enhancements"/"improvements"* of disclosed/claimed subject matter via the filing of one or more such CIP applications is precisely why the written description requirement of section 112-1 was into section 120 in the first place.

> **"Unlike the enablement provision of section 112, where the disclosure of a single species might be sufficient to enable a practitioner skilled in the art to make and use any member of the genus,....., the written description requirement of section 112 requires more. *See Vas - Cath, supra. This strict reading of the written description requirement prevents an inventor from surreptitiously expanding a patent through***

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successive continuation-in-parts. ***See id. At 1562.*** **Essentially, it limits the claims of an applicant to those inventions he clearly discloses, either expressly or inherently**" (emphasis added)
[Tronzo v. Biomet Inc. (DC SFla) 41 USPQ2d 1403 [15] citing Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111]

"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time, as opposed to the situation in which the subsequent application merely contains either a language change not effecting the meaning of the prior application or a specification which narrows the scope of that which was previously claimed. [Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]

"Section 120 merely provides mechanism whereby application becomes entitled to benefit of filing date of earlier application disclosing same subject matter; common subject matter must be disclosed in both applications, either specifically or by express incorporation by reference of prior disclosed subject matter; nothing in Section 120 itself operates to carry forward earlier application; it contains no magical disclosure -- augmenting powers able to pierce new matter barriers; therefor, it cannot "limit" absolute and express prohibitions against new matter contained in Section 251."
[Dart Industries, Inc. v. Banner, Commissioner of Patents and Trademarks, (CA DC), 207 USPQ 273]

"In 1967, the Court of Custom and Patent Appeals first separated a new written description (WD) requirement from the enablement requirement of [Section] 112. The reason for this new judge-made doctrine needs some explanation. Every patent system must have some provision to prevent applicants from using the amendment process to update their disclosures (claims or specification) during their pendency before the patent office. Otherwise applicants could add new mater to their disclosures and date them back to their original filing date, thus defeating accurate accounting of the priority of invention."
[Enzo Biochem Inc. v. Gen-Probe Inc. 63 USPQ2d 1618,1624 (CA FC 2002)]

Specifically, despite applicants counsel's allegation, the 557 pages of new text that is the 1987 CIP disclosure are full of *"inconsistencies"* with respect to the 44 page written description of the 1981 parent application - at least to the extent that

[15] NOTE: this case was appealed [Tronzo v. Biomet (CA FC) 47 USPQ2d 1829]

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the new disclosure that is the 1987 CIP specification significantly alters the substance of the systems/methods that were described in 1981 parent application (i.e. which is, by definition, "new mater"). That is, the "new" descriptions provided by 1987 CIP are in no way limited to changes in language that do not effect the meaning of that which was described the prior 1981 parent! Namely, when referenced back to the written description of the 1981 parent, the written description of the 1987 CIP effected nothing less than:

1) "Expanding" (i.e. changes and broadened) the way in which various terminologies were define and used (e.g. "programming", "words", etc, ...);

2) Changes in the way the "illustrated" structures were configured and operated;

3) Changed/Upgraded in the signaling transport technology on which all of the described methods/systems of the 1987 CIP disclosure were based (1987 SPAM packets v. 1981 trigger/cuing "words");

4) "Expanded" (i.e. changes and broadened) the types of signaling that was conveyed as "instruct" and "control" signals (e.g. provided by the added ability of the 1987 SPAM packets to carry/download computer software);

5) "Expanded" (i.e. changed and broadened) the described environments to which the described methods/systems were applied (e.g. the 1987 descriptions no longer being confined to TV/Radio distribution applications);

6) Etc,....

Some of the more noteworthy of these differences and "inconsistencies" are addressed in Appendix I and Appendix IV of this Office action.

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APPENDIX III: (SOME NOTEWORTHY DIFFERENCES)

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NOTEWORTHY DIFFERENCES AND INCONSISTENCIES BETWEEN APPLICANT 1981 AND 1987 CIP SPECIFICATIONS:

1) On page 149 of the response filed 1/28/2002 in SN 08/470,571, applicants appear to have acknowledged the fact that the same "programming" terminology was defined differently within the respective 1981 and the 1987 disclosures. Specifically:

a) The disclosure of the 1981 parent application, which was not carried forward into the instant 1987 CIP disclosure, defined the "programming" terminology to mean:

> "***Everything that is transmitted over television or radio intended for communication of entertainment or to instruct or inform***"; whereas

b) The instant 1987 CIP disclosure defined this same "programming" term to mean:

> "***Everything that is transmitted electronically to entertain, instruct, or inform including television, radio, broadcast print, computer programming, as well as combined medium programming***".

Amazingly, in this response, applicants allege that the meaning that is respectively imparted to the same "Programming" terminology by these different definitions is the same. In fact, applicant alleges that the only difference that exists between the 1981 and 1987 "programming" definitions are ones that the instant examiner created [see page 149 of the response filed 1/28/2002 in SN 08/470,571]. Nonsense!
Clearly, the 1981 definition defines the "programming" terminology as being Radio and TV transmissions, while the 1987 disclosure *expands* the definition be "everything that is transmitted electronically." [16] And, contrary to applicants' accusation, the instant examiner was not present and played no part in creating or incorporating these vastly different 1981 and 1987 "programming" definitions into applicants' respective 1981 and 1987 disclosures.

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[16] In fact, the 1987 definition not only expands the "programming" terminology to mean "everything transmitted electronically", but this 1987 expanded "programming" definition explicitly adds "computer programming", "broadcast print", and "combined medium programming" to the "television and radio transmissions" which made up the 1981 "programming" definition.

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While applicants can avoid using the "programming" terminology itself in the currently pending amended claims, the "expanded" 1987 definition of the "programming" terminology nonetheless continues to impart its *expanded* meaning onto all of the 1987 disclosures in the CIP specification that are based on this expanded 1987 "programming" definition. And thus, in a like manner, these expanded 1987 descriptions continue to associate expanded 1987 scope/meaning with the limitations of the currently pending amended claims which necessarily derive required section 112 support from such 1987 CIP disclosures. And being that the "programming" terminology does not constitute "common subject matter" between 1981 and 1987 disclosures, as is evident from its vastly different 1987 and 1981 definitions themselves, this too refutes applicants current claim to the 1981 date.

As is evidenced above, the instant 1987 disclosure explicitly defines and uses the "programming" terminology in a way that is vastly different both in scope and meaning from the way that this the same "programming" terminology was previously defined and used within the disclosure of the 1981 parent

> **This evidences the fact that one cannot assume that the terminology shared by the respective 1981 and 1987 disclosure is indicative of "common subject matter."**

2) The embedded "instruct signals" of applicants' 1987 specification comprised computer software/programming whereas the embedded "instruct signals" of applicants 1981 specification did not comprise computer software/programming:

> **This too evidences the fact that one cannot assume that the terminology shared by the respective 1981 and 1987 disclosure is indicative of "common subject matter."**

3) While the "inconsistent" use/scope/meaning of the "programming" and "instruct signal" terminology between 1987 and 1981 applications is self-evident, the inconsistent use of other shared terminology is less conspicuous. The term "signal word" represents but just one example of the more subtle inconsistencies that exist between the 1981 and the 1987 disclosures.

The 1981 inventions of the 1981 specification were described as having distributed discrete digital information, in the form of "signal units", from a transmitter site to a plurality of receiver as ancillary data embedded within TV and Radio transmissions. To transmit these "signal units", the bits from one or

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more of the "signal units" were organized into one or more discrete strings of bits. Each of these discrete bit strings was then embedded, at a respective discrete time and/or location, within the transmitted TV or radio programming as a "signal word". Specifically, as defined and used within the 1981 specification, each "signal word" represented a respective occurrence/"appearance" of ancillary signaling within the distributed programming:

> "**The term 'signal word' hereinafter means one full discrete appearance of a signal as embedded at one of time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial and whole signal units or combinations**" [17] [note lines 3-12 of column 3 in US Patent #4,694,490]

Although this 1981 definition of the "signal word" terminology was literally carried forward into the instant 1987, it was carried forward only in a "cosmetic" sense. For while the 1987 disclosure includes an allegation stating that the "signal word" terminology will be defined and used throughout the 1987 disclosure in the same way that it was defined and used in 1981 parent disclosure [see the last 10 lines on page 14 of the instant disclosure], as actually practiced in the 1987 specification, this allegation is untrue. To the contrary, in much to most (if not all) of the remaining portions of the instant 1987 CIP specification, the term "signal word" is not used for the so stated/coined purpose. Instead, the "signal word" terminology was used in a way that is, at best, inconsistent with its explicitly coined definition to its explicitly coined definition. Specifically, in the remaining portions of the 1987 disclosure, the term "signal word" was now used to refer to the N-bit bytes of "computer-type" data which made up the digital information that is now distributed and/or processed by the 1987 inventions [e.g. note: the last three lines on page 54 of the instant disclosure; lines 4-8 on page 56 of the instant disclosure; lines 9-13 on page 59 of the instant disclosure; etc, ...].

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[17] "The term 'signal units' hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programing unit, or a unique purchase order number identifying the prior use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission." [note: lines 64-68 of column 2 and lines 1-3 of column 3 in US Patent #4,694,490; and lines 25-32 of the instant disclosure]

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Namely, in the 1981 specification applicants executed their right to be their own lexicographer and gave the "signal word" terminology a meaning that was unique to applicants' 1981 disclosure. Initially, applicants' 1987 CIP specification indicates that this unique 1981 definition of "signal word" has been carried forward into the 1987 CIP specification. To the contrary, however, the use and meaning of the "signal word" terminology in the 1987 CIP specification was actually "enhanced"/"improved" so to refer instead, in a more conventional sense, to n-bit bytes/"words" of computer data. Thus, somewhat surreptitiously, the meaning/use of the "signal word" terminology has been changed via the filing of applicants' 1987 CIP specification; i.e. the term "signal word" does not constitute common subject matter.

In summary, "signal word" was explicitly defined, coined, and used throughout the discarded 1981 disclosure for the expressed purpose of referring to each occurrence/appearance of ancillary signaling within the distributed TV and radio programming. The instant 1987 CIP disclosure initially incorporates the 1981 "signal word" definition and also indicates/alleges that this 1981 "signal word" definition will be adopted throughout the 1987 CIP. However, this allegation is untrue and misleading because, in practice, the use/meaning of the "signal word" terminology is changed within the instant 1987 disclosure so as to refer to the "words"/bytes of digital computer-type data which comprised (and did not carry) said ancillary signaling; i.e. quite different from its use in the 1981 parent use/definition of this same terminology.

Thus, as with the "programming" terminology, the instant 1987 CIP disclosure's smeared use of explicitly coined "signal word" terminology does not represent "common subject matter" with respect to the disclosure of the 1981 parent and therefor this smeared use/misuse of this terminology is not entitled to the 1981 filing date for reasons addressed above. The smeared use of the "signal word" terminology:

> **This evidences the fact that even terminology that has been explicitly coined in both application for the same alleged purpose, is not always what it appears.**
>
> [ALSO, SEE "APPENDIX C" ATTACHED TO THE OFFICE MAILED 7/17/2002 IN 08/470,571]

D) As if the existing uncertainties as where section 112 support can be allegedly found were was not enough, it now seems that applicant has come to a realization that some/much/most of the features now being claimed with respect to the instant 1987 CIP disclosure were not "explicitly" disclosed in the past 1981 Parent specification. Because of this, applicant alleges that those features that are not explicitly present in the 1981 parent specification are, allegedly,

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"inherently" present and/or "implicitly" present within the teachings of the past 1981 parent specification.

> **"To the contrary, the 1981 definition [of "programming"] implicitly includes, and the 1987 definition [of "programming"] explicitly includes, computer programming in the definition".**
> **[lines 20-26 on page 17 of the supplemental response filed 5/6/2002 in 08/470,571]**

> **"An applicant is entitled to priority for a claim that was inherently described in an earlier application and explicitly described in a later application"**
> **[note the last 15 lines on page 140 of the response filed on 1/28/2002 in application SN 08/470,571].**

With respect to applicants' allegations of "inherency":

a) It is noted that applicants cannot simply allege that subject matter is inherent in their 1981 parent specification, they must prove that it is inherent within the 1981 specification:

> **"If applicant's wish to rely on what inherently happens in examples taken from parent applications, as support for claimed subject matter which is clearly not specifically disclosed, they must prove their case; what they wrote into instant continuation in part application by way of interpretation and contention can avail them nothing."**
> [In re Ziegler, Breil, Holzkamp & Martin (CCPA) 156 USPQ 511]

This burden of "proof", however, simply adds to the existing burden of proof that has been caused by applicant's failure to incorporate the 1981 parent specification into the 1987 CIP. Namely, to establish section 120 priority, not only must applicants **prove** the inherency of the alleged inherent subject matter within the 1981 parent specification, but applicants must also prove/show that this inherent subject matter represents "common subject matter" with respect to that which is now being claimed via applicants' instant 1987 CIP specification given applicants' failure to incorporate the 1981 specification into that of the 1987 CIP; and

b) The implication of claimed subject matter being "inherently" embedded within teachings of the 1981 disclosure, e.g. and previously patented claims derived therefrom, is profound (e.g. especially as it pertains to the

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issue of double patenting). Thus, it is respectfully requested that applicant now identify:

1. All of those features from the 1987 disclosure that are "inherently" contained within teachings of the 1981 parent disclosure; and

2. All of those teachings from the 1981 disclosure which "inherently" contain features that are now explicitly disclosed in the instant 1987 CIP specification

[especially when the issue of "inherent" features pertains to subject matter that is currently being claimed within the instant pending amended claims or to subject matter which has been claimed within previously patented claims].

5) In order to transmit a wider range of control and messaging information than was previously possible, and in order to transmit this wider range of control and messaging information more efficiently within "signal word"-*like* intervals of Radio/TV/"ALL OTHER" forms of electronic transmissions, applicants' instant 1987 CIP disclosure introduced a packetized data structure called "SPAM" (see figures 2E-2K of the instant disclosure). In applicants' 1987 "SPAM" environment, it was this "SPAM" packeting which carried an expanded range of "signal unit"-*like* information, and it was the "SPAM" packets themselves whose bits were organized into sequences so as to be transmitted within "signal word"-*like* intervals of TV/Radio/"ALL OTHER" forms of electronic transmission; e.g. the expression "-*like*" being appended here and above in order to emphasize the fact that the information carried within "SPAM" packeting, and the "strings" of bits derived from such "SPAM" packeting, are different from the 1981 "signal units" and 1981 "signal words" that were explicitly defined by the 1981 even though such terminology was carried forward, i.e. "*cosmetically*", into the 1987 disclosure [see part "2)" of part "S)" of this section]. The fact that this 1987 "SPAM" transport scheme was not disclosed within applicants' 1981 parent application *appears* to have been argued by applicants themselves during ITC Investigation No. 337-TA-392:

"Even more difficult to understand is PMC's assertion that the French chef example [in the '490 patent], and I am quoting from their brief, 'it says nothing about the recipe being sent in any type of SPAM signal' .....Technically, they're correct, because the term 'SPAM signal' was introduced in the '277 patent or the specification which led to the '277 patent [i.e. the instant 1987 CIP disclosure], and it doesn't appear in the '490 patent [i.e. the 1981 disclosure of the past parent] "
[1997 ITC Lexis 307,*254 (Part II)]

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As it applies to the issue of section 120 priority, the examiner maintains that the applicant [*PMC*] was more than just "*technically correct*". Specifically, while both of applicants' 1981 and 1987 inventions operated to transmit digitally encoded ancillary signaling within TV/RADIO programming, only the 1987 inventions did so using the more sophisticated 1987 packetized "SPAM" transport technology that was first introduced via the instant disclosure as originally filed within the 1987 CIP. And because applicant submits that all of the recited auxiliary "signaling" of the currently pending claims derive their required Section 112-1 support from the more advanced 1987 "SPAM" technology of the instant 1987 CIP specification, applicant refutes his own claim to the 1981 date of the parent application for these claims being that the 1987 "SPAM" technology now being claimed was not disclosed or supported by the past 1981 parent specification. [NOTE: "APPENDIX A" of applicants' response filed 6/7/2000 in SN 08/470,571; and "APPENDIX C" of the Office action mailed 7/17/2002 in SN 08/470,571].

Because all of the currently pending amended claims appear to have at least one limitation whose meaning is defined by 1987 "SPAM" signaling (a fact that has been evident in all of the claim charts that applicant has submitted to date for the purpose of demonstrating 112-1 support), and because the "SPAM" signaling exists only in the instant 1987 disclosure, all of the currently pending amended claims seem (at best) only to be entitled to the 1987 filing date of the originally filed CIP application; e.g. none of the claims appear to be entitled to the 1981 priority date of the parent disclosure which did not describe "SPAM".

6) Applicant alleges that many/most/all of his pending claims derive required section 112 support from the "*WALL STREET WEEK*" embodiment that was described in the instant disclosure (wherein said instant disclosure was originally filed within a CIP application on 9/11/1987). During the present prosecution, applicant has alleged that these same pending claims are entitled to priority under Section 120 based on a similar "*WALL STREET WEEK*" embodiment that was described in the disclosure of the parent application filed 11/3/81. Since applicants' 1987 disclosure is different from applicants' 1981 disclosure, and since applicants' 1987 disclosure did not formally incorporate the 1981 disclosure into the 1987 disclosure physically or via an "*incorporation by reference*", the pending claims are only entitled to 1981 priority for "*WALL STREET WEEK*" subject matter that was common to both disclosures. While the "*WALL STREET WEEK*" embodiment that is described in applicants' 1987 disclosure and the "*WALL STREET WEEK*" embodiment that is described in applicants' 1981 disclosure have their similarities, the methods/structures used to carry out these two "*WALL STREET WEEK*" embodiments are quite different [see appendix I of this Office action]. The following is provided to further exemplify such differences:

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a) It is noted that:

1) Applicants' 1987 disclosure references figure 1 of the 1987 disclosure as illustrating the receiver structure that was used to implement the 1987 "*WALL STREET WEEK*" embodiment [note the discussion which begins in line 21 on page 20 of applicant's 1987 disclosure]; and

2) Applicants' 1981 disclosure references figure 6c of the 1981 disclosure as illustrating the receiver structure that was used to implement the 1981 "*WALL STREET WEEK*" embodiment [note the discussion which begins on line 31 of column 19 of US Patent #4,694,490].
While these two figures use a common label "MICROCOMPUTER" and reference numeral "205" to identify one element of the respective structures, the respectively identified elements are clearly different in both structure and operation:

Showing that, as with applicants' use of common terminology, it would also be erroneous for one to assume that common labels and common reference numerals were used in applicants' 1981 and 1987 disclosures as an indication of common elements or "common subject matter".

The fact that commonly labeled elements in applicants 1981 and 1987 disclosures represent different structures/operations/scopes is evidenced in the following:

1) The "MICROCOMPUTER" (205) of applicants' 1987 disclosure actually comprised the circuitry required for overlaying locally generated graphics over the related/received TV signal broadcast. Whereas, in contrast, the "MICROCOMPUTER" (205) of applicants' 1981 disclosure did not comprise such circuitry but instead outputted locally generated graphics to the TV receiver so that they could be overlaid over a related/received TV signal broadcast;

2) the "MICROCOMPUTER" (205) of applicants' 1987 disclosure actually comprised the circuitry required for receiving, loading, and running **downloaded** computer *software* (i.e. the disclosed "program instruction set") which was used to control the

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"MICROCOMPUTER"(205) of applicant's 1987 disclosure to execute functions defined by ones of later received discrete instructions. Whereas, in contrast, the "MICROCOMPUTER" (205) of applicants' 1981 disclosure was **pre-programmed** with computer *software* which was used to control the "MICROCOMPUTER"(205) of applicant 1981 disclosure to execute functions defined by ones of received discrete instructions;

b) In view of the differences in structure that is set forth in part a) of this paragraph, it is clear that the method used to overlay graphic images on a related/received TV signal broadcast in the 1987 "*WALL STREET WEEK*" embodiment is quite different from the method used to overlay graphic images on a related/received TV signal broadcast in the 1981 "*WALL STREET WEEK*" embodiment. Most notably, in the 1981 "*WALL STREET WEEK*" embodiment the overlay method was performed by cuing a microcomputer with instructions signals (e.g. with some unspecified type of cuing signals) which caused the microcomputer to execute ones of locally stored software instructions which were required to generate, output, and overlay locally generated graphics onto a received/related video signal broadcast whereas, in sharp contrast, in the 1987 "*WALL STREET WEEK*" embodiment the overlay method was performed by first **downloading software** to the microcomputer and then cuing the microcomputer with instructions signals (e.g. cuing signals) which caused the microcomputer to execute the downloaded software to generate, output, and overlay locally generated graphics onto a received/related video signal broadcast.

c) The examiner agrees that applicant is entitled to the 1981 priority date only for those claims of the present application which are limited to subject matter that was **common** to both of applicant's 1981 and 1987 disclosures; i.e. that is limited to the subject matter that was previously disclosed in the 1981 parent. Under the present circumstances [18], it is maintained that applicant is not entitled to the 1981 priority date for claims in which the **same/common support** can not be shown to exist in both of applicant's 1981 and 1987 disclosures. More specifically, the examiner rejects any allegation that the currently pending amended claims are entitled to the priority of their 1981 disclosure for claims which depend from their 1987 disclosure when it can be shown/alleged that each claim has different interpretations which allow them to be read on applicants' 1987 "*WALL STREET WEEK*" embodiment (via a first

[18] The present disclosure: 1) comprises the 1987 disclosure and is, at best, a CIP of the disclosure filed in 1981; and 2) comprises the 1987 disclosure into which the 1981 disclosure has not been incorporated (i.e. neither literally nor by reference).

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claim interpretation/construction) and on applicants' 1981 "*WALL STREET WEEK*" embodiment (via a second claim interpretation/construction that is different from the first);i.e. priority to the 1981 disclosure should/will only be given if applicant can show that the way that the claims are being interpreted is the same for both disclosures (i.e. if the teachings on which each claim is based is **common** to both disclosures). To permit otherwise, would improperly create a tool by which an applicant could obtain the earlier filing date of a first filed invention, for a later filed invention, by carefully drafting subsequently filed claims in a manner which allows said drafted claims to be read on both inventions via different interpretations of the same claims. In the present application, it would be improper for the examiner to give a 1981 priority date to claims that are directed to applicants' 1987 "*WALL STREET WEEK*" embodiment even if it can be shown that the same claims can be interpreted in a manner which allows them to be read on applicant's 1981 "*WALL STREET WEEK*" embodiment; i.e. unless it can show that the support that is provided for the claims by both disclosures is in fact the same/common to both disclosures. Because the disclosed structures and processes used to implement applicants' 1987 "*WALL STREET WEEK*" embodiment clearly differ from the disclosed structures and processes used to implement applicants' 1981 "*WALL STREET WEEK*" embodiment (note: parts a and B of this paragraph), the examiner maintains that the subject matter which is actually common to both disclosures, e.g. that subject matter of the 1987 disclosure which is actually entitled to priority of the 1981 disclosure, if any, is very small indeed.

7) As is evident from the claim charts filed in SN 08/470,571 on 6/7/2000, all of the recitations that are directed to the signals/instructions/data that are conveyed as ancillary signaling within Radio and TV Programming transmissions, derive their required Section 112 support from the "SPAM" signaling that was first introduced by applicants' "1987" instant disclosure (as they must given that all of the 1987 invention were described with respect to SPAM signaling). Therefor, the scope and meaning that must be given to these signals/instructions/data recitations under section 112, e.g. their broadest reasonable interpretations, is necessarily defined/interpreted based said on said "SPAM" signaling. However, "SPAM" signaling was not disclosed in the 1981 parent and, therefor, applicant's claim to the earlier 1981 filing date is again refuted; i.e. the scope/meaning imparted to the currently pending amended claims by "SPAM" of the instant "1987" disclosure would not have been imparted to these same limitations by the earlier filed 1981 disclosure which lacked any discussion of "SPAM" therein; e.g. evidencing the fact that a "different invention"/"New Matter"/"different subject matter" has now been disclosed and claimed within the instant application.

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8) The examiner notes that the basic requirement of section 120 includes "continuity of disclosure". Specifically, for priority to an earlier filing date to be established, section 120 requires that the invention now sought to be patented in a child application to have been "disclosed in the manner provided by the first paragraph of section 112" within the disclosure of the parent application. Significantly, section 120 does not indicate that only the descriptive requirement of section 112-1 must be met, but instead it indicates that all of the requirements of section 112-1 must be met [e.g. this includes the "enablement" requirement and the "best mode" requirement too].

TRANSCO [38 F.3d 551; 32 U.S.P.Q.2D (BNA) 1077] has cited throughout the present prosecution. The TRANSCO decision determined that one is not required to update his "best mode" when filing a continuation. Thus, it is true that the current applicant was not required to update his "best mode" at the time of filing the instant 1987 CIP application. To the contrary, in *dicta*, Judge Rich warned that requiring an applicant to update the best mode when filing the continuation application defeats the purpose of the "continuation":

> **"It must be understood that the introduction of a new best mode disclosure would constitute the injection of 'new matter' into the application and automatically deprive the applicant of the benefit of the earlier filing date of the parent or original application for any claim whose validity rests on the new best mode disclosure".**

Being such, to the extent that applicants may have updated their "best mode" via the filing of the 1987 CIP application (if at all), e.g. such as the introduction of the new SPAM signaling scheme, it would appear that applicants have deprived themselves of the 1981 priority date given the dicta of TRANSCO.

9) The receiver station circuitry of applicants' 1981 inventions, e.g. that disclosed in the 44 page disclosure of the 1981 parent application, all appear to have been:

a) "pre-programmed" with the computer programming (i.e. software) that was necessary to detect and recognize the occurrence of certain predetermined digital codes in data that was embedded within received TV and Radio program transmissions; and

b) "pre-programmed" with the computer programming (i.e. software) that instructed the receiver station circuitry as how to respond when a given one of these certain digital codes was in fact detected/recognized.

Specifically, in the 1981 disclosure, the receiver side circuitry was pre-programmed so as to be effectively "triggered"/"cued" by certain

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detected/recognized ones of the embedded digital codes in order to executed a respective portion of the pre-stored software (i.e. a respective "subroutine") thereby causing the receiver station to operate in a predetermined fashion.

In contrast, the receiver station circuitry of applicants' 1987 inventions, e.g. that disclosed in the 557 page disclosure of the 1987 CIP, had the advantage that the pre-programmed software itself could now be changed/modified (i.e. "re-programmed") via a new and very different type of data, i.e. "SPAM" messages, which were now embedded within the received TV and Radio programming. The ability to re-program the receiver stations from a distance (e.g. remotely) meant that the way in which the receiver stations of the system operated/responded to detected/recognized digital codes (now transmitted within "SPAM messages" too) could be change on the fly (i.e. without a visit from a service technician being necessary).

Given the above, it seems apparent that the 1987 inventions do not represent "common subject matter" with respect to the 1981 inventions even though they can both could be operated, in very different ways, to produce/provide a similar effect/"application"; e.g. such as respective 1981 and 1987 "WALL STREET WEEK" applications. However, the vast difference in the nature of the 1987 and 1981 inventions appears to be partially masked by the repugnant use (i.e. misuse) of the "computer program" terminology by the 1987 disclosure to encompass things other than computer "software". For example, in lines 13-20 on page 427 of the instant disclosure, the 1987 "invention" was explicitly described as comprising a computer system which operated to produce combined medium combining at respective subscriber stations via the transmission of one "computer program" (e.g. software) to all the computers at all of the subscribed stations. Yet, as an alleged example such computer system operation (e.g. lines 20-34 on page 427), the 1987 disclosure repugnantly cites an operation during which the transmitted SPAM messages were carrying codes which only triggered/cued specific receiver responses within already pre-programmed/re-programmed receiver station circuitry; e.g. as opposed to actually citing an operation during which "software" was being downloaded to re-program the receivers (e.g. as described in lines 5-21 on page 24 of the instant disclosure). By using the "computer program" terminology in this repugnant fashion, it appears that the 1987 disclosure attempts to impart legitimacy to the erroneous claim that the 1981 disclosure described the downloading of "computer software/programming" too; i.e. the argument being that because the trigger/cuing type codes of the 1987 disclosure have been erroneously defined as having comprised "computer programming" (e.g. software), then the corresponding cuing/trigger codes of the 1981 disclosure must be erroneously considered computer programming/software too [an erroneous position which is reflected/echoed in applicant arguments too (e.g. note example #2 under

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"Section II" in the Office action mailed on 8/27/01 in SN 08/470,571)] [19]. The result is further confusion!

10) etc,....

[19] See Appendix IV of this Office action.

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xxx

APPENDIX IV: (The embedded auxiliary signaling of the 1981 parent specification did not transport computer software)

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1) Applicant has alleged that his past 1981 Parent specification "implicitly" taught the downloading of "computer programming" (i.e. computer *software*).

> **"To the contrary, the 1981 definition [of 'programming"] implicitly includes, and the 1987 definition [of 'programming"] explicitly includes, computer programming in the definition".**

To try justify/support this erroneous allegation, applicant attempts to weave together a tapestry of "engineered" teachings and definitions:

A) First, applicant falsely asserts that the past 1981 Parent specification literally used the term "programming" to refer to the described "instruction signals" that were communicated through the TV/RADIO networks of the disclosed "1981 inventions";

B) Applicant then correctly notes that the "instruction signals" of the past 1981 specification were described as comprising signals which instructed ***pre**programmed* microcomputers to perform given tasks.

C) Next, applicant cites an outside *Dictionary* definition of the term "program" to show that the term "programming" was conventionally used to refer to "computer programming/software"; and

D) Finally, applicant erroneously concludes that when one combines the above "engineered" teachings from his past 1981 Parent specification together (A and B above), based on the cited *Dictionary* definition of "program" (C above), one "implicitly" arrives at the cited *Dictionary* definition of "program."

[i.e. applicants improperly uses an outside dictionary definition of "programming" as the means for erroneously interpreting and combining teachings from the 1981 specification in a way which allows the outside dictionary of "programming" to be retroactively created/inserted within the 1981 specification]

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However, for a variety of reasons, this tapestry falls apart at the slightest touch:

1) When one looks at the way in which the 1981 "programming" terminology was coined and used throughout applicants' past 1981 Parent specification, one finds that the 1981 "programming" terminology referred to signaling which represented scheduled TV/Radio shows (i.e. TV and Radio *programs*). One finds that the 1981 "programming" terminology was never used to refer to "computer software" as applicant now wishes. In fact, despite applicants' false assertion (see "A" of this section), one finds that applicants' 1981 specification did not even use the 1981 "programming" terminology to refer to the 1981 "instruct and information signals". Quite the contrary, applicants' 1981 parent specification actually distinguished the 1981 "instruct and information signals" from the 1981 "programming." Namely, applicants' past 1981 parent specification leaves no doubt that said 1981 "instruct and information signals" constituted ancillary/auxiliary signaling that was "associated" with, and embedded within, said TV/Radio "programming"; i.e. that the information and instruct signals were distinctly different from "programming". This fact is self-evident in the following excerpts taken from applicants' 1981 parent specification:

> **"One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the operation of a television studio automatically through the use of instructions and information signals embedded in programming either supplied from a remote source or sources or prerecorded" (emphasis added)**
> [lines 32-37 of column 3][20]

> **"Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and pass them, along with information identifying the channel source of each signal, externally to code reader, 72." (emphasis added)**
> [lines 3-7 of column 11]

> **The cable head end facility contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from the programing as required, and signal generators, 82, 86, and 90,**

[20] Citations have been obtained from US Patent #4,694,490.

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also known in the art, that controller/computer, 73, can instruct to add signals to programming as required"
[lines 36-42 of column 12]

"One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programing that are conventionally recorded by, for example, conventional video recorders, ..."
[lines 25-29 of column 16]

"Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by Passing Instructions and Information Signal that are Embedded in Television and Radio Programing Transmissions to Such External Equipment" (emphasis added)
[Lines 34-38 of column 17]

"Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programing transmissions" (emphasis added)
[lines 39-41 of column 17]

"Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission....These [embedded instruction] signals instruct microcomputer, 205, to generate several video graphic overlays..." (emphasis added)
[lines 42-49 of column 19]

"At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission" (emphasis added)
[lines 60-63 of column 19]

Given the above, it is ridiculous for applicants to suggest that the term "programming", e.g. in the context of the past 1981 specification, referred to the "instruct and instruction signals" of applicant' past 1981 disclosure. It is even more ridiculous for applicant to suggest that it referred to "computer software".

B) It also seems clear from applicants' 1981 past parent specification that the "microcomputers" on the receiver side of the disclosed 1981 inventions were "***preprogrammed***" with the "computer programming/software" which told then *how to respond* to detected "instruct signals" that were embedded within received TV/Radio

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"programming." More specifically, it seems apparent that each of the 1981 "instruct signals" of applicant's 1981 inventions represented cuing-type signals/commands which instructed/triggered "**preprogrammed**" microcomputers to execute respective portions of its preprogrammed software in order to perform predefined task/operation (e.g. the 1981 "instruct signals" told the 1981 microcomputers "to generate the overlay" whereas the pre-loaded 1981 computer software told said 1981 microcomputers "how to generate the overlay that was to be generated").[21]

> **"Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission....These [embedded instruction] signals instruct microcomputer, 205, to generate several video graphic overlays..." (emphasis added)**
> [lines 42-49 of column 19]

Again, contrary to applicants' erroneous assertions, there is no teaching in applicants' past 1981 specification indicating that applicants' 1981 "instruct signals" represented "computer software/programming" in any conventional sense of such terminology.

C) The past 1981 parent specification does not offer/provide a signaling mechanism and/or structure which would have been capable of handling the large continuous sequence of data bytes required to push "computer software" through TV and/or Radio networks. Such a signaling mechanism and structure was not provided until "SPAM" packeting was introduced via applicants' subsequently filed instant 1987 CIP specification. Thus, applicants' past 1981 parent specification was not enabling of the alleged "computer programming/software" feature (i.e. the alleged "computer programming/software" feature that the past 1981 specification did not even describe/disclose).

Clearly, applicants' 1981 definition and use of the term "programming" did not described or imply the presents of computer software/programming in any conventional sense of the terminology; i.e. it was in fact only used to described and refer to radio and television shows.

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[21] This being even more apparent when one reads the teaching of applicants' past 1981 Parent specification in light of the "enhanced and improved" teachings of applicants' 1987 CIP specification (i.e. a 1987 specification in which cuing-type signaling was enhanced/improved by the added ability of the 1987 systems to re-program downstream devices via downloaded computer software).

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2) On page 150 of the amendment filed 1/28/2002 in 08/470,571, applicant states:

> **"The 1981 specification states:**
>
> > **It is the object of this invention to unlock this potential by the development of means and methods which permit programming to communicate with equipment that is external to television receivers and radio receivers, particularly computers and computer peripherals such as printers**
> >
> > **1981 Spec., Col. 1, ll.36-41**
>
> **Thus applicants' 1981 specification makes it clear that 'programming' is not just TV and Radio shows- it can also include instructions, codes, and signals that are communicated to and control e.g., computers and computer peripherals. <u>These instructions, codes, and signals clearly fall within the definition of programming and to find otherwise is to conveniently and purposefully overlook the entire purpose of the invention.</u>"**
> (emphasis added)

In reading applicants' 1981 Specification, it seems that "**the *entire* purpose**" of *the invention* [22], to which applicant alludes, was the ability to provide multimedia presentations in which TV or Radio "programming" was displayed along with another supplemental media presentation; wherein the content of the supplemental media presentation was related to the content TV and Radio "programming" thereby *enhancing* the content of the displayed TV and Radio "programming". To achieve this goal, ancillary "instruct signals" and/or other ancillary "information signals" were "associated" with, and "embedded" within, the TV or Radio "programming." These embedded "instruct and information signals" allowed received TV and Radio *programming* "to communicate" with equipment that was external to the TV and Radio receivers in order to produce the supplemental media presentation. Specifically, the associated "instruct and information signals", which were embedded within the received Radio or TV "programming", were themselves transferred to the external equipment thereby causing the external equipment to produce said supplemental media presentation. Being such, despite applicants' current allegations, it is still crystal clear from the 1981 disclosure itself that the 1981 "programming" terminology was used in the 1981 specification in the conventional sense of referring to TV and Radio signaling which represented scheduled TV and Radio shows. To suggest otherwise, e.g. in the words of applicant, is to *"conveniently and purposefully"* ignore the fact that applicants' 1981 specification unquestionably

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[22] The examiner notes that applicant's 1981 inventions appear to serve many purposes. Therefor, the examiner does not believe that "the invention" of applicant's 1981 specification has one "entire purpose" as is now alleged by applicant; i.e. if it does have one "entire purpose", then it is not clear to the examiner what that "entire purpose" actually is (clarification is requested).

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describes the associated "instruct and information signals" as being separate/distinct entities with respect to the TV and Radio "programming" into which these associated "instruct and information signals" were embedded. This fact is self evident in the following excerpts taken from the 1981 specification itself:

> **"One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the operation of a television studio automatically through the use of *instructions and information signals embedded in programing* either supplied from a remote source or sources or prerecorded" (emphasis added) [lines 32-37 of column 3][23]**
>
> **"Signal processor, 71, has means, described above, *to identify and separate the instruction and information signals from their associated programing* and pass them, along with information identifying the channel source of each signal, externally to code reader, 72." (emphasis added) [lines 3-7 of column 11]**
>
> **"The cable head end facility contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, *can instruct to remove signals from the programing* as required, and signal generators, 82, 86, and 90, also known in the art, that controller/computer, 73, *can instruct to add signals to programing* as required" (emphasis added) [lines 36-42 of column 12]**
>
> **"One particular advantage of these methods for monitoring programming is that, by *locating the identifier signals in the audio and/or video and/or other parts of the programing* that are conventionally recorded by, for example, conventional video recorders, ..." (emphasis added) [lines 25-29 of column 16]**
>
> **"Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by Passing *Instructions and Information Signal that are Embedded In Television and Radio Programing* Transmissions to Such External Equipment" (emphasis added) [Lines 34-38 of column 17]**
>
> **"Signal processor apparatus have the ability to identify *instruction and information signals in one or more Inputted television and radio programing* transmissions" (emphasis added) [lines 39-41 of column 17]**
>
> **"Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to *instruction signals embedded in the "Wall Street Week" programing* transmission....These [embedded instruction] signals instruct microcomputer, 205, to generate several video graphic overlays..." (emphasis added) [lines 42-49 of column 19]**
>
> **"At this point, *an instruction signal is generated in the television studio originating the programming and is transmitted in the programming* transmission" (emphasis added) [lines 60-63 of column 19]**

[23] Citations have been obtained from US Patent #4,694,490.

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APPENDIX V: (1987 "SPAM signals" VS 1981 "SIGNAL UNITS" AND "SIGNAL WORDS")

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1) <u>The timeline:</u>

A) The ***discarded*** [24] 1981 parent specification:

1) The 1981 parent specification coined the term "signal unit" to refer to a sequence of bits representing a discrete instruction or data segment.

2) The 1981 parent specification coined the term "signal word" to refer to the appearance of a sequence of bits, representing one or more of said signal units (or portions thereof), at a given time and location of a TV signal transmission.

3) One column of the 1981 parent specification described a 1981 "Wall Street Week" embodiment of alleged invention in which the above described "signal words" and "signal units" carried simple commands/instructions which triggered each receiver station to execute locally stored computer programming/software to locally generate and locally display a user specific program related overlay.

B) The *new* 1987 CIP specification:

1) The 1987 CIP specification cosmetically carries the 1981 "signal unit" and "signal word" terminology and definitions forward into the first few pages (e.g. 1-27) of the 1987 specification;

2) These first few pages of the 1987 CIP specification (e.g. @ 20-27) also describe a first 1987 "Wall Street Week" embodiment of alleged invention that has been *expanded* with respect to the 1981 embodiment in that the "signal units" and "signal words" now carry/include computer software that is used to program the receiver stations (in addition to the simple commands that were conveyed by said "words"/ "units" in the 1981 "Wall Street Week" embodiment of the discarded 1981 specification) [i.e. there is a serious question, however, as to whether (and how) the described 1981 signal words/units, as carried forward into the 1987 CIP, were capable of handling such a continuous transmission];

3) At this point (note page 40), the 1987 CIP specification introduces a new "SPAM signal" format that replaces the 1981 "signal unit" and "signal word" format; the 1981 "signal unit"/"signal word" terminology and format is never discussed again within the remaining 500 pages of the 1987 CIP

[24] "Discarded" in the sense that the 1981 disclosure was not incorporated into the 1987 CIP specification in any immediately discernible fashion; i.e. the 1981 disclosure was neither copied into the 1987 CIP specification nor was it incorporated by reference. Therefor, the new 1987 CIP specification stands alone as the instant specification from which all section 112 issues depend.

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specification that follow. In fact, the new 1987 "SPAM signal" terminology is defined in the 1987 CIP specification to be:

> ***Signal Processing Apparatus and Method signals of the present invention(s)***

This definition leaves little doubt that it is this new 1987 SPAM signaling that is used by the disclosed/claimed 1987 inventions of instant 1987 CIP specification; i.e. in spite of the fact that the 1981 "signal unit" and "signal word" terminology initially appear at the beginning of the 1987 CIP specification. Also of significance, is the fact that it is only this newly introduced 1987 SPAM signal format that provides an adequately disclosed mechanism by which continuous sequences of codes, e.g. computer programming/software, can be conveyed to the receiver stations [i.e. it was the introduction of the 1987 SPAM signals in the 1987 CIP specification which "enabled" such continuous code transmissions];

4) Also, buried within these next 500 pages of the 1987 CIP specification are further *expanded* 1987 "Wall Street Week" embodiments which allegedly build on the first expanded 1987 embodiment but which, in reality, totally abandon the 1981 "signal unit" and "signal word" data format in favor of the newly introduced 1987 SPAM signal format. This is evident by the following:

> a) By the fact that the term "signal word" takes on a completely new/different meaning within these 500 pages (i.e. that the "signal word" terminology now refers to the bytes of digital data that make up the SPAM signals rather than the time/location in the TV transmission at which the signaling is inserted); and
>
> b) The definition of the "SPAM signal" terminology itself indicates that "SPAM" signaling was the discrete signaling of the 1987 inventions:
>
> > ***Signal Processing Apparatus and Method signals of the present invention(s).***

The timeline shows: That applicants 1981 parent specification first coined the "signal unit" and "signal word" terminology to described the process by which the simple instructions and information of the 1981 inventions were transported within the VBI of TV programming (e.g. the 1981 "Wall Street Week" embodiment). The simple instructions and information of the 1981 inventions were not described as having transported computer software despite applicants' allegation to the contrary [See appendix IV of this Office action].

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The noted 1981 "signal unit" and "signal word" terminology and definitions were themselves carried forward into the first few pages of the 1987 CIP specification. However, the relevance of this 1981 signal unit/word terminology and format was short lived in the 1987 specification. That is, the 1987 CIP specification immediately attempted to expand the scope/utility of the 1981 terminology via the first 1987 "Wall Street Week" embodiment of pages 20-27 to include/handle continuous sequences of data representing computer software; although the way in which said 1981 words/units were supposedly configured to carry computer software was never addressed or explained by the 1987 CIP. Instead, the 1981 "signal unit" and "signal word" terminology and format was immediately discarded in favor of the 1987 SPAM signal terminology and format which was, by definition, the signaling "of the 1987 inventions.

2) The 1981 auxiliary signaling of the 1981 inventions of the 1981 specification were described as having transmitted 1981 "signal units." As described in the 1981 specification, each of these 1981 signal unit represented either:

1) A complete signal instruction; or

2) A complete information message unit.

[NOTE: lines 66 and 67 of column 2 in US patent #4,704,725]

The content of these 1981 signal units were explicitly exemplified by the 1981 specification as having comprised:

1) A unique code identifying a program unit;

2) A unique purchase order number; and

3) A complete general instruction identifying whether a programming unit was to be retransmitted immediately or recorded for delayed transmission.

[NOTE: lines 68 and 69 of column 2, and lines 1-4 of column 4 in US patent #4,704,725]

Clearly, as described, all three of these listed "signal unit" contents:

1) Represented digital codes that functioned to "cue"/"trigger" some kind of response or action by receiver side circuitry of the system; and

2) Were, or would obviously have been, represented by digital codes of a relatively small or limited number of digital bits.

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More significantly, there is not a single description within the 1981 specification of a 1981 "signal unit" content that:

1) Did not function simply to "cue"/"trigger" some kind of receiver side response or action; and

2) Was not, or could not be, represented by a digital code of a limited number of bits.

And most significantly, there is not description (or even a suggestion) in the 1981 specification of a 1981 "signal word" content comprised of computer programming/software.

Early on, the instant 1987 CIP specification seems to indicate that the 1981 "signal unit" terminology has been carried forward into, and will be used throughout the instant 1987 CIP specification, in a fashion that is unenhanced and unmodified from the way it was defined and used in the original 1981 specification [SEE: lines 17-24 in column 10 of US Patent #5,335,277]. This is simply untrue. The following is noted:

1) The instant 1987 CIP specification purports to describe a first embodiment of invention which, allegedly, utilizes the 1981 "signal units" of the 1981 specification [SEE the discussion under the heading "One Combined Medium" that begins in line 50 of column 12 of US Patent #5,335,277]. However, in this described 1987 embodiment of invention, the described 1987 "signal units" were not limited to signal units that simply "cue"/"trigger" receiver side responses and actions as in the case of the 1981 signal units of the 1981 inventions, but the 1987 signal units were somehow enhanced and modified relative to the 1981 "signal units" so as to be used, allegedly, to download entire sequences of digital code representing computer programming/software that actually defined the receiver side responses and actions that are to be "cued"/"triggered" by subsequently transmitted 1987 signal word digital codes [NOTE: lines 20-50 in column 15 of US Patent #5,335,277].

That is, wherein the 1981 inventions of the 1981 specification transmitted 1981 "signal units' which "cued"/"triggered" various kinds of receiver side responses and actions, the 1987 "signal units" used by the first described 1987 embodiment allegedly transmitted computer programming/software which defined, e.g. on the fly, the responses and actions that were then "cued"/"triggered" on the receiver side by subsequently transmitted digital codes. However, it is not clear from the 1987 specification how the 1981 "signal word" and 1981 "signal units" format of the 1981 specification has itself been enhanced/modified so as to be capable of handling the long sequences of digital code required to transmit such computer programming. In fact the 1987 disclosure never appears to provide such an explanation and instead introduces a new 1987 SPAM signal format which actually provides the mechanism by which such software is transported.

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Thus, the 1981 "signal unit" and "signal word" terminology is: initially carried forward into the 1987 specification; is immediately expanded so as to encompass computer software; and is then discarded in favor of SPAM signaling. This process only gives the illusion that the 1987 SPAM signals and the 1981 signal words/units somehow represent "common subject matter".

3) The specification of applicants' 1981 parent application and the specification of applicants' instant 1987 CIP specification describe respective 1981 and 1987 systems/methods which define respective 1981 and 1987 inventions. In the broadest sense, the 1981 systems/methods of the 1981 parent specification and the 1987 systems/methods of the instant 1987 CIP specification have some clear and obvious similarities. One of these similarities being that the 1981 systems/methods and the 1987 CIP systems/methods operated to embed respective 1981 and 1987 auxiliary signaling within the VBI of broadcast/cablecast TV programming wherein the embedded auxiliary signaling of both the 1981 and the 1987 systems/methods was used to control processing that was performed at downstream TV receiving station locations; i.e. wherein, in at least some of the cases, the 1981 and the 1987 processing was, likewise, similar. However, given the clear and obvious similarities, the 1987 systems/methods of the instant 1987 CIP specification are also very different from the 1981 systems/methods of the 1981 parent specification. For example, while both 1981 and the 1987 systems/methods used respective 1981 and 1987 auxiliary signaling to control downstream processing within respective 1981 and 1987 television networks, the respective 1981 and 1987 auxiliary signaling itself was very different in form, content, and function:

1) FORM OF THE 1981 AND THE 1987 AUXILIARY SIGNALING:

As described in the 1981 parent specification, 1981 auxiliary signaling of the 1981 apparatus/methods was used to transmit discrete 1981 "signal units", wherein each of these discrete "signal units" represented a "complete instruction or information message unit"; i.e.,

a) A unique code for identifying a programming unit;

b) A unique purchase number; or

c) A general instruction.

As described in the 1981 parent specification, the 1981 apparatus/methods used 1981 "signal words" to transport these 1981 "signal units" through the 1981 TV and Radio networks, wherein each 1981 "signal word" was explicitly defined by the 1981 specification as a "discrete appearance" of 1981 auxiliary signaling within a TV/Radio transmission. More specifically, each 1981 "signal word" (i.e.

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that is, each "appearance" of the auxiliary signaling at a given time and location within the video/audio transmission) comprised a string of one or more data bits encoded together on a single line of the video or sequentially in the audio, wherein this string of one or more data bits was assembled from the bits of one or more of said 1981 "signal units". Significantly, as described in the 1981 specification, it was the discrete 1981 "signal words" (i.e. that is, each appearance of auxiliary signaling at a given time and location within the TV/Radio transmission) that were to have comprised added bits for identifying the beginnings and ends of each of the 1981 "signal word"; i.e. providing a clear indication that the 1981 "signal words" represented the 1981 transport *packet* mechanism of the 1981 systems/methods. Further, from such 1981 descriptions/definitions, it seems quite apparent that the 1981 auxiliary signaling of the 1981 specification was transmitted *synchronously* with the respect to the TV/Radio transmission into which it was embedded [i.e. that is, ***both*** the bits of the "signal units" and the bits of the "signal words" were themselves embedded at specific timings/locations within TV/radio transmission wherein these specific timings/locations had to be known by (i.e. preprogrammed within) the receiver station locations prior to transmission of said 1981 auxiliary signaling]. This *synchronous* nature of the 1981 auxiliary signaling appears to be confirmed by descriptions found throughout the 1981 specification:

> "In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are ***preinformed*** regarding the patterns obtain at any given time will process the signals correctly. Both the arrangement of signal units in the signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogrammed with keys to such variations" (emphasis added)
>
> "The controller, 20, can instruct signal decoders, 30 and 40, when, where, and how to look for signal words, which allows signal words to be received in any pattern or patterns. It can instruct buffer/comparator, 8, how to assemble signal words into signal units and join units for further transfer ..."

In contrast to the above, the instant 1987 CIP specification explicitly coined the term "**SPAM**" to mean:

> "**S**ignal **P**rocessing **A**pparatus and **M**ethods ***of the present invention***";

i.e., wherein said "*present invention*" is that which is described and claimed only with respect to the instant 1987 CIP specification. The 1987 CIP specification uses the term "**SPAM signals**" to refer to the 1987 *auxiliary signals* of said

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"**SPAM**" (again, wherein "SPAM" is ***S**ignal **P**rocessing **A**pparatus and **M**ethods* of the invention(s) of the 1987 CIP). These 1987 "SPAM signals" are explicitly described and shown via figures 2E-2K of the instant 1987 CIP specification. As described/illustrated with respect to figures 2E-2K, the 1987 auxiliary "SPAM" signaling of the 1987 CIP specification comprised different types of discrete SPAM packet signals, wherein certain ones of these discrete SPAM packet signals comprised "information segments" for transporting variable length payloads of digital information. In the case of this 1987 auxiliary "SPAM" signaling, it was the discrete 1987 SPAM packets themselves that contain synchronization and identification codes used by the receiver/decoder side; i.e. as opposed to each "appearance" of the auxiliary signaling at a given time/location of the TV/Radio transmission (that is, as opposed to the 1981 "signal words" that were used by the 1981 systems/methods). This *modification* in the format of the 1987 CIP auxiliary signaling, with respect to the 1981 auxiliary signaling, imparts significant advantages to the 1987 CIP apparatus/methods over the 1981 apparatus/methods. Namely, the 1987 SPAM signal format allows the discrete SPAM packet signals of the 1987 apparatus and methods to be assembled and sequentially embedded back-to-back, one after another, throughout the entire "normal location" of the TV/Radio transmissions (i.e. throughout the entire selected line intervals of the VBI in the case of TV transmissions). That is, the 1987 "SPAM" transport packet format of the 1987 CIP specification is clearly advantageous over the discrete 1981 "signal word" format of the 1981 specification in that it enables the discrete SPAM packets of the 1987 apparatus/methods to be transmitted continuously and *asynchronously* with respect to the "normal locations" of the TV signaling, thereby advantageously:

a) Enabling full use of the entire bandwidth that is available for the transmission of auxiliary signaling;

b) Enabling the receiver station to detect and determined the specific timing/locations of the bits of the desired/required auxiliary signaling within said "normal locations" without have know and/or be informed of said location in advance of receiving the auxiliary signal transmission; and

c) Enabling said available bandwidth adaptively devoted to sources based on need/demand.

Significantly, **all** of the 1987 embodiments of invention that were described in the instant 1987 CIP specification are "SPAM" methods/apparatus which were implemented using said discrete 1987 "SPAM signals" of figures 2E-2K of the 1987 disclosure.

In summary, it seems quite apparent that form of the discrete 1987 "SPAM signal" transport packets of the 1987 CIP SPAM methods/apparatus is different

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from, and advantageous over, the form of the discrete "signal word" *transport packets* of the 1981 parent methods/apparatus. This difference is evident in the fact that the 1987 SPAM packets are sequentially transmitted *asynchronously*, e.g. one after another, throughout the entire "normal location" of the TV/Radio transmission wherein there is not a one-to-one correspondence between "SPAM" signal packets and "appearances" within the transmission, whereas each 1981 "signal word" *transport packet* of the 1981 parent methods/apparatus was transmitted *synchronously* within a predetermined interval of the TV/Radio transmission wherein there was a one-to-one correspondence between "signal words" and their appearances within the transmission (i.e. each 1981 "signal word" was, by definition, the discrete "appearance" of auxiliary signaling at a given time and location (i.e. a specific horizontal line of the VBI) within a TV/Radio transmission).
Likewise, it also seems quite apparent that the discrete 1987 "SPAM signal" transport packets of the instant 1987 CIP methods/apparatus are unquestionably different from the discrete "signal units" the 1981 parent methods/apparatus too for reasons evident in the following:

a) In the fact that the 1987 SPAM signal packets clearly represent the transport mechanism by which different complete instruction and information message units are conveyed through the 1987 TV/Radio network whereas the 1981 "signal units" of the 1981 disclosure represented the complete instruction and message units which were to be transmitted; and

b) In the fact that the 1987 SPAM signal packets include synchronizing information, e.g. such as the EOF (end-of-field) codes, by which the receiver/decoder detects the end of a previous SPAM packet and the beginning of the next packet (i.e. meaning that location of the data of the SPAM packets need not be known by, or preprogrammed into, the receiver stations in advance of transmission (i.e. not the case with the 1981 "signal units" of the 1981 specification).

And while it is true that the 1981 "signal unit" and the 1981 "signal word" terminology and definitions were included at the beginning of the instant 1987 CIP specification, the reason for their presence (i.e. how they relate to the 1987 "SPAM" and the 1987 "SPAM signals") is confusing and unclear. This is because:

a) ***All*** of the 1987 SPAM embodiments of invention that are described within the 1987 CIP specification are, by definition, "SPAM" systems/methods which are implemented, by definition, using 1987 "SPAM signals" (i.e. 1987 CIP specification explicitly coining the "**SPAM**" terminology to mean: "**S**ignal **P**rocessing **A**pparatus and **M**ethods ***of the present invention***");

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b) The 1981 "signal word" and 1981 "signal unit" terminology and definitions appear to "hang" by themselves within the 1987 CIP specification; i.e. a connection between this 1981 terminology and the 1987 SPAM disclosures is never explained or established.

The true extent of this "disconnect" seems to be evidenced in the fact that the same "signal word" terminology takes on an completely new and different meaning everywhere else that is appears in the 1987 specification (this in spite of the fact that the 1981 "signal unit", as carried forward into the 1987 CIP specification, explicitly states, quite erroneously, that the 1981 "signal word" definition will be used and adopted throughout the entire 1987 CIP specification).[25]

2) CONTENT AND FUNCTION OF THE 1981 AND THE 1987 AUXILIARY SIGNALING:

The 1987 auxiliary signaling was described as, and was clearly capable of, transporting continuous code sequences such as computer software whereas the 1981 auxiliary signal was not described as, and does not appear to have been, capable of carrying continuous codes sequences such as computer software [SEE appendix III of this Office action]

[25] When describing 1987 "SPAM" and 1987 "SPAM signals", the 1987 disclosure uses the term "signal word" in a conventional sense to refer to bytes of digital data whereas the 1981 disclosure/definition explicitly defined it to be: "the appearance of auxiliary signaling within a TV/Radio transmission."

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xxx

APPENDIX VI: (A List of Common Issues)

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THE "LIST":

1) In lines 2-8 on page 142 of the amendment filed on 1/28/2002 in application SN 08/470,571, applicants suggest that the examiner has objected to the fact that applicants provided citations showing dual support for the claims with respect to both the 1981 and 1987 disclosures. No such objection was ever been raised by the examiner. To the contrary, the examiner finds applicants' citations of dual 1981 and 1987 support to be one of the most helpful aids that applicants have provided to date when applicants' allege priority to the 1981 filing date (i.e. especially when presented in the form of claim charts).

Having said this, the fact remains that examiner/Office was unquestionably misled by the many statements made by applicants concerning the "consequences" of Section 120 "priority". The reason that these statements misled the examiner/Office seems to be self-evident from the statements themselves. For example, in the last 7 lines on page 24 of the Appeal Brief filed in SN 08/113,329 on 9/17/1996, applicants state:

> **"The case law makes clear that the only inquiry concerning claims filed in a subsequent continuation application pursuant to Section 120 is whether they are adequately supported in under Section 112, first paragraph, in the initial application. If the support exists, the inquiry is at an end."**

And statements made in the remarks section of many of applicants' amendments in which applicants state:

> **"The present application claims priority under 35 USC §120 of the following applications.....Consequently, Applicants will demonstrate disclosure only with respect to the '81 case,..."**
> **[e.g. see lines 9-21 on page 000507 of the Appendix in the document mailed on 9/10/01 in SN 08/474,139]**

These statements misled the examiner/Office into believing that, as a consequence of Section 120, applicants were permitted to use the disclosure of their 1981 parent application alone, e.g. in place of the instant 1987 CIP disclosure, to fulfill section 112 requirements when addressing/replying to Section 112 rejections (i.e. in those situation which the 1981 priority date was alleged). However, the examiner/Office now understands that, because applicants' past 1981 parent disclosure was not incorporated into the instant disclosure, the 1981 specification cannot be relied upon by applicants for showing of section 112 support when addressing/responding to rejections made under Section 112; i.e. all section 112 Support must come from the instant "1987" CIP disclosure alone.

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The *"objections"* made by the examiner in 08/470,571 were raised because the examiner perceived a continuation, on the part of applicants, of the same arguments that misled the examiner/Office in the first place. By raising these "*objections*", the examiner hoped to elicit a response from applicants acknowledging the fact that the instant "1987" disclosure was the only disclosure which could be used to fulfill the requirements of section 112 with respect to the limitations of the currently pending amended claims (the significance of the 1981 disclosure is relegated only to the secondary issue of Section 120 priority). The examiner wanted to be sure that the examiner and applicants were now on the same page concerning this issue. And, on at least one occasion, such an acknowledgment appears to have been provided by applicants [see the last 5 lines on page 141 of the amendment filed on 1/28/2002 in SN 08/470,571].

2) Applicants do not believe that "common subject matter" is required for "priority" under Section 120. Instead, according to applicants, the only thing that applicants need to do in order to obtain the earlier 1981 filing date for their currently pending amended claims, is to show that each of his pending amended claims can be given different 1987 and 1981 claim interpretations which allows each claim to be supported, in parallel, by "different subject matter" from the 1981 and 1987 specifications.

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim."**
> (emphasis added)
> [Page 141 of applicants' response filed on 1/28/2002 in application S.N. 08/470,571]

> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the § 112 support from each application consists of 'common subject matter.'"**
> [see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

For the reasons that have been in appendix II addressed above, applicants' position seems to be in error. Namely, applicants appear to be confusing the requirements of "anticipation" under section 102 with the actual requirements of

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"adequate written description" under section 112-1 that has literally been incorporated into section 120.

> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications"** (emphasis added)
> [In Transco Products, Inc., v. Performance Contracting, Inc., 32 USPQ2d 1077 [**18]]

> **"Any claim in a continuation-in-part application that is directed solely to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application."**
> [In Transco Products, Inc., v. Performance Contracting, Inc., 32 USPQ2d 1077 [**18]]

> **"Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 and be the same invention as that disclosed in the later application."** (emphasis added)
> [Kirschner, 305 F.2d 897 (C.C.PA1962)]

3) In the last 5 lines on page 141 of the response filed on 1/28/2002 in 08/470,571, applicants acknowledged that the 1981 application was not incorporated into the 1987 application. As a consequence, applicants also appear to understand that all Section 112 support must come solely from the "instant" 1987 disclosure if the requirements of section 112 are to be satisfied. If applicants know such to be true, then it is not understood how or why applicants still adopt the following position:

> **"the [examiner's] assumption that 'all limitations of the currently pending claims are necessarily directed to that which is described in the present 1987 disclosure' is mistaken and wholly unsupported."** [26]
> [lines 8-10 on page 144 of the amendment filed in 08/470,571 on 1/28/2002].

Namely, if all section 112-1 support for all of the claims' limitations must necessarily come from the instant "1987" disclosure alone (e.g. in light that the disclosure of the 1981 parent was not formally incorporated into the instant 1987 disclosure), then how can a limitation of a claim be directed to (i.e. and obtain required section 112-1 support from) anything but that which is described within the said instant 1987 disclosure?

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[26] Contrary to applicants' position, the examiner maintains that a pending claim must necessarily be directed to that which is described in the instant specification. This is not to say that the resulting scope of the pending claim is limited only to that which it must necessarily be directed.

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4) Applicants continue to allege that displayed teletext images do not constitute "locally generated" images. Applicants are wrong [SEE paragraph C-3 of this Office action].

5) Applicants' 1987 inventions used a "SPAM" transmission packet structure to transmit ancillary information through the TV broadcast networks. By using the "SPAM" packet structure, a transmission scheme was established in which a piece of coherent "information", e.g. such as a complete "processor instruction", could be broken down into a plurality of "partial information" segments and communicated through the TV network within/as respective "discrete (packet) signals". On the receiver side of the 1987 inventions, the partial information from the plurality of discrete signals could be recovered and re-organized back into the original piece of coherent "information (e.g. re-organized back into the single complete processor instruction).

Applicants have alleged the above described "partial information" transmission scheme is a key feature which distinguishes applicants' alleged 1987 inventions over Teletext "prior art". Applicants' allegation represents a huge misunderstanding/misrepresentation of the Teletext "prior art". In fact, via such arguments, it appears that applicants are effectively trying to re-invent a foundation on which the Teletext "prior art" was actually built [e.g. see the arguments which begin at the top of page 354 and extend to the bottom of page 356 in the response filed on 1/28/02 in SN 08/470,571].

Specifically, standardized Teletext was based on the recognition that vacant lines occurring during the VBI of TV signal transmissions could be used to transmit/communicate embedded frames/"pages" of character/graphics information along with the TV programming. However, it was immediately recognized that each video line did not have sufficient bandwidth to carry an entire frame/page of the character/graphics data. Therefor, the prior art Teletext systems established Teletext packet structures by which "partial image/information" segments (e.g. such as single "rows" of character and control information) could be communicated via respective discrete packetized signals which were embedded within respective discrete television line intervals. On the receiver side of the Teletext "prior art", the partial information segments from the plurality of discrete packetized signals were recovered and re-organized back into the original frame/pages of character/graphics information in order to "locally generate" a Teletext image for display. However, the correlation that exists between applicant's "SPAM" transmission scheme and prior art Teletext transmission schemes does not end here!

In addition to the transmission of character/graphic frames/pages, those of ordinary skill in the art quickly recognized that the prior art Teletext transmission schemes could be "extended" so as to carry other kinds of information; e.g. "Telesoftware"(i.e. computer programming), remote control signaling, etc,...

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This additional information was carried using the same packetized Teletext structure previously established for the character/graphic image data. For example, Telesoftware was also broken down into "partial information" segments to be carried as "rows" of character-like data within respective Teletext packets of one or more Teletext pages (e.g. depending on the size of the Telesoftware program that was being communicated). On the receiver side, the "partial information" segments of the additional information were then recovered from the transmitted discrete packet signals and were re-organized back into its original form (e.g. the complete "Telesoftware" program was reconstructed from the discrete partial programming segments).

For the reasons discussed above, it appears that applicants' 1987 packetized "SPAM" structure constitutes applicants' version of an "extended" Teletext system [SEE part "A." under "Section XI" in the Office action mailed 8/27/01 in SN 08/470,571]. And, for the reasons discussed above, the examiner continues to refute applicants' position that claim recitations directed to "discrete signals" and/or "partial information" add anything to the claims which would avoid/overcome Teletext "prior art" applied under sections 102 or 103.

6) Applicants point out that term "computer software/programming" has been defined as: "a series of instructions that controls the operation of a computer". Stretching this definition, applicants erroneously suggest that the term "computer software" encompasses: "any series of instructions that controls the operation of a computer". And finally, using this stretched definition, applicant argues that each series of transmitted cuing-type codes which were described in his 1981 parent application *implicitly* taught the transmission and/or downloading of "computer software" in view that each of these series of codes represented "instructions which controlled the operation of a computer". Applicants' argument is lame. That is, if one were to accept applicants' argument, then:

> a) A computer mouse and computer keyboard suddenly become generators of "computer software" because they too generate series of instructions that are used to control the operation of a computer;
>
> b) Teletext data itself, when received by a CPU implemented decoder, suddenly becomes "computer software" because it too represents series of instructions which are used to instruct a computer as to how to generate an image for display;
>
> c) etc,...

Clearly, applicants' argument twists the definition of "computer software" in a way that is repugnant to its conventional use/meaning in order to obtain alleged "support" as of the 1981 filing date for something that was not shown to be in his

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possession, i.e. was not disclosed, until the filing of his 1987 CIP application; e.g. namely, the downloading of computer software.[27]
[SEE appendix IV of this Office action]

7) While applicants have alleged that 1987 "computer software/programming" recitations should be stretched so as to retroactively find section 112-1 support from things which were not "computer software/programming" [28] (i.e. a series of cuing-type codes/signals from the 1981 disclosure), applicants have also taken the opposite approach by alleging that circuit structures which operated to process/execute teletext signals (i.e. specifically Teletext decoders) are not encompassed by the "signal processor" recitations of ones of their pending amended claims. [29] The examiner disagrees noting that such arguments are in conflict with applicants' own written description [e.g. note lines 37-38 in column 205 of applicants' own US Patent #5,335,277]. Specifically, not only are Teletext decoders "signal processors" in any conventional sense of such terminology, but Teletext decoders are in fact "signal processors" within the context of applicants' own alleged invention. More to the point, the Teletext decoders of the applied prior art are like the "SPAM" decoders of applicants' own alleged inventions in that both decoders operated to extract, process, and execute packets of encoded information/instructions distributed to them, at least "*preferably*", via the VBI of broadcasted and/or cablecasted TV programming [see section c of this Office action]. Namely, the packets of encoded information comprised *Teletext data packets* in the case of conventional Teletext decoders and comprised *SPAM data packets* in the case of the SPAM decoders of applicants' alleged invention. [30] Applicants' suggestion that conventional Teletext decoders should somehow be excluded by the "signal processor" recitations of his pending claims is, "NONSENSE." [31]

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[27] In the supplemental response filed 5/06/2002 in 08/470,571, applicant now submits a different version of essentially the same argument [see part "P)" in "SECTION I" of the latest Office action mailed in 08/470,571].

[28] This erroneous *reading* has been used to allege a 1981 "priority" date for claim recitations which are directed to the 1987 "computer software/programming" features of the instant 1987 CIP specification.

[29] This erroneous *reading* has been used to try to distinguish which is claimed over applied teletext "prior art".

[30] In fact, for reasons which will be addressed in more detail below, the examiner maintains that the "SPAM" data packets of applicants' alleged invention represent, for all intents and purposes, little more than applicants' own version of a Teletext system in which the function of its Teletext data packets have been "extended" so as to carry more than just the normal displayable character/graphics code (e.g. "extended" to carry control signals, Telesoftware, etc,...).

[31] NOTE:

1) That *typical* Teletext decoders sequentially performed steps of signal slicing/separation, serial-to-parallel conversion, signal storage, ASCII code to pixel data translation, etc... all which were recognized as having comprised steps of "signal processing" [the last 16 lines on page 5 of the appendix that is attached to the "PETITION FOR RULEMAKING" which was filed with the FCC on 3/26/1981 by the "United Kingdom Teletext Industry Group" which explicitly indicates Teletext decoders as having performed "signal processing"]; and

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8) The examiner has always maintained that applicants' own 1987 "SPAM" transmission scheme, as described in the context of television distribution, constitutes applicants' version of an "extended Teletext system". [32] However, when Teletext "prior art" has been applied against applicants' claims, applicants become hostile to the suggestion that there is any correlation between their "SPAM" transmission system and conventional Teletext transmission systems. [33] Yet, on the other hand, applicants appear to openly believe that the scope of many pending claims encompass the "WEATHER STAR" system/receiver technology which, to the extent understood by the examiner, is a Teletext based technology. [34] If applicants' claimed "SPAM" systems/receivers encompass Teletext based systems/receivers such as the "WEATHER STAR" system/receiver technology, then how can applicants possibly suggest that "SPAM" and Teletext are not correlated/analogous technologies?

9) Applicants and applicants' originally filed 1987 disclosure both seem to have alleged that "digital television signals/programming", of the type that is recited in many of applicants' pending amended claims, was notoriously well known in the art at the time of their alleged invention. The examiner has challenged these allegations and has requested that applicants submit "prior art"/evidence that shows such to be true. In response to the examiners' request, applicants have submitted U.S. Patent #3,906,480 to Schwartz et al. as allegedly evidencing the conventional "digital television signal" technology on which their disclosure and amended claims were/are based [note the last 11 lines on page 97 and lines 3-6 on page 98 of the amendment filed on 6/7/2000 in SN 08/470,571]. The examiner continues to be mystified by this submission. The examiner points out that the cited Schwartz et al. patent describes a computer display system in which a computer was used to generate, albeit digitally, *frames* of vector encoded graphic/character information which were then transferred, via a data

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2) that such processing was even true in the unusual "ideograph" decoders of applicants' argument [i.e. see the block labeled "Teletext signal processor" in figure 10 of the NHK article "A Teletext System for Ideographs" by Numaguchi et al.].

[32] The term "extended Teletext" is being used here to refer to Teletext systems that have been "extended" so as to carry other types of information beyond the normal/typical coded Teletext character/graphic information. One alleged novel feature of applicants' SPAM packets was its ability to carry and distribute computer software. However, contrary to applicants' allegation, packets of "extended Teletext" systems had long been used to carry and distribute computer software too. In fact, the term "Telesoftware" had been specifically coined so as to refer to the "software" that was carried by "extended Teletext systems. The point being, that SPAM and Teletext data packets are equivalent right down to their recognized ability to carry other forms of information including "Telesoftware".

[33] Yet a large portion, if not the majority, of the "prior art" cited by applicant pertains to Teletext.

[34] SEE: the article "Landmark forms cable weather news network" which is already of record.

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bus, to "digital TV monitors" for display thereon. As far as the examiner can tell, the Schwartz et al. disclosure has absolutely nothing to do with the transmission of "digitized TV signals/programming" in any conventional sense of such terminology. Simply trying to figure out how the Schwartz et al. patent might be related to anything that was originally disclosed by applicants in their 1987 disclosure, much less trying to figure out how it might be used to "enable" that which was originally disclosed by applicants in their 1987 disclosure, represents an invitation to experimentation unto itself. If Schwartz et al. was cited out of necessity (e.g. if it actually represents the best showing of his "digital television" recitation that applicant is/was aware of), then its very presence in the record goes to support the examiner's position that which is now claimed by applicant, i.e. via the subsequently introduced "digital television" recitations, was not supported and/or enabled by applicants' originally filed 1987 disclosure (much less the 1981 disclosure to which priority is often sought).

10) Applicants have made many attempts to have the Zaboklicki prior art [DE 2,914,981] removed from consideration. In some responses [e.g. the communication filed 7/13/2000 in 08/470,571], applicants have argued that the applied Zaboklicki reference should be removed from consideration simply because the teachings and descriptions provided by this prior art reference differ from teachings and descriptions provided by another non-applied members of its patent family (namely, GB #2,016,874). Such a position is absurd. If Zaboklicki DE 2,914,981 teaches that which applicant now claims, then the fact that Zaboklicki GB #2,016,874 might not have provided these same teachings (even if proven true) is irrelevant to the fact that the claims ARE unpatentable over Zaboklicki DE 2,914,981. [35]

11) Within the originally filed abstract of applicants' 1981 past parent specification (i.e. note S.N. 06/317,510), the term "*programming*" was explicitly defined to mean:

> **"everything transmitted over television or radio intended for communication of entertainment or to instruct or inform".**
> [see lines 4-7 in the abstract of US patent #4,694,490]

[35] It is important to note that Zaboklicki [DE 2,914,981] included an extensive "List of References" section that described the operation of the Zaboklicki system element-by-element. This section was absent from Zaboklicki [GB 2,016,874]. This additional description in Zaboklicki [DE 2,914,981] is not trivial in that it goes a long way to understanding the invention which was disclosed in the ***applied*** Zaboklicki prior art; e.g. namely DE 2,914,981 (not GB 2,016,874).

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This definition appears to be in conflict with applicants' present needs (e.g. it goes to refute applicants' claim to the earlier 1981 priority date [36]). Being such, applicants have argued that this explicitly stated definition should be ignored and given no weight because it appears in the "abstract" of the 1981 disclosure and, applicant alleges, the abstract was not *technically* part of his 1981 written description. The examiner points out: that the originally filed abstract was most certainly part of the originally filed disclosure of the 1981 parent application on which all issues must be considered/based; and, more importantly, that the definition of "programming" that was provided by this originally filed abstract is simply an explicitly statement of the way that "programming" terminology was used throughout the 1981 disclosure. That is, in the context of the 1981 specification itself, the term "programming" was clearly used to refer to scheduled TV or Radio shows.

12) Applicants seem willing to acknowledge that the "inventions" that are described in the instant 1987 CIP specification are, in at least in some ways, "expanded"/"*enhanced*"/"*improved*" versions of the "inventions" that were described in applicants' past 1981 parent specification.

> **"In fact, both [the 1981 and 1987] specifications describe the inventions disclosed in the 1981 specification, although the 1987 specification contains many enhancements and improvements."**
> [see the last two lines on page 9 of applicant's supplemental response filed 5/6/02 in SN 08/470,571]

One of the "enhancements and improvements" that was effected via the subsequent filing of instant 1987 CIP specification was a change made to the definition of the word "programming." Whereas the past 1981 Parent specification defined the terminology as referring to Television and Radio transmissions, the instant 1987 specification "improved and enhanced" the 1981 definition of "programming" to explicitly cover "all forms of electronic transmission" now explicitly including "computer programming", "broadcast print", etc,... (e.g. additions to the radio/TV transmission of the past 1981 definition).

> **"everything that is transmitted over television or radio intended for communication of entertainment or to instruct or inform";**
> **[*"programming" as defined in the past 1981 Parent specification*]**

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[36] The examiner notes that applicant is only entitled to the 1981 priority date for "common subject matter"; i.e. the "same" subject matter that is commonly found in both the present 1987 and the 1981 parent disclosures as originally filed. However, the term "programming" itself does not represent "common subject matter" required for priority because the definition given to it within the present 1987 disclosure is vastly different than the definition given to it via the 1981 parent. Specifically, whenever the "programming" terminology is used in a currently pending claim, section 112-1 demands that it be held to the definition that is explicitly provided via the present 1987 disclosure. This 1987 definition is not entitled to the 1981 priority date in view that the 1981 disclosure explicitly gave the same terminology a different meaning.

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"everything that is transmitted electronically to entertain, instruct, or inform including television, radio, broadcast print, computer programming, as well as combined medium programming".
[*"programming" as defined in the instant 1987 CIP specification*]

Thus, whereas a member of the public (e.g. a potential infringer) might have reasonably believed that applicants' claims pertain to subject matter within Television and Radio program transmission arts given the 1981 definition of "programming" (e.g. that the claimed invention does not pertain to computer software/programming transmissions), the wiggle room for such a belief/finding has been eliminated when the identically worded claims derive their required section 112-1 support from description that is provided within 1987 CIP specification instead; i.e. being that the 1987 specification replaces the 1981 definition of "programming" with the new "improved and enhanced" 1987 definition of "programming" which has been "expanded" to explicitly covers "all forms of electronic transmission" including, i.e. explicitly, said "computer programming" transmissions. [37] Being such, the examiner asks:

Why should any applicant be allowed to improve/enhance/redefine the "substance" of the subject matter that is being recited by a given claim using the new subject matter that was added via a subsequently filed CIP specification, e.g. in order to tighten the noose on potential infringers and/or in order to cast a wider net to ensnare new potential infringers, and yet still be entitled to the earlier filing date of a past un-incorporated 1981 Parent specification that did not contain this improved/enhanced/redefined subject matter?

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[37] The examiner maintains that the differences in the respective 1981 and 1987 definitions of "programming":

1) represent real differences in the respective "properties" of the different kinds of "signaling" that made up the respective 1987 and 1981 subject matter; and

2) are not simply different statements of "*disclosed utilities*" as applicant might try to allege in the future.

(e.g. once again, the 1987 SPAM-type signaling subject matter that is necessarily being claimed by the pending claims is explicitly inclusive of "computer software/programming" whereas the 1981 signaling subject matter was not).

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The short answer to this question seems to be, "NOT". That is, preventing a patent from being expanding in this manner was precisely the reason why the written description requirement of section 112-1 was incorporated into Section 120 in the first place.

> "**Unlike the enablement provision of section 112, where the disclosure of a single species might be sufficient to enable a practitioner skilled in the art to make and use any member of the genus,....., the written description requirement of section 112 requires more.** ***See Vas - Cath, supra.*** ***This strict reading of the written description requirement prevents an inventor from surreptitiously expanding a patent through successive continuation-in-parts.*** ***See id. At 1562.*** **Essentially, it limits the claims of an applicant to those inventions he clearly discloses, either expressly or inherently**" (emphasis added)
> [Tronzo v. Biomet Inc. (DC SFla) 41 USPQ2d 1403 [38] citing Vas-Cath Inc. v. Mahurkar (CA FC) 19 USPQ2d 1111]

> **An adequate written description of the invention "guards against the inventor's overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation."**
> [Vas-Cath Inc. V. Mahurkar (CA FC) 19 USPQ2d 1115]

> **"In 1967, the Court of Custom and Patent Appeals first separated a new written description (WD) requirement from the enablement requirement of [Section] 112. The reason for this new judge-made doctrine needs some explanation. Every patent system must have some provision to prevent applicants from using the amendment process to update their disclosures (claims or specification) during their pendency before the patent office. Otherwise applicants could add new mater to their disclosures and date them back to their original filing date, thus defeating accurate accounting of the priority of invention."**
> [Enzo Biochem Inc. v. Gen-Probe Inc. 63 USPQ2d 1618,1624 (CA FC 2002)]

The point being that applicant had every right to draft a claim based solely on the 1981 subject matter which was described in the context of the 1981 definition of "programming", and to have argued that a fair reading of the 1981 "programming" terminology encompassed "computer programming" transmission too; i.e. wherein such an "argument" would have been necessary in view that the 1981 definition of "programming" did not include "computer programming". Instead, applicant elected to draft a new CIP specification which modified the

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[38] NOTE: this case was appealed [Tronzo v. Biomet (CA FC) 47 USPQ2d 1829]

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definition of "programming" to explicitly include "computer programming" thereby eliminating any question that "programming", in the context of the new 1987 CIP, explicitly encompasses "computer programming":

(*E.G. Why do applicants believe that their new 1987 definition of "programming" should be entitled to the 1981 filing date of the old 1981 "programming" definition which it replaced?; Why should applicants' "1987 inventions", which have been* **described** *in terms of the new 1987 definition of "programming", be entitled to the 1981 filing date of "past 1981 inventions" which were* **described** *in terms of the lesser 1981 definition of "programming?"; etc,...)*

13) To try to overcome applied prior art of record, applicants have repeatedly alleged that the Radio and Television broadcast arts constitute non-analogous arts. This position is absurd and wholly unsupportable too. [39] The examiner points out that the Television broadcast art actually evolved from the Radio broadcast art because the original radio broadcast networks represented existing entities who had the program distribution resources and expertise that was easily extended and applied to TV programming; e.g. NBC, CBS, ABC all began as Radio distribution networks which evolved, quite "naturally", into Television broadcast networks too [NOTE: the last 5 lines of the first paragraph of the first column on page 811 of the article "Versatile Transmission Video Facilities at NBC New York" by Mausler which states that: "the origins of television broadcasting practice may be found in radio" (a copy of which was provided within SN 08/470,571)]. In fact, the most significant difference (i.e. if not the only "real" difference) between Radio and Television distribution networks is the difference in bandwidth of the equipment that is required to handle Radio and Television program signal distributions. Thus, for example, when Hetrich [Australian patent #74,619/ U.S. patent #3,866,123] stated that the disclosed "Netcue" system was applicable to either "a network of radio or television stations", one of ordinary skill in the art would have recognized that this teaching was in fact founded on the underlying understanding that Radio and Television network were analogous arts (i.e. applicants' allegations to the contrary are based on an unrealistically low level of skill in the art).

14) Throughout the prosecution of their vast patent application portfolio, applicants have alleged that the "***simultaneous or sequential presentation***" recitation, as found in many of their pending claims, represents a "key limitation" in overcoming and/or avoiding "prior art" of record [note: lines 2-6 on page 17 of Appendix A in the response filed on 3/19/2001 in SN 08/469,078; and part "4)" under "Section VII" of the Office action mailed 8/27/01 in SN 08/470,571]. The

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[39] Note that adequacy of applicants' own disclosures, especially that of the 1981 parent, appear to be based on the fact that one would understand that radio and television systems are in fact analogous (i.e. evident in the 1981 definition of "programming" alone).

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examiner strongly disagrees. The examiner points out that the alternative expressions "*simultaneous or sequential*" or "*one of a simultaneous and sequential*" simply encompasses *ANY AND ALL* of the ways by which two types of information could ever be presented to a given audience. Specifically, any time two types of information are presented to a given audience, they must necessarily be presented to that audience either *simultaneously or sequentially* in time. The phrase "*simultaneous or sequential*" simply covers ALL of the possibilities! Thus, if one can show that a given piece of "prior art" operated to present two types of information to a given audience, then one has in fact inherently shown that the prior art meets the "*simultaneous or sequential presentation*" limitation of applicants' claims; i.e. again, the recitation "*simultaneous or sequential*" simply covers ALL of the way that two types of data could ever be displayed to a single audience!

15) Applicants have alleged that their past 1981 Parent specification "implicitly" taught the downloading of "computer programming" (i.e. computer *software*).

> **"To the contrary, the 1981 definition [of "programming"] implicitly includes, and the 1987 definition [of "programming"] explicitly includes, computer programming in the definition".**
>
> **"The 1981 specification states:**
>
> > **It is the object of this invention to unlock this potential by the development of means and methods which permit programming to communicate with equipment that is external to television receivers and radio receivers, particularly computers and computer peripherals such as printers**
> > **1981 Spec., Col. 1, ll.36-41**
>
> **Thus applicants' 1981 specification makes it clear that 'programming' is not just TV and Radio shows- it can also include instructions, codes, and signals that are communicated to and control e.g., computers and computer peripherals. These instructions, codes, and signals clearly fall within the definition of programming and to find otherwise is to conveniently and purposefully overlook the entire purpose of the invention."** (emphasis added)
> [Page 150 of the amendment filed 1/28/2002 in 08/470,571]

The examiner strongly disagrees for reasons that were addressed in Appendix IV of this Office action.

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16) Applicants failed to carry their original 1981 specification forward into the instant 1987 disclosure.[40] Because of this, applicants have forfeited their right to now claim any of the 1981 subject matter that was set forth in this 1981 disclosure of their originally filed 1981 parent application, but was not carried forward into the 1987 CIP disclosure of their originally filed 1987 parent application.[41] Thus, APPLICANTS ARE CLEARLY WRONG when they alleges that he can secure a 1981 priority date for that which is now claimed by showing "possession" of that which is now claimed via the original disclosure of their 1981 parent application alone (i.e. NOT for the 1981 subject matter that was left behind at the time of filing of the 1987 CIP!). Specifically, not only must applicants show that they possessed the subject matter that is now claimed with respect to the original 1981 disclosure but, more importantly[42], applicants must first show possession of the same claimed subject matter with respect to the instant 1987 disclosure alone. Stated another way, to secure priority, applicants must be able to show that they did not forfeit their right to claim the subject matter possessed (i.e. *described*) in his originally filed 1981 parent application by showing, *independently*[43], that they possessed (i.e. *described*) this **same** subject matter at the time they filed the instant 1987 CIP specification too; i.e. that a description of this **same** subject matter had in fact been carried forward.

17) Applicants are only entitled to claim subject matter that was set forth within the originally filed 1987 CIP disclosure of their present application in accordance with ALL of the requirements of section 112-1. Specifically, the examiner refutes applicants' allegations that the original disclosure of his 1981 parent application can be used in place of the instant 1987 disclosure to meet one or more of the section 112-1 requirements (namely, to establish "possession" of that which is now claimed). It is only after proper section 112 support (i.e. including

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[40] The examiner notes that applicant failed to incorporate the original disclosure from his 1981 parent application into the original disclosure of his 1987 parent; i.e. the 1981 disclosure was neither formally copied into the 1987 disclosure nor was the 1981 disclosure "incorporated by reference" into the 1987 disclosure. The original 1987 disclosure simply replaced the 1981 disclosure as "THE INSTANT DISCLOSURE" from which all section 112 issues must be analyzed.

[41] As evidenced by arguments before the ITC (investigation #337-TA-392), even applicant and/or his counsel seemed unsure as to exactly what subject matter from applicants' 1981 parent ("if any") made it into applicants' 1987 disclosure.

[42] "More important" in the sense that applicants are prohibited from now claiming anything that is not fully supported in accordance with all of the requirements of section 112-1 by the present disclosure (e.g. the disclosure that was originally filed by applicant in 1987). Specifically, the present claims fall under section 112-1 if they are not fully supported by the present 1987 disclosure even if they were, by some chance, fully supported by the disclosure of the earlier 1981 parent.

[43] If applicants had formally/properly incorporated the written description from his 1981 parent application into his originally filed 1987 disclosure, then there would be no need for these "independent" showings; i.e. applicants could have established "possession" via the originally filed disclosure of their 1981 application alone. It is only because applicants failed to formally/properly incorporate the written description from his 1981 parent into their originally filed 1987 disclosure, that such "independent" showings of "possession" are needed; i.e. because the actions taken by applicants have in fact caused the forfeiture of their right to now claim that subject matter from their 1981 disclosure which was not carried forward into the 1987 application.

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"possession") has first been established for the pending claims from the disclosure of the present application (the 1987 disclosure), that there is even a need to consider applicants' 1981 parent application at all. Simply put, if the pending claims are not supported under section 112-1 by applicants present disclosure as originally filed, then the pending claims themselves fail to comply with the requirements of section 112-1 and no further questions need be asked.[44]

18) As was noted above, applicants do not believe that "common subject matter" is a requirement for priority under section 120.

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim." (emphasis added)**
> [Page 141 of applicants' response filed on 1/28/2002 in application S.N. 08/470,571]

> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the § 112 support from each application consists of 'common subject matter.'"**
> [see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

Being such, applicants do not even pretend/contend that the subject matter that is now being claimed in his many applications represents "common subject matter" that exists between the instant 1987 CIP specification and the past 1981 parent specification. Instead, applicants are content to allege the benefit of section 120 priority for that which is claimed based only on alleged "correlated subject matter" between his 1987 and 1981 specifications; e.g. NOTE:

a) That Appendix C of applicants' response filed 6/7/2000 in 08/470,571 sets forth alleged "correlations" between respective 1981 and 1987 disclosures; and

b) That the claim by claim showing of alleged 1981 and 1987 section 112 claim support in Appendix A of applicants' response filed 6/7/2000 seem to regurgitate many of the alleged "correlations".

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[44] At least with respect to the issue of "adequate written description".

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The examiner, on the other hand, maintains that "common subject matter" is a requirement of section 120. Thus, the examiner maintains that applicants' allegations pertaining to the existence of "correlated subject matter" are irrelevant to the issue of section 120 priority because "common subject matter", not "correlated subject matter", is required under section 120. As noted above, it appears that applicants have confused the "anticipation" requirement of section 102 with the adequate written description requirement of section 112-1; wherein it is the requirements of section 112-1, and not of section 102, that have been literally incorporated into section 120.

An extreme example of just how far applicants have distorted section 120 in an effort to obtain the 1981 priority date for ones of the pending amended claims can be found in the claim chart for claim 123 within APPENDIX A of applicants' response filed 6/7/2000 in SN 08/470,571. In this claim chart, applicant alleges that the recitations of claim 123 find section 112-1 support via the "Super Discount Supermarkets" embodiment of the instant 1987 CIP disclosure while alleging that this claimed 1987 "Super Discount Supermarkets" embodiment is entitled to the 1981 filing date of the parent application based on the 1981 "Wall Street Week" embodiment. The examiner disagrees. Specifically, the examiner maintains that the 1987 "Super Discount Supermarkets" embodiment and the 1981 "Wall Street Week" embodiment do not constitute "common subject matter" and therefore the claimed 1987 "Super Discount Supermarkets" embodiment is not entitled to the 1981 filing date of the 1981 "Wall Street Week" embodiment as alleged.

19) In lines 3-7 on page 11 of the supplemental response filed 5/06/2002 in SN 08/470,571, applicants state:

> **"[T]he starting point for determining whether an applicant is entitled to priority under section 120 is what is being claimed. Without identifying precisely what is being claimed, it is impossible to seriously undertake an analysis of whether sufficient support exists in both applications thus entitling applicants to a 1981 priority date."** [45]

The examiner agrees. However, the examiner is surprised that applicants raise this issue after all of the section 112-1 requests which have been made by the Office throughout the present prosecution of applicants 328 bulk filed applications in hopes of getting applicants' clarification as to *precisely what it is* that applicants are now claiming. In fact, the Office has continued to struggle in its efforts to make such determinations for the 10,000 or so pending/amended

[45] The examiner agrees with applicants' position noting that, without being able to identify precisely what it is that is being claimed, it is impossible to seriously undertake many other examining related activities too .

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claims that exist before it. In the past, when applicants were asked to identify "*precisely what is being claimed*", applicant declined [46] to provide such showings instead opting to take the positions:

> A) That it is the examiners job, not applicants', to read and understand the 557 pages of applicants' current 1987 CIP specification in order to determine "precisely what it is being claimed" via applicants' 10,000 or so pending claims; and
>
> B) That at least some of the limitations of applicants' 10,000 or so pending claims may be directed to subject matter that is not described within in the instant 1987 CIP specification.
>
> > **"the [examiner's] assumption that 'all limitations of the currently pending claims are necessarily directed to that which is described in the present 1987 disclosure' is mistaken and wholly unsupported."** [47]
> > [lines 8-10 on page 144 of the amendment filed in 08/470,571 on 1/28/2002].
>
> Hence applicant does not wish to cite, or perhaps is unable to cite, section 112-1 support from the instant CIP disclosure for the claim limitations [e.g. in at least one instance, out of an expressed a fear that a court, at some later date, might actually hold the scope/meaning of his claims' limitations to the so identified subject matter].

In regard to this section 112-1 issue raised by applicants' argument, the examiner continues to take the following positions:

> A) It has always been a desire of the examiner/PTO to determine "precisely what it is" that applicants now claim. Being that it remains unclear as to "precisely what it is" that applicants now claims, clarification on the part of applicants is once again formally requested for all of the 10,000 or so pending/amended claims. For the record, the examiner notes that he has found applicants' claim charts of alleged "dual" section 112-1 support to be the most helpful form of aid that applicant has provided to date because it at least attempts to match each claimed

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[46] A notable exception being the most helpful claim charts of alleged "dual" section 112 support which applicant has, only on a few occasions, been willing to kindly provide [e.g. APPENDIX A in the amendment filed 6/7/2000 in 08/470,571].

[47] Contrary to applicants' position, the examiner maintains that a pending claim must necessarily be directed to, and supported by, that which is described in the instant 1987 specification. This is not to say that the resulting scope of the pending claims is limited only to that of the 1987 specification to which it must necessarily be directed.

limitation to the specific teachings in the specification(s) that they are allegedly directed; [48] and

B) The examiner adopts observations/positions expressed by Judge Luckern and/or the ITC:

> **1) "that the specification of the '277 patent [the 557 pages of the instant 1987 specification] is difficult to understand, as it is dealing with many possible systems";**
>
> **2) "that despite complainant's [i.e. the current applicants] attempts to point to the specification of the '277 patent [the 557 pages of the instant 1987 specification] as illustrative of some claim elements, said specification has not been helpful in connecting individual claim language to distinct statements in the specification of the '277 patent that is supposed to provide an explanation of the claimed systems in issue";**
>
> **3) "that complainant's [i.e. the current applicants] assertions in many instances of where support in the specification of the '277 patent [the 557 pages of the instant 1987 specification] can be found for claimed elements 'reads like the directions to a treasure hunt. There's a piece here, there's a piece there, it's in there somewhere.'"; and**
>
> **4) " that the specification of the '277 patent [the 557 pages of the instant 1987 specification] and the claims in issue 'are like ships passing in the night in the same ocean, but not necessarily sailing in the same direction.'"**
> **[SEE: 1997 ITC Lexis 307, *258 (part I of II)]**

Once again, the examiner hereby requests applicants' help in determining "precisely what it is" that applicants now claims.

20) The examiner notes that the "SPAM" technology, on which the "more sophisticated" systems of applicants' present 1987 disclosure are based, is vastly different from the "cuing-type signal" technology on which the "primitive" systems of applicants' 1981 parent application were based; e.g. the ability of SPAM to carry and distribute "software" being but just one of the more notable differences. Clearly, the "more sophisticated" 1987 alleged inventions and

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[48] The process of showing a limitation-to-disclosure match for each limitation of each claim should be an easy task for applicant, if not a trivial one, being that the currently pending claims must be "*clearly/unambiguously described*" by applicant's instant disclosure.

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signaling that are now *necessarily being claimed* are not entitled to the 1981 filing date of their 1981 "primitive" ancestors; i.e. applicants are not allowed to transport their "more sophisticated" 1987 alleged inventions back in time to the 1981 filing date of his different, albeit sometimes "correlated", "primitive" 1981 alleged inventions. Only claims which recite "common subject matter", subject matter that can be identified by applicants within both specifications, is entitled to the 1981 effective filing date.

21) Judge Rich has taken the position that "continuity of disclosure", needed to establish the benefit of priority under section 120, requires continuity of "common subject matter" in a form that meets all of the requirements of section 112-1; e.g. even continuity of "best mode".

> **"It must be understood that the introduction of a new best mode disclosure would constitute the injection of 'new matter' into the application and automatically deprive the applicant of the benefit of the earlier filing date of the parent or original application for any claim whose validity rests on the new best mode disclosure".**
> TRANSCO [38 F.3d 551; 32 U.S.P.Q.2D (BNA) 1077]

This Judge's position is NOT consistent with applicants' position that section 120 does not require "common subject matter" between applications; further evidencing the fact that applicants seem to have confused the issue of "anticipation" under section 102 which the requirements of section 112-1 that have been incorporated into section 120.

[The "best mode" issue under section 120 has been raised by the examiner only to show a further inconsistency that exists between applicants' position concerning the requirements of section 120 priority, and positions that have been held by the courts. The examiner has not, and never intends, to make a rejection under "best mode". In fact, it is the examiner's belief that the "best mode" was disclosed by applicants in each of their 1981 and 1987 disclosures. The problem is that the "best mode" of the 1987 disclosure may differ from the best mode of the 1981 disclosure (e.g. 1987 SPAM signaling v. 1981 trigger signals). To the extent that this is true, if at all, as noted by Judge Rich such alone is enough to deprive applicants' current claims of the 1981 priority date; i.e. again, further refuting the "anticipation" standard of claim that continues to be argued by applicants (see appendix I of this Office action)].

22) It is understood that CIP practice, when properly utilized, allows an applicant to file a new application containing additional/new subject matter while preserving the applicants' right to claim (and the right to the earlier filing date for) subject matter which was previously disclosed in the parent application. But an applicants' right to claim subject matter from the parent application is only preserved for that subject matter of the parent application that has actually been

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carried forward (e.g. *incorporated*) into the disclosure of the CIP. Any and all subject matter from the parent application that is not carried forward into the disclosure of the CIP cannot be legally claimed within said CIP; i.e. the right to claim subject matter that is left behind is lost/forfeited with respect to said CIP application. To prevent such a loss/forfeiture, it is customary for an applicant to draft the disclosure of his CIP application in a manner that it literally incorporates the entire disclosure of the parent application, e.g. either physically or "by reference", thereby literally carrying forward all of the subject matter from the parent application into the CIP application and, in doing so,:

A) Preserving applicants' right to claim any/all of the subject matter from the parent within said CIP application; and

B) Preserving applicants' right to the filing date of the parent application for any/all claims that are directed to the subject matter of the parent application that has been carried forward into the CIP application.

In contrast to the customary CIP practice described above, when filing their 1987 CIP disclosure, the present applicants elected to draft an entirely new 1987 specification and elected not to formally incorporate the 1981 disclosure from their 1981 parent application in its entirety. In fact, when filing their 1987 CIP disclosure, applicants elected to draft the entirely new specification in a way which makes it difficult to impossible to determine what, if any, of the subject matter from the 1981 parent specification was carried forward into the disclosure of the 1987 CIP [49]. Today, faced with the fact that 1981 subject matter which was not carried forward (i.e. *incorporated*) into the present disclosure has been lost/forfeited, applicants takes a leap of faith and suggest that all of the subject matter from their 1981 parent application somehow/miraculously found its way into the new disclosure of the 1987 CIP. Clearly, this does not appear to be true. For example, even the subject matter from the two disclosures which looks similar at first glance, is based on vastly different transmission technologies, vastly different terminology/definitions, etc,.... [e.g. note Appendix I and Appendicx III of this Office action].

23) The examiner notes that many of applicants' pending claims recite the following receiving station structures: a) a receiver; b) a signal detector; c) a processor; and d) an output device. Appendix A of the response filed on 6/7/2000 in SN 08/470,571 shows that:

a) The recited "receiver" refers to nothing more that --a TV tuner--;

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[49] For example, to the extent that the 1987 CIP has injected a "new best mode disclosure" by literally replacing the 1981 inventions with new 1987 inventions which are based on a more sophisticated technology (i.e. SPAM), applicants' claim to priority of the 1981 filing date is refuted (i.e. in the words of Judge Rich).

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b) The recited "signal detector" refers to nothing more than a decoder 203 which extracts and error corrects embedded information from the VBI of TV programming;

c) The recited "processor" refers to nothing more than microcomputer 205; and

d) The recited "output device" refers to nothing more than a "TV monitor".

The examiner maintains that all of these recited structures are found within a conventional CPU/MP/computer implemented Teletext receivers. For example, note:

a) The TV tuning element (2);

b) The extracting and decoding circuitry 8 and 11;

c) The processing element (13); and

d) The TV monitor/display (6), of BETTS [GB 1,556,366].

Such further highlights the direct correlation that exists between the "SPAM" distribution system of applicants' alleged invention and the "Teletext" distribution systems of the "prior art". Again, the examiner believes that applicants' "SPAM" is, for all intents and purposes, synonymous with conventional "Extended Teletext" [note part "5)" of this appendix];

24) Applicants' originally filed instant disclosure clearly taught away from the "interactive" ultimate receiver station configuration that has been claimed during the present prosecution [note claim 56 as presented in the amendment filed 6/7/2000 and 7/13/2000 in 08/470,571]. Namely, as originally described, one of the key advantages that was allegedly offered by applicants' alleged inventions was the fact that the "ultimate receiver stations" produced their respective personalized audio/video presentation "automatically" and without any manual input from the viewer; e.g. whereby the complex processing that was involved within the system remained hidden from, and transparent to, the viewer/user. SEE:

A) Lines 27-34 on page 11 of applicants' instant disclosure as originally filed;

B) Lines 18-20 on page 91 of applicants' instant disclosure as originally filed;

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C) Lines 13-34 on page 427 of applicants' instant disclosure as originally filed;

D) etc,...

Despite this original teaching, applicants have attempted to introduce pending amended claims into the record that, according to applicants' own allegation (see the support for claim 56 as was set forth in APPENDIX A of the amendment filed on 6/7/2000 in SN 08/470,571), recite an "interactive" implementation of the originally disclosed non-interactive "ultimate receiver stations". The section 112-1 problem is immediately apparent [this issue has been addressed in detail in sections II and VI of the Office action mailed 7/17/2002 in SN 08/470,571].

25) As originally described, it appears that the "ultimate receiver stations" of applicants' alleged invention produced the combined image of applicants' figure 1C by (apparently) additively mixing the images of figures 1A and 1B in their entirety; i.e. this fact seems to explain why the "line" of figure 1A had to be produced "on a background color that is transparent when overlaid on a separate video image" as was described in applicants' originally filed disclosure [see lines 9-14 on page 25 of applicants' instant disclosure]. Despite this original teaching, applicant has attempted to introduce claims which explicitly recite processes in which the respective images are combined in less than their entirety and/or in which one portion of one image is "replaced" by a portion of another (i.e. known in the art as "keying" or "non-additive mixing". The section 112-1 problem is immediately apparent [this issue has been addressed in detail in section VI of the Office action mailed 7/17/2002 in SN 08/470,571].

26) In the first two lines under the heading *"a. Independent Claim 56 and Dependent Claims Thereto"* on page 287 of the response filed 1/28/2002 in SN 08/470,571, applicants allege that the publication date of the applied Gunn et al article was never established by the Office. This allegation is untrue. The following is noted:

a) This Gunn et al. article was originally submitted by applicants for consideration within voluminous IDS citations. However, as with many of these citations, applicants never provided the Office with information regarding the publication date of the article;

b) The Gunn et al. article has been applied by the Office against many of applicants' pending claims, and while applicant never provided the Office with the article's publication date, using a commercial database the Office was able to establish the date in question and notified applicant of it

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accordingly [note: the PTO- 892 of paper #2 in the present 08/470,571 record; the PTO-892 of paper #20 in SN 08/447,502; etc,...];

c) Again, the publication date for this Gunn et al. article, e.g. an article that was submitted by applicant for consideration against the pending amended claims, is March 26-28 of 1980. This date is, by any standard, valid "prior art" against all of applicants' pending claims.

27) In the first four lines on page 15 of the supplemental response filed 5/6/2002 in 08/470,571, applicants state:

> **"applicants further questioned [the examiner as to] why it would be necessary to incorporate the parent disclosure, by reference or in full-text format, if the subject matter of the parent application *is properly disclosed* in the CIP application in an integrated manner with the enhancements and improvements of the CIP application."** (emphasis added)

That depends on what applicants mean by "*properly disclosed*." According to applicants, "*properly disclosed*" does not require that the claims be supported by "common subject matter" found in both applications.

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim."** (emphasis added)
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]

In contrast, the examiner maintains that "*properly disclosed*" requires continuity of "common subject matter" between applications for that which is claimed. Being such, if there is any way by which current applicant can use the section 112-1 support that is actually available in the instant 1987 CIP disclosure to "properly" show that the currently pending claims are in fact directed "solely" to 1981 subject matter previously described in the past 1981 Parent specification, i.e. "common subject matter", then section 120 priority would be a "*given*". To date, applicant has been unable to provide such a showing. [50]

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[50] This is not a situation in which the "wording" that was used to described "common subject matter" has simply been changed between applications as applicant would now try to have one believe [note lines 7-11 on page 15 of the supplemental response filed in 08/470,571 on 5/6/02]. Instead, it is a situation in which "1981 inventions" from the 1981 specification were left

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Here, it is important to note that a direct path to such a "*proper*" showing would have been available to the current applicants had the *unenhanced/unimproved* subject matter from the past 1981 specification *actually* been incorporated into the instant specification in a distinct and discernible fashion. This is, in essence, the answer to the question that has been asked by applicants.

> **"applicants further questioned why it would be necessary to incorporate the parent disclosure, by reference or in full-text format"**
> [the first four lines on page 15 of the supplemental response filed 5/6/2002 in 08/470,571]

Specifically, any applicant wishing to draft a claim in a later filed CIP application that is going to be directed ***solely*** to "subject matter" found in an earlier filed Parent application, e.g. thereby allowing the drafted claim to obtain the benefit of section 120 priority, would be wise to incorporate said "subject matter" from the parent application into the CIP specification in a clear and undisputable fashion. Incorporating the Parent specification by reference, or by literally carrying it forward in a substantially identical "full-text format", are methods that are commonly used by applicants for this purpose. And, for obvious reasons, the need to "incorporate" the parent's subject matter in a clear and undisputable fashion seems especially true/"necessary" if the "subject matter" of the past parent disclosure is going to be extensively "re-worded", "enhanced", "improved" and "scattered" throughout vast quantities of new subject matter during its alleged migration to the specification of a subsequently filed CIP specification.

28) Section 112-1 requires the written description to provide a description of that which is claimed. For the reasons addressed herein (e.g. the noted inconsistencies between the 1981 and the 1981 specifications), that which is described in the 557 pages of the instant 1987 CIP disclosure is very different from that which was previously described in the 44 pages of the 1981 parent. For example, the "systems and methods" that are described in the 1987 disclosure all utilize a new, more advanced, "SPAM" transmission technology which enables the 1987 systems and methods to carry a wider/broader range of control and instruct signaling (i.e. such as "software") and which also enables the 1987 systems and methods to be applied to a much wider/broader range of communication environments (i.e. the 1987 systems and methods, as described, explicitly encompass application outside the radio/TV environments explicitly described for the 1981 systems and methods):

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behind at the time of filing the instant 1987 CIP specification in favor of the enhanced/improved/expanded "1987 inventions" which are actually described within the instant 1987 CIP disclosure; a fact that is clearly self-evident whenever applicant attempts to specifically demonstrate "dual" 1987 and 1981 section 112-1 for that which is claimed [e.g. as is exemplified via Appendix A of the amendment filed 6/7/2000 in 08/470,571] .

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"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time, as opposed to the situation in which the subsequent application merely contains either a language change not effecting the meaning of the prior application or a specification which narrows the scope of that which was previously claimed. [Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]

And, because the disclosure of the 1981 was left behind by applicant's during the drafting of the 1987 CIP, it is the written description of the 1987 CIP systems and methods alone which must provide the description of the systems and methods that are now being claimed as required under section 112-1; i.e. that which is claimed necessarily being the much improved/enhanced/expanded systems/methods of the 1987 CIP specification. Why should/would these described/claimed enhanced/improved 1987 CIP systems and methods be entitled to the 1981 filing date of the lesser 1981 systems and methods that were previously described in the 1981 parent specification that was literally left behind (abandoned) during the drafting of the instant 1987 CIP specification? By abandoning the 1981 specification (leaving it behind during the drafting of the 1987 CIP), it is difficult if not impossible for applicants to alleged that that which is now claimed is directed solely to the systems and methods that were previously described in the abandoned specification of the 1981 parent (i.e. that the current claims are directed to "common subject matter").

The current fact pattern seems akin to situations in which a courts have held that an applicant was not entitled to "priority" based on the applicant's foreign filed application because said foreign filed application did not describe "the same invention" yet, at the same time, affirming a rejection of "anticipation" under section 102 of the same claims based on the same foreign filed application [e.g. In re van Langenhoven, CCPA 173 USPQ 426]. That is, such case law underscores the fact that there is a very "real" difference between the requirements of 112-1 that must be met for establishing "priority" to an earlier filed application and the requirement of section 102 needed for establishing "anticipation". Namely, the fact that the current applicants' claims might be shown to be "anticipated" by different subject matter from applicants' 1987 CIP and 1981 specifications using the standard of "anticipation" provided for under section 102, is insufficient (even if true) to establish priority under section 120 unless that which is described in the respective 1981 and 1987 CIP disclosures can be shown to be "the same"/"common subject matter".

29) Applicants take the position that they are allowed to use the "new subject matter" that is contained only within the instant 1987 CIP specification to fulfil the

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section 112-1 requirement for their pending claims and yet still obtain the earlier 1981 filing date of the 1981 Parent specification for these claims by alleging that some underlying principle or teaching from the 1981 specification is buried/embedded/hidden somewhere within the cited "new subject matter".

> **"The fact that the [section 112-1] support [that applicant] identified in the 1987 specification for a certain [claimed] features (or limitation) also happens to include additional features or details relating to the same underlying feature (or limitation) disclosed in the 1981 specification , does not mean that both specifications do not support the feature or limitation with similar and valid 'common subject matter' support."** [51]
> [lines 5-8 on page 10 of the supplemental response]

Here, applicants seem to suggest that it is "solely" the alleged "underlying features" from the 1981 disclosure that are being claimed by the pending claims' recited limitations, even though the passages from the instant 1987 specification that must be cited by applicant, for the expressed purpose of providing the required section 112-1 support for the claims' limitations, necessarily comprise new/added 1987 subject matter that was introduced via the filing of the 1987 CIP specification. Apparently, it is applicants' position that the added/new 1987 subject matter contained within applicants' own citations of alleged section 112-1 support should be weeded out, discarded and/or ignored under section 120 in order to allow the alleged underlying principles, ones that were allegedly carried forward from the past 1981 parent specification, to emerge therefrom (thereby allowing applicants' subsequently filed CIP claims to obtain the earlier 1981 filing date of the parent application).
That is, applicants' position seems to suggest that it is proper for a claim to have two different claim constructions: i.e. A first all encompassing claim "construction" that is obtained when the claim is constructed/construed based on a full reading of the instant 1987 CIP specification; and, A second claim "construction" that is obtained when the claim is constructed/construed in light of different and lesser teachings of the discarded 1981 parent specification. The examiner thinks not.

30) In lines 16-19 on page 15 of the supplemental amendment filed 5/6/2002 in 08/470,571, applicant alleges:

> **"that incorporating the parent [specification], either by reference or in full-text format, into a CIP application that disclosed the subject matter**

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[51] The examiner notes that the fact applicant is relying on the new "enhanced/improved" subject from his 1987 CIP to provide section 112-1 support for the claim is self-evident whenever applicant attempts to specifically show the alleged "dual" section 112-1 support for a given claim's limitations via the different specifications [e.g. as is exemplified via Appendix A of the amendment filed 6/7/2000 in 08/470,571]

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of the parent in an integrated fashion does nothing more than add unnecessary duplicative content to the CIP application."

The examiner notes the following:

1) If applicant is suggesting that this is the situation that currently exists between his instant 1987 CIP specification and his past 1981 Parent specification, then the examiner suggests that applicant make the attempt to formally incorporate his past 1981 parent specification into his current 1987 CIP specification either by reference or in said full-text format in order to resolve the priority issue once and for all. Applicant is, however, put on notice that any attempt to amendment the instant 1987 CIP specification in such a fashion will be vigorously objected to as introducing "NEW MATTER"; and

2) Given the present situation, having added a single a sentence to the 557 pages of text that comprise the 1987 CIP specification, stating that the 44 page specification of the past 1981 Parent application had been "Incorporated by Reference", hardly seems to fall within the realm of "add[ing] unnecessary duplicative content to the CIP application."

31) In lines 19-22 on page 15 of the supplemental amendment filed 5/6/2002 in 08/470,571, applicants allege:

'applicants' have established in their prior submissions that all of the fundamental teachings of the 1981 disclosure were carried forward to the CIP application, albeit in an integrated fashion with many enhancements and improvements of the CIP application."

The current examiner knows of no prior submission or submissions made by applicants which has "established", as fact, that *that* which is now claimed by applicants' currently pending amended claims is directed "solely" to "fundamental teachings" from applicants' past 1981 Parent disclosure which have been carried forward to the instant 1987 CIP specification. In fact, attempts made by applicant to specifically identify the required section 112-1 support for the limitations of currently pending amended claims have instead "established", as fact, that *that* which is now claimed actually comprises ones the "many enhancements and improvements of the CIP application" that are not entitled to "priority" under section 120.

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32) In lines 9-12 on page 10 of the supplemental response filed 5/06/2002 in SN 08/470,571, applicants' state:

> **"The mere presence of the additional details and enhancement in the 1987 specification does not deprive applicants' of the 1981 priority date *unless the claim limitation or feature is only supported by such additional details and enhancements which are not found in the 1981 specification.***
> *See Kennecot,* **835 F.2d at 1422." (Emphasis added)**
> [Lines 9-12 on page 10 of applicant's supplemental response filed 5/6/02]

It is not clear how the cited case law, e.g. *Kennecot,* 835 F.2d at 1422, supports applicants' apparent position that a claim in a continuation-in-part application is entitled to the earlier filing date of a past parent application if only part of its required section 112-1 support comes from "new CIP subject matter" that was introduced via the filing of a CIP specification. This again suggests a situation in which a given claim has two claim construction and two effective filing dates, whereby an examiner could/should reject that portion of a pending claim's scope which is allegedly supported by the "New Matter" of a CIP via valid intervening "prior art" while, at the same time, allowing that portion of the same pending claim's "scope" that is directed "solely" to the subject matter of the Parent application to issue as a patent. Such a position does not make sense.

To the contrary, by claiming the benefit of section 120 priority for a given claim filed in a subsequently filed CIP application, an applicant is in essence "*pledging*" (e.g. putting everyone on notice) that the claim is directed "solely" to subject matter found within the specification of the Parent application, and not to "new subject matter" that has been introduced via the subsequently filed CIP; i.e. that the respective descriptions being relied upon for section 112 support under section 120 are in fact legal equivalents. [52]

However, such a "pledge" must be supported by the CIP specification from which the claim depends. Namely, if a claim in a CIP application is going to be directed "solely" to the subject matter of a past parent application, then said subject matter of the past parent application must exist within said CIP specification being that the required section 112-1 support for the claim must necessarily come from the instant CIP disclosure. Thus, the subject matter of the parent that one wishes to claim must be carried forward from the parent specification into the CIP specification; i.e. hence the requirement of "common subject matter". However, given the current state of applicants' instant 1987 CIP specification,

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[52] That is, to determine what is being claimed, one turns to that which was "described" in CIP application. If that which is described in the CIP was in fact described in the parent application too (i.e. *common subject matter*), priority under section 120 is established.

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e.g. one in which past 1981 subject matter has been (at best) inseparably blended/expanded with subsequently added new 1987 subject matter, it is difficult to determine what part of the past 1981 subject matter, if any, has been carried forward into the instant CIP disclosure. It is improper for one to simply allege/assert that the currently pending claim is somehow more limited than the 1987 CIP disclosure from which it depends (i.e. from which section 112-1 support is derived).

> **"The fact that the [section 112-1] support [that applicant] identified in the 1987 specification for a certain [claimed] features (or limitation) also happens to include additional features or details relating to the same underlying feature (or limitation) disclosed in the 1981 specification, does not mean that both specifications do not support the feature or limitation with similar and valid 'common subject matter' support."**
> [lines 5-8 on page 10 of the supplemental response]

Again, why should a pending claim having limitations that are necessarily directed to (supported under section 112-1 by) even a smudge of new 1987 subject matter be entitled to the earlier 1981 filing date of the Parent specification which did not disclose that smudge of new 1987 subject matter?

> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications" (emphasis added)**
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"Any claim in a continuation-in-part application that is directed solely to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application."**
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"A continuation-in-part application is not entitled to the benefit of the earlier filing date of its parent application where the changes included within subsequent applications are 'new matter' which either alters the substance of the invention or makes the composition an invention for the first time, as opposed to the situation in which the subsequent application merely contains either a language change not effecting the meaning of the prior application or a specification which narrows the scope of that which was previously claimed. [Indiana General Corp. v. Krystinel Corp., 161 USPQ 82, 94-95]**

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33) Applicants have suggested that the notoriously well known "mixed" display mode of the videotext prior art pertains only to the display of broadcasted teletext data, and not to the display of telephone supplied Viewdata [e.g. note lines 4-23 on page 105 of the response filed 1/9/2003 in 08/470,571]. Applicants' position is erroneous. In this regard, the following "prior art" has been cited/noted:

- Lines 19-23 on page 2, lines 1-3 on page 12, and lines 1-4 on page 11 of the translation of JP 55-045248 to Tsuboka et al.;

- Lines 38-53 in column 2 and lines 40-45 in column 4 of U.S. Patent #4,233,628 to Ciciora; and

- Figures 1 and 4 and the last 3 lines on page 356 of the 1979 IEEE publication entitled "Telext/Viewdata LSI" by Harden.

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x

APPENDIX VII: ["standardized" Teletext (exemplified)]

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A 3/26/81

Attachment C

UK TELETEXT SYSTEM

525 LINE 60 FIELD SYSTEMS APPLICATIONS

The characteristics of broadcast signals according to the UK Teletext System are defined in the form of a set of decoder response levels. Some features are common to all levels and other features apply optionally.

Decoders responding at level 1 provide a set of 96 alphanumeric characters and two sets of mosaic graphic characters, these latter including 32 alphanumeric characters. A full range of serial display attributes, that include seven display colours are available.

Optional features applicable to all levels include the designation of linked pages for automatic storage and a page confidence check. Further optional features are the designation of an initial page to be selected automatically at switch-on and information related to equipment control rather than display. It is envisaged that this data would apply to a Television Network or Channel generally and not only to the teletext service.

Decoders responding at level 2 include the full ISO character repertoire, additional serial and the full range of parallel attributes. Off text area display attributes are defined on a full screen and full row basis. Means are provided to redefine the national option characters in the primary character set on a page or magazine basis. A smoothed mosaic graphics set and a large range of pastel colours are included.

Level 3 introduces Dynamically Redefinable Character Sets (DRCS) and associated redefinable display colours from a very large range. Such down loaded character sets may be used to extend the character sets of level 2 or to display a complete page.

Page addresses are reserved for levels 4 and 5 that employ respectively alphageometric and alphaphotographic coding. These levels will be fully defined when agreement concerning the coding procedures has been acheived.

Page addresses have also been reserved for the transmission of Telesoftware. This concept includes computer programmes and similar data not for direct display.

CONTENTS

Sections	1. to 10.	Characteristics applicable to all levels.
	11.	Response of decoders at level 1.
	12. & 13	Optional features applicable to all levels.
	14.	Response of decoders at level 2.
	15. & 16	Response of decoders at level 3.
	17.	Response of decoders at level 4.
	18.	Response of decoders at level 5.
	19.	Telesoftware.

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UK TELETEXT SYSTEM

525 LINE 60 FIELD SYSTEM M APPLICATION

Characteristics of Broadcast Signals

1. TV Lines Usable as Data Lines	Subject to availability.
1.1. When Multiplexed with a TV Picture Signal	Lines 10 to 16 of both fields.
1.2. When Not Multiplexed With a TV Picture Signal	Any, except field sync and equalising pulse periods. See also Section 13.2.2.
2. Data Identification	Clock Run-in and Framing Code in appropriate time slot, see section 9.
3. Signalling Method	Binary NRZ.
4. Signal Levels 0 level 1 level	Nominal Values currently proposed: Black level ±2% 70(±6)% of the difference between black level and peak white level.
5. Bit Rate	Currently proposed value: 364 x nominal fH, 8/5 x FSc (5.727272 Mbits/s)
6. Data Timing Reference Point	Peak level of penultimate 1 of clock run-in.
7. Spectrum of Data Pulse	Skew symetrical about 0.5 x bit rate, substantially zero by 4.2 MHz.
8. Data Line Content	290 bits as 37 bytes of 8 bits each.
9. Synchronism	See figure 1.
9.1. Clock Run-in (bit sync)	Bytes 1 & 2, begins 10101010....even parity.
9.2. Framing Code (byte sync)	Byte 3, 11100100, even parity.
10. Addressing	See figures 1 and 2.
10.1. Packet Numbers in Form X/T/Y For All Data Lines.	Bytes 4 & 5 Hamming protected. 2 binary digits for magazine number X 1 binary digit for tabulation T, 0 corresponds left hand side of display and 1 corresponds to right hand side of display. 5 binary digits for display row number Y. 256 unique packets available.
10.2. Page Header Data Lines	Packet numbers X/0/0
10.2.1. Page Number	Bytes 6 & 7 Hamming protected, 256 available.
10.2.2. Page Sub-Code	Bytes 8, 9, 10, 11 Hamming protected, 8192 available. Byte 9, bit 8 is control bit C4 and byte 11 bits 6 and 8 are respectively control bits C5 and C6, see Section 11.

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11. Response of Decoder at Level 1	Decoder responds to: a) Packet numbers X/0/0 to X/T/23. See Note below. b) Pages 00 to 99 coded BCD. c) 3200 Page Sub-Codes. The four digits of the Page Sub-Code can take values in the ranges 0 to 3, 0 to 9, 0 to 7 and 0 to 9, respectively. d) optionally packet numbers X/T/27(and the contents of packet number X/T/24 and X/T/25) and packet number 4/1/30.
11.1. Control Bits in Page Header	Active on being set to 1. C4 to C14, bytes 12 and 13 contain C7 to C14 Hamming protected, see Section 10.2.2. for C4 to C6.
11.1.1. C4 Erase Page	Always followed by a 16 ms interval before transmission of further data.
11.1.2. C5 News Flash	All information to be boxed.
11.1.3. C6 Sub-Title Page	All information to be boxed.
11.1.4. C7 Suppress Header	Header to be suppressed (display of clock time optional).
11.1.5. C8 Update Indicator	Following data may be limited to include only the updated part of the page.
11.1.6. C9 Interrupted Sequence	Associated page is not in numerical order of page sequence.
11.1.7. C10 Inhibit Display	Data not to be displayed
11.1.8. C11 Magazine Serial	Magazines transmitted one at a time in sequenc
11.1.9. C12, C13, C14 Basic Character Set Select.	No response.
11.2. Page Display	
11.2.1. Rows Displayed	Up to 24. When tabulation bit (see Section 10) is set to 0 data packets 0 to 23 correspond to the left hand side of display rows 0 to 23. With the bit rate of Section 5, 32 character spaces are included. When the tabulation bit is set to 1, the data packet number corresponds to the first row number of a group of right hand sides of display rows. With the data rate of Section 5, the right hand sides of four display rows, eac including 8 character spaces are carried by th packets. In order to preserve the integrity of packets carrying the page header, the right hand sides of rows 0 to 3 have the packet numbers X/1/1 and there is no response to packets numbered X/1/0.
11.2.2. Character Spaces in Rows 1 to 23	40, transmitted in 2 sections, each left to ri
11.2.3. Character Spaces in Page Header, Row 0	32, transmitted in 2 sections, each left to ri
11.3. Character Bytes	7 bits plus odd parity define a display or control character occupying a character space.

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11.4. Character Sets for Display	a) 94 alphanumeric characters plus SPACE and DELETE, see figure 3. b) 63 contiguous mosaic graphics characters, plus SPACE and 32 alphanumeric characters. c) 63 separated mosaic graphics characters, plus SPACE and 32 alphanumeric characters. See figure 4 for mosaic character set. Selection between a), b) and c) is by means of control characters, see Section 11.5.
11.5. Control Character Set, 'spacing controls' Including Display Attributes	Set of 32 control characters, 5 unallocated for level 1, which affect the display attributes. The receiver defaults to certain attributes at the start of each row. Some control characters have effect immediately, others at the following character-space. Certain control characters have complementary forms. See figure 5.
11.5.1. Foreground Colour	White, yellow, cyan, green, magenta, red or blue. It is invoked by selection of alphanumeric or mosaic display mode, 7 pairs of control characters, see figure 5.
11.5.2. Background Colour of a Character Space - Black Background	Invoked by the control character 'black background'.
New Background	This control character causes the foreground colour then obtaining to be adopted as the background colour.
11.5.3. Contiguous Mosaic Graphics	Mosaic blocks adjoin one another.
11.5.4. Separated Mosaic Graphics	Each mosaic block is surrounded by a border of the background colour.
11.5.5. Hold Mosaic	A held mosaic character is displayed in place of a SPACE corresponding to a control character. The held character is defined only during the mosaic mode. It is the most recent character with bit 6 = 1 in its code, providing that there has been no intervening change in alphanumerics/mosaics or normal/double height display modes. It is displayed in the original contiguous or separated mode.
11.5.6. Conceal	Following characters are to be displayed as SPACE until 'revealed' by a decoder or user operation.
11.5.7. Flash	Following characters are to be displayed normally or as SPACE in alternation, under the control of a timing device in the decoder.
11.5.8. Boxing	Part of a page to be inset into the normal television picture. Protection against false operation is provided by double transmission of the control characters, with the effect taking place between them.
11.5.9. Double Height	Characters are to be stretched vertically to occupy in addition the corresponding character space in the display row with the next higher address, that row displays the same background colour as the previous row.

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12. Ancilliary Text Related Data	Optional Features.
12.1. Linked Pages Related to a Given Page and Intended for Automatic Storage in the Decoder Memory	Data carried by packet X/0/27 See figure 2.
12.1.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive as Sections 9 and 10.
12.1.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection Codes 0000 to 0011 designate linked page function and are used repetitively as sequence labels for a number of packets X/0/27. There is no response to other codes.
12.1.3. Linked Page Addresses	Bytes 7 to 36 used as 5 groups of 6 bytes. Each group of 6 bytes defines a linked page address.
12.1.3.1. Data Group Format Defining a Linked Page	6 bytes, see figure 2 for bit sequence: Relative Magazine Number.....3 bits Page Number.....8 bits Page Sub-Code.....13 bits Hamming Protection.....24 bits NOTE There is no response to the data in byte 37.
12.2. Basic Page Check Word	Data carried by packet X/1/27.
12.2.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive as Sections 9 and 10.
12.2.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection. Code 0000 designates basic page check word function.
12.2.3. Basic Page Check Word	Bytes 7 and 8 contain a Cyclic Redundancy Check on the data in packets X/0/0 and X/T/1 to X/T/25. For check word generation see figure 13. No respons to bytes 9 to 37.
13. Broadcasting Service Data Packet	Packet 4/1/30 transmitted approximately once per second. See figure 2.
13.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive as Sections 9 and 10.
13.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection. First data bit set to 0 designates multiplexed function as in Section 1.1. First data bit set to 1 designates non-multiplexed function as in Section 1.2. Data bits 2, 3 & 4 set to 0 designate functions in Sections 13.3. and 13.4. There is no response to other codes.
13.3. Program or Network Label	Bytes 7 and 8 containing 16 bits data with at least one data transition included.
13.4. Initial Teletext Page for Storage in Decoder Without User Action	Bytes 9 to 14, see figure 2 for bit sequence: Relative Magazine Number.....3 bits Page Number.....8 bits Page Sub-Code.....13 bits Hamming Protection.....24 bits
13.5. Data for Equipment Control Includes Time and Date in UTC with Local Offset and Program Related Data	Bytes 15 to 37. Where appropriate the coding is to be the common codes of the basic character set, see Sections 11.4. and figure 3. For data format see figure 12.

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14. Response of Decoder at Level 2	Decoder responds as level 1 plus packets X/0/26 and X/0/28. See figure 2.
14.1. Control Bits in Page Header	As level 1, see Section 11.1.
14.1.1. C4 to C11	Response as level 1 see Sections 11.1.1. to 11.1.8.
14.1.2. C12, C13, C14 Basic Character Set Selection	Decoder displays text using selected basic character set as follows:

Alphabet	C12	C13	C14
1) English, US version (see figure 3)	0	0	0
2) To be defined	0	0	1
3) To be defined	0	1	0
4) To be defined	0	1	1
5) To be defined	1	0	0
6) See Section 14.7.	1	0	1
7) See Section 14.7.	1	1	0
8) Reserved	1	1	1

14.2. Page Display	
14.2.1. Rows Displayed	As level 1, Section 11.2.1., exceptionally 24 complete rows, see Section 14.9.
14.2.2. Character Spaces in Rows 1 to 23	As level 1, see Section 11.2.2.
14.2.3. Character Spaces in Row 0 Page Header	As level 1, see Section 11.2.3.
14.3. Character Bytes	
14.3.1. Data Packets X/0/0 to X/T/24, X/0/27 & 4/1/30	As level 1, see Sections 11.3., 12. and 13.
14.3.2. Data Packets X/0/26	See Sections 14.4. and 14.6. and figure 2.
14.3.3. Data Packets X/0/28	See Section 14.4. and 14.7. and figure 2.
14.4. Character Sets for Display	a) Includes Full Latin Based repertoire of ISO as 7 basic alphanumeric character sets of 94 characters each plus SPACE and DELETE, selected by Control Bits as in Section 14.1.2 Each extendable by the data in packets X/0/26, see Section 14.6. and redefinable by the data in packets X/0/28, see Section 14.7. b) Contiguous mosaics as level 1, see Section 11.4. and Smoothed mosaics, see Section 14.6.16 c) Separated mosaics as level 1, see Section 11.4. and Smoothed mosaics, see Section 14.6.16. Selection between a), b) or c) is by means of control characters and the data in packets X/0/26, see Section 14.6. and the data in packets X/0/28, see Section 14.7.
14.5. Control Character Set for Spacing Controls Including Display Attributes	Set of 32 control characters, 1 unallocated for level 2. Action as for level 1, see Section 11.5., except as defined in Sections 14.5.1. to 14.5.5. See also figure 5.

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14.5.1. Foreground Colours	As level 1 plus black, see Section 11.5.1. and figure 5.
14.5.2. Underline Alphanumerics/ Separated Mosaic Graphics	Alphanumeric characters succeeding this control character are displayed underlined and mosaic characters are displayed in the separated mode as in Section 11.5.4. until the end of a display row of the receipt of a Cancel-Underline/ Contiguous Mosaic Graphics control character.
14.5.3. Cancel-Underline Alpha-numerics/Contiguous Mosaic Graphics	See Section 14.5.2.
14.5.4. Reduced Intensity	The background of alphanumeric characters and the foreground of mosaic characters are displayed at reduced intensity until the end of a display row or the second transmission of the colour control character then obtaining. NOTE It is recommended that this control character should reduce the displayed luminance to a subjective level approximately 50% of that obtaining in the normal intensity mode.
14.5.5. Cancel Reduced Intensity	See Section 14.5.4.
14.6. Character Set Extension and Non-Spacing Control Characters Including Additional Display Attributes	Uses packet X/T/26 to over write any character-space. The original character and attribute condition is the editor defined fall-back for level 1 decoders.
14.6.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5, see Sections 9 and 10.
14.6.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection. Codes 0000 to 1110, with the tabulation bit T as most significant bit, as sequence codes for a number of packets X/26 up to 30. Codes T 1111 have no response.
14.6.3. Data Groups	Bytes 7 to 36 used as 10 groups of 3 bytes each, a, b and c. See figure 2 for bit sequence. a and b (6 bits for display address (5 bits for mode description (5 bits Hamming protection c (7 bits data (1 bit odd parity Byte 37 has no response.
14.6.4. Display Addressing	6 display address bits, as in Section 14.6.3. These provide 64 combinations. The decimal values 0 to 39 specify character spaces along a given display row and the decimal values 40 to 63 specify a particular display row. A character space is thus defined by a data group including a row address followed by one or more character position data groups.

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14.6.5.	Full Screen Colour Including Borders Outside Normal Text Display Area (1)	Invoked when the Mode Description bits of any Row Address data group are set to 00000. Data bits 5, 6 and 7 activate respectively the primary colours red, green and blue. Thus, for example bit values 000 correspond to black and 110 to yellow. Data bit 4 invokes reduced intensity, bits 1 to 3 are set to 0.
14.6.6.	Full Row Colour Including Borders Outside Normal Text Display Area (1)	Invoked when the Mode Description bits of the appropriate Row Address data group are set to 01000. Data bits 5, 6 and 7 activate respectively the primary colours red, green and blue. Thus, for example bit values 000 correspond to black and 110 to yellow. Data bit 4 invokes reduced intensity, bits 1 to 3 are set to 0.
14.6.7.	Full Screen Pastel Colours Including Borders Outside Normal Text Display Area (1)	Invoked when the Mode Description bits of any Row Address data group are set to 00001. Data bits 1 to 3 and 5 define 16 pastel colours. Bit 4 invokes reduced intensity, see figure 8.
14.6.8.	Full Row Pastel Colours Including Borders Outside Normal Text Display Area (1)	Invoked when the Mode Description bits of the appropriate Row Address data group are set to 01001. Data bits 1 to 3 and 5 define 16 pastel colours. Bit 4 invokes reduced intensity, see figure 8.
NOTE 1 Background colours when defined explicitly and foreground colours take precedence over Full Row colours and Full Row colours take precedence over Full Screen colours.		
14.6.9.	Accented Characters from Supplementary Character Set	For display at a character-space addressed as in Section 14.6.4. The Mode Description bits set at the range of values 10000 to 11111 respectively define accents for column 4 of the code table figure 6 in ascending numerical order. The associated character from the primary character set of figure 3 is defined by the 7 data bits.
14.6.10.	Special Characters from Supplementary Character Set	For display at a character-space addressed as in Section 14.6.4. The Mode Description bits are set at 01111. The 7 data bits define a character from columns 2, 3, 5, 6 or 7 from the supplementary character set of figure 6.
14.6.11.	Alphanumerics, Normal Size with Colour and Flashing Attributes (2)	For normal size alphanumeric display at a character-space addressed as in Section 14.6.4. The Mode Description bits are set to 00000. Data bits 1, 2 and 3 activate respectively the foreground primary colours red, green and blue. Thus for example bit values 000 correspond to black, 110 to yellow and 111 to white. Bit 4 activates Flashing. Bits 5, 6 and 7 define the background colour in the same manner as in the case of bits 1, 2 and 3 for the foreground colour.

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14.6.12.	Alphanumerics, Double Height with Colour and Flashing Attributes (2)	As Section 14.6.11. except the Mode Description bits are set to 00001. Characters to be stretched vertically as in Section 11.5.4.
14.6.13.	Alphanumerics, Double Width with Colour and Flashing Attributes (2)	As Section 14.6.11. except the Mode Description bits are set to 00010. Characters to be stretched horizontally to occupy in addition the next character-space.
14.6.14.	Alphanumerics, Double Size with Colour and Flashing Attributes (2)	As Section 14.6.11. except the Mode Description bits are set to 00011. Characters to be stretched vertically and horizontally as in Sections 14.6.12. and 14.6.13.
14.6.15.	Block Mosaics, Normal and Contiguous with Colour and Flashing Attributes (2)	For normal (not smoothed) mosaic display at a character-space addressed as in Section 14.6.4. The Mode Description bits are set to 00110. Data bits 1, 2 and 3 activate respectively the foreground primary colours red, green and blue. Thus for example bit values 000 correspond to black, 110 to yellow and 111 to white. Bit 4 activates Flashing. Bits 5, 6 and 7 define the background colour in the same manner as in the case of bits 1, 2 and 3 for the foreground colour.
14.6.16.	Block Mosaics, Smoothed and Contiguous with Colour and Flashing Attributes (2)	As Section 14.6.15. except the Mode Description bits are set to 00111. For the smoothed mosaic graphics character set see figure 9.
14.6.17.	Underline Alphanumerics or Separated Mosaics (3)	Activated at a character-space addressed as in Section 14.6.4. Invoked by the Mode Description bits set to 00110 and Data bit 1 set to 1.
14.6.18.	Boxing (3)	Activated at a character-space addressed as in Section 14.6.4. Invoked by the Mode Description bits set to 00110 and Data bit 2 set to 1.
14.6.19.	Conceal (3)	Activated at a character-space addressed as in Section 14.6.4. Invoked by Mode Description bits set to 00110 and data bit 3 set to 1.
14.6.20.	Reduced Intensity Foreground and Background (3)	Acitvated at a character-space addressed as in Section 14.6.4. Invoked by Mode Description bits set to 01100 and Data bit 4 set to 1 for foreground and Data bit 5 set to 1 for background.
14.6.21.	Pastel Colours in Foreground and Background and Flashing	Activated at a character-space addressed as in Section 14.6.4. Invoked by the Mode Description bits set to the range 01000 to 01011. The Mode Description bits and the Data bits define 16 foreground and background colours and the associated Flashing attribute. See figure 7.

NOTE 2 The effect of these attribute controls persists to the end of a row or until overridden by a further attribute control

NOTE 3 see page 9.

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14.6.22. Termination Marker	Since more than one packet X/0/26 may be needed to display a given page, a terminator is provided by setting the Mode Description bits to 11111 in the final row address data group of the final packet X/0/26
14.6.22.1. Packet X/0/26 and X/0/28 Check Word	The two data bytes that follow a packet X/0/26 termination marker contain a Cyclic Redundancy Check on the data in packets X/0/26 and X/0/28. The process of generating the check word is identical to that of Section 12.3.3., using the data in packets X/0/26 followed by X/0/28. The sequence is completed by assuming the presence of the character SPACE (2/0) repeated as necessary. When only a packet X/0/28 carries data, only the termination marker and the C.R.C. check word will be carried by packet X/0/26.
NOTE 3 These attribute controls are mutually additive and are associated with an attribute invoked as in Sections 14.6.11 to 14.6.16. Their effect is as in NOTE 2 and they may also be over-ridden by a transmission of the data group with the corresponding data bit set to 0.	
14.7. Basic Character Set Dynamic Redefinition	In addition to the fixed alphabets 1 to 5 listed in Section 14.1.2. the 10 blank positions in the code table of figure 3 may be redefined on a page or magazine basis using the data contained in packet X/0/28. In the packet associated function packets X/0/28 follow packet X/0/0 of the page in transmission sequence of that magazine. In the magazine based function it may follow any packet of that magazine. Page Header Control bits C12, C13 and C14 set respectively to 1, 0 and 1 invoke page associated function. Page Header Control bits C12, C13 and C14 set respectively to 1, 1 and 0 invoke magazine associated function.
14.7.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive, as in Sections 9 and 10.
14.7.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection. Magazine associated function designated by data bits set to 0000. Page associated function designated by data bits set to 0010.
14.7.3. Data Groups	Bytes 7 to 36 used as 10 groups of 3 bytes each, a, b and c: a and b (11 bits data (5 bits Hamming protection c (4 bits data (4 bits Hamming protection
14.7.3.1. Character Code Table Addressing	The sequence of 10 data groups defined in Section 14.7.3. represents a sequence of 10 data words each containing 7 + 7 bits. Each word redefines one of the blank positions in the code table of figure 3, in columns, top to bottom, from position 4/0 to position 7/14 proceeding in time along the packet X/0/28.

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14.7.3.2. Character Coding	The allocation of the data bits of Section 14.7.3. is as follows: Bit 1: always set to 0. Bits 2 to 8: represent a character from the primary set of figure 3. Bits 9 to 14: represent a character from the supplementary set of figure 6. When this represents an accent it is combined with the character from the primary set defined by bits 2 to 8. When a special character from the supplementary set is defined, bits 2 to 8 are set to represent the character SPACE (2/0). NOTE There is no response to byte 37 of packet X/0/28 in this mode.
14.8. Pastel Colours Dynamic Redefinition Page Associated	The 16 pastel colours of Sections 14.6.6., 14.6.7. and 14.6.21. may be redefined on a page basis using the data contained in packet X/0/28. Packets X/0/28 follow packets X/0/0 of the page in transmission sequence of that magazine.
14.8.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive, as in Sections 9 and 10.
14.8.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection Designated by data bits set to 0011.
14.8.3. Data Groups	Bytes 7 to 36 used as 15 groups of 11 bits data plus 5 bits Hamming protection.
14.8.4. Display Colour Coding	The sequence of 15 data groups provides 16 data words of 9 bits each. Each data word defines one o 8 possible levels respectively, of the 3 primary colours, red, green and blue. The first 8 data words in time sequence, replace group A of the colours defined in figure 7, the second 8 data wor replace the colours of group B in figure 7. NOTE There is no response to byte 37 of packet X/0/28 in this mode.
14.9. Additional Row Display	This mode of operation has been defined to accomodate the need to transmit and display pages having a non-standard format.
14.9.1. Invocation	Control bit C7 in the page header packet X/0/0 (suppress header) set to 1.
14.9.2. Response of Decoder	Displays packets X/T/1 to X/T/24 in the normal pag area. For enhanced modes (see Section 14.6.4.), th address code carrying the decimal value 40 defines display row 24.
15. Response of Decoder at Level 3	Decoder responds to packets as level 2 plus additional codes in the hexadecimal range, permit a set, or a pair of co-defined sets of characters to be down loaded into the decoder. A range of colour controls can be down loaded with the characters.
15.1. Range of Colours	See Section 16.
15.2. Range of Colour Controls	See Section 16.
15.3. Full Page Application	These pages can not be acquired by level 1 and level 2 decoders.

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15.3.1. Access Page Per Magazine	Page A0.
15.3.2. Page Sub-Codes	Any except 3F7F.
15.3.3. Format of Packets Carrying Page A0	As level 2.
15.3.4. Down Loading Procedure	Uses data contained in Page A0, page sub-code 3F7F, see Section 16.
15.3.5. Display Procedure	User selects magazine X, page A0, and any page sub-code except 3F7F.
15.3.5.1. Decoder Action	a) If a packet X/0/0 of page A0, page sub-code 3F7F immediately follows packet X/0/0 of page A0 including the selected page sub-code, load the DRCS as in Section 16. b) If a) above does not apply, then await the next packet X/0/0 of page A0, page sub-code 3F7F If the magazine associated function bit C4 in this packet is set to 1, load the DRCS as in Section 16. c) If the page associated function has been invoked the sequence of packets as e) below follows immediately and they are acquired. d) If magazine associated function has been invoked the sequence of packets as e) below follows the transmission of packet X/0/0 of page A0 with the selected page sub-code and they are acquired. e) The first packet X/T/26 is now transmitted. In the row address groups of these packets, bit 4 set to 1 indicates magazine associated function and set to 0 indicates page associated function. This bit has no meaning when the DRCS mode is not invoked. The mode description bits of a character space address group set to 00100 invokes the first of two or a single DRCS and set to 00101 invokes the second of two co-defined DRCS. Other Mode Description bits have the same meaning as at level 2. f) The data in packets X/T/1 to X/T/23 is then displayed using the DRCS for the display rows defined by packets X/T/26 as in e) above. g) Further packets X/T/26 may be transmitted to provide non-spacing and off display area attributes. The character-space function of packet X/T/26 is as level 2 and can overwrite the DRCS with primary or supplementary set characters In addition to the functions as in level 2, the basic character set is invoked by transmission of the NUL accent character (4/0).
15.4. Character Set Extension Using DRCS	Uses packet X/T/26 to overwrite any character position of the basic page as in level 2, but with characters from a DRCS, also a range of colour controls.
15.4.1. Down Loading Procedure	Uses data contained in page A0, page sub-code 3F7F, see Section 16.

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15.4.2. Display Procedure	User selects magazine X, and a page that includes DRCS characters.
15.4.2.1. Decoder Action - DRCS Acquisition	a) Following packet X/0/0 of the selected page, there follows the packets X/T/26. In the row address groups of these packets, mode bit 4 set to 1 indicates magazine associated function and set to 0 indicates page associated function. This bit has no meaning when the DRCS mode is not invoked. The character-space Mode Description bits are set to 01101 for a single DRCS or the first of two, or are set to 01110 for the second of two co-defined DRCS. b) If a packet X/0/0 of page A0, page sub-code 3F7F immediately follows the final packet X/T/26 of a given page and C4 is set to 0 indicating page associated function, then load the DRCS as in Section 16. c) If b) above does not apply and Mode bit 4 is set to 1 as in a) above, await the next packet X/0/0 of page A0, page sub-code 3F7F. If C4 in this packet is set to 1, indicating magazine associated function, load the DRCS as in Section 16.
15.4.2.2. Decoder Action - Display	A second transmission of packet X/0/0 of the selected page now precedes the transmission of packetsX/T/1 to X/T/23 of that page. To over-write using packet X/T/26 at a character-space addressed as in Section 14.6.4. The Mode Description bits are set to 01101 for a single or first of a pair of DRCS; they are set to 01110 for the second of a pair of co-defined DRCS. The 7 data bits define a character for display from the DRCS.
16. Dynamically Redefinable Character Sets -Down Loading Procedure	Carried by a page A0, page sub-code 3F7F, using packets X/0/0 to X/0/25. The sequence of packets is repeated as necessary, see Section 16.3.3.
16.1. Clock Run-in and Framing Code	See Section 9.
16.2. Addressing	
16.2.1. Packet Numbers X/0/0 to X/0/25	Bytes 4 and 5 Hamming protected. 2 binary digits for magazine number X. 1 binary digit set to 0. 5 binary digits for packet sequence numbers 0-25.
16.3. Packets X/0/0	
16.3.1. Page Number	Bytes 6 and 7 Hamming protected, coded with page number A0.
16.3.2. Page Sub-Code	Bytes 8,9,10,11 Hamming protected and coded 3F7F. The included control bit C4 is set to 0 to invoke page associated function. When C4 is set to 1 magazine associated function is invoked. The included control bits C5 and C6 are set to 0. See Section 10.2.2.
16.3.3. Page Sequence and Colour Sequence Codes	Byte 12, 4 bits data and 4 bits Hamming protection.
16.3.3.1. Colour Sequence Code	Byte 12, data bit 1. When set to 0, all Mode controls and colours for downloading are in the first packet X/0/0 of the sequence as in Section 16.3.4. When set to 1, the first 16 bytes of 32 are in the first packet X/0/0 as above and the second 16 bytes are in the second packet X/0/0 of the sequence as in Section 16.3.5.

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16.3.3.2. Page Sequence Code	Byte 12, data bits 2 to 4. The bit combinations 000 to 111 are used as sequence codes for the series of pages A0, page sub-code 3F7F.
16.3.4. Mode and Colour Data First Packet X/0/0	Bytes 13 to 34: a) Mode Controls.....2 or 3 bytes b) Colours to be Down Loaded.....0/16 bytes c) Start Control.....1 byte d) Address in Columns 2-7 of Code Table of First Character to be Down Loaded.....2 bytes
16.3.5. Colour Data Second Packet X/0/0	Bytes 13 to 30: a) Colours to be Down Loaded, second half of 32 bytes when required..16 bytes b) Address in Columns 2-7 of Code Table of Next Character to be Down Loaded.....2 bytes
16.3.5. Third and Subsequent Packets X/0/0	Bytes 13 and 14: Carry Address in Columns 2-7 of Code Table of Next Character to be Down Loaded.....2 bytes
16.4. Packets X/0/1 to X/0/25 of Sequence of Pages A0, Page Sub-Code 3F7F	Bytes 6 to 37: a) Character Data....number of bytes depends upon mode b) Character Terminate Control.....1 byte c) Subsequent Characters in numerical order completing each column, each character followed by the Character Terminate Control as in b) above..as b) d) Termination of Down Loading Control.....1 byte
16.5. Character Sets Down Loadable	A set, or a pair of co-definable sets of 94 characters on a 12 or 6 dot per raster line matrix, depending upon the mode selected. The matrix has 10 or 5 raster lines vertically depending upon the mode selected.
16.6. Down Loading Codes	16 standard control codes, 64 dot pattern codes, 31 DRCS mode control and instruction codes. See figure 10.
16.7. Modes	Basic display attributes are as for non-DRCS operation. Colour colour controls and colours also down loaded.
16.7.1. Basic Mode High Definition	Display 12 dots per raster line, nominally 10 raster lines per matrix. Mode Controls 6/0, 6/3 Character Data 2 bytes per raster line. First byte specifies even numbered dots (0 to 10). Second byte specifies odd numbered dots (1 to 11). The code bits b1, b2, b3, b4, b5 and b7 correspond directly to the dot pattern. Each complete matrix is terminated by the code 7/4.

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16.7.2. Basic Mode Low Definition	Display 12 dots per raster line, defined in pairs [(0,1) to (10,11)], nominally 10 raster lines per matrix. Two low definition sets may be co-defined. Mode Controls Single low definition set or first of a pair of co-defined sets 6/0, 6/2, 6/4. Second of a pair of co-defined sets 6/0, 6/2, 6/5. Character Data 1 byte per raster line. Each bit specifies a pair of dots. Each complete matrix is terminated by the code 7/4. This mode is the fallback for decoders having only 6 dot DRCS capability.
16.7.3. Colour Mode	1 value of horizontal definition, 12 dots per raster line defined in pairs. 2 values of vertical definition, 10 raster lines per matrix for high definition or 5 raster lines per matrix for low definition. 2 methods of colour control, red, green and blue primary colours with two levels of intensity (see Section 16.7.3.1.) or 16 down loaded specified colours (see Section 16.7.3.2.).
16.7.3.1. Colour Using Three Primary Colours	Display 12 dots per raster line, defined in pairs as in Section 16.7.2. Activation of red, green and blue with normal or reduced intensity. Mode Control high definition 6/1, 6/3, 6/6. low definition 6/1, 6/2, 6/6. Character Data Dot patterns for compete matrix transmitted respectively for red. green, blue and intensity, i.e. four patterns for each compete matrix. The transmissions for red, green, blue and intensity are respectively preceded by one of the delimiter codes 7/0, 7/1, 7/2 or 7/3. Only those required are transmitted and the compete matrix is terminated by the control code 7/4.
16.7.3.2. Colour Using 16 Down Loaded Colours	Display 12 dots per raster line, defined in pairs as in Section 16.7.2. any one of 16 colours may be associated with any dot pair. For colour down loading procedure see Sections 16.7.3.3. and 16.7.3.4. Mode Controls high definition 6/1, 6/3 and 6/7 or 6/8, see Section 16.7.3.3. and 16.7.3.4. low definition 6/1, 6/2 and 6/7 or 6/8, see Section 16.7.3.3. and 16.7.3.4. Character Data Dot patterns for the complete matrix transmitted 4 times. The resultant 4 bits associated with each dot pair will thus have values in the range 0000 to 1111 in order to define one of the 16 colours. The transmissions define the 4 bits in order of decreasing significance and are preceded respectively by the delimiter codes 7/0, 7/1, 7/2 and 7/3. The complete transmission of the matrix is terminated by the control 7/4.

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16.7.3.3. Colour Down Loading 16 Colours from a Set of 64	Display Each colour is defined by 1 of 4 levels of red, green and blue primary colours. Mode Controls as Section 16.7.3.2. using the codes 6/1, 6/3 and 6/7. Colour Data 16 groups of 6 bits define 1 of 4 levels for respectively red, green and blue primary colours. Bits b1, b2, b3, b4, b5 and b7 of the codes in figure 10 are used. The sequence of 16 groups of 6 bits correspond to the colours invoked in Section 16.7.3.2.
16.7.3.4. Colour Down Loading 16 Colours from a Set of 4096	Display Each colour is defined by 1 of 16 levels of red, green and blue primary colours. Mode Controls as Section 16.7.3.2. using the codes 6/1, 6/3 and 6/8. Colour Data 16 groups of 12 bits define 1 of 16 levels for respectively red, green and blue primary colours. Bits b1, b2, b3, b4, b5 and b7 of the codes in figure 10 are used twice for each group. The sequence of 16 groups of 12 bits correspond to the colours invoked in Section 16.7.3.2.
17. Response of Decoder at Level 4 Alphageometric Coding	Page addresses in the range A1 to FF and associated page sub-codes are reserved for this function. To be implemented when the coding details are specified. (1)
18. Response of Decoder at Level 5 Alphaphotographic Coding	Page addresses in the range A1 to FF and associated page sub-codes are reserved for this function. To be implemented when the coding details are specified. (1)
19. Telesoftware Transmission of Computer Programs and Similar Data Not For Display. Applicable to a Range of Levels to be Associated with Those Defined for Text and Similar Display.	Page addresses in the range A1 to FF and associated page sub-codes are reserved for this fuction. To be implemented when details are specified. (1)
	NOTE 1 These digits are in the hexadecimal range.

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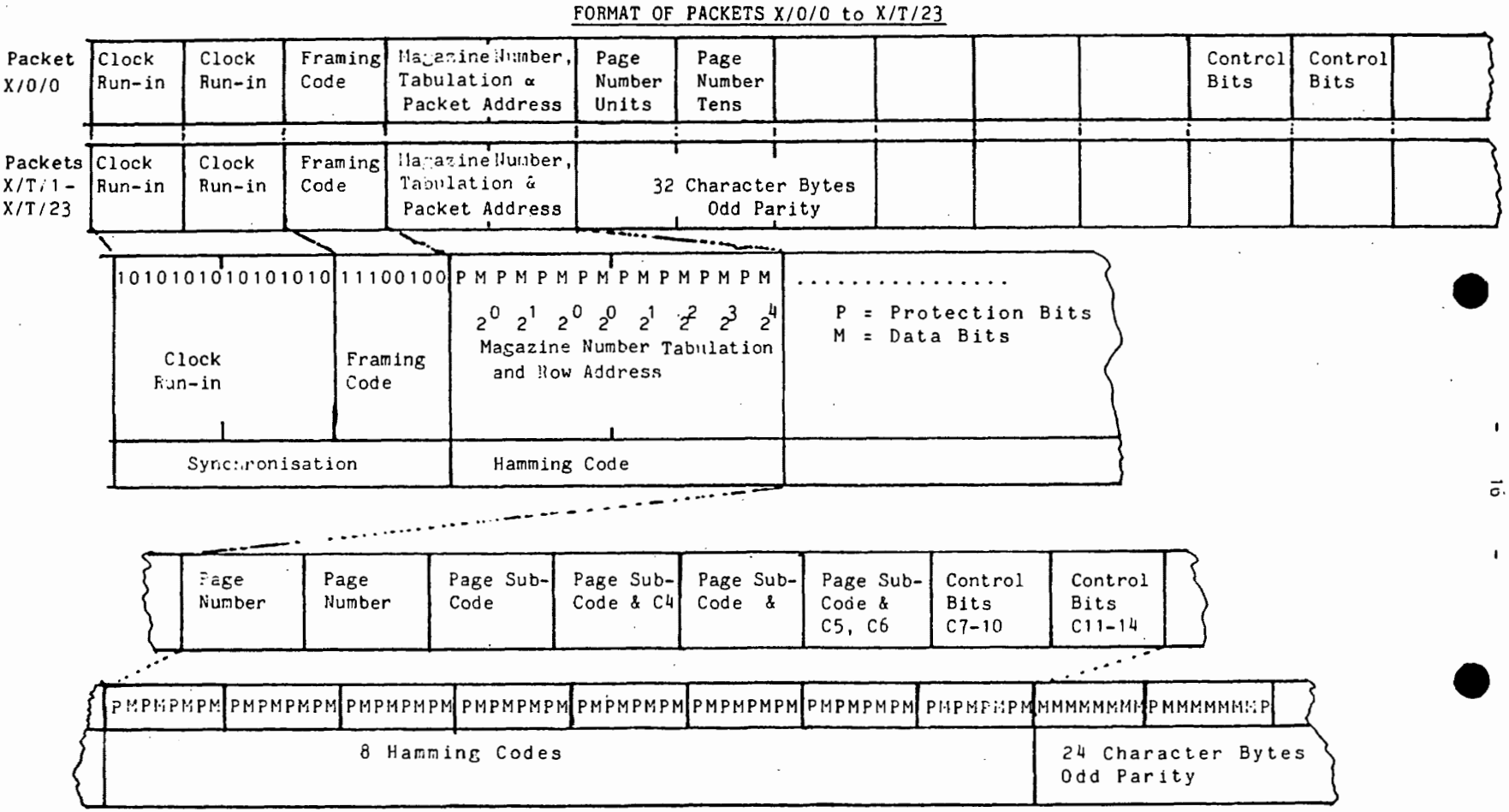

Figure 1

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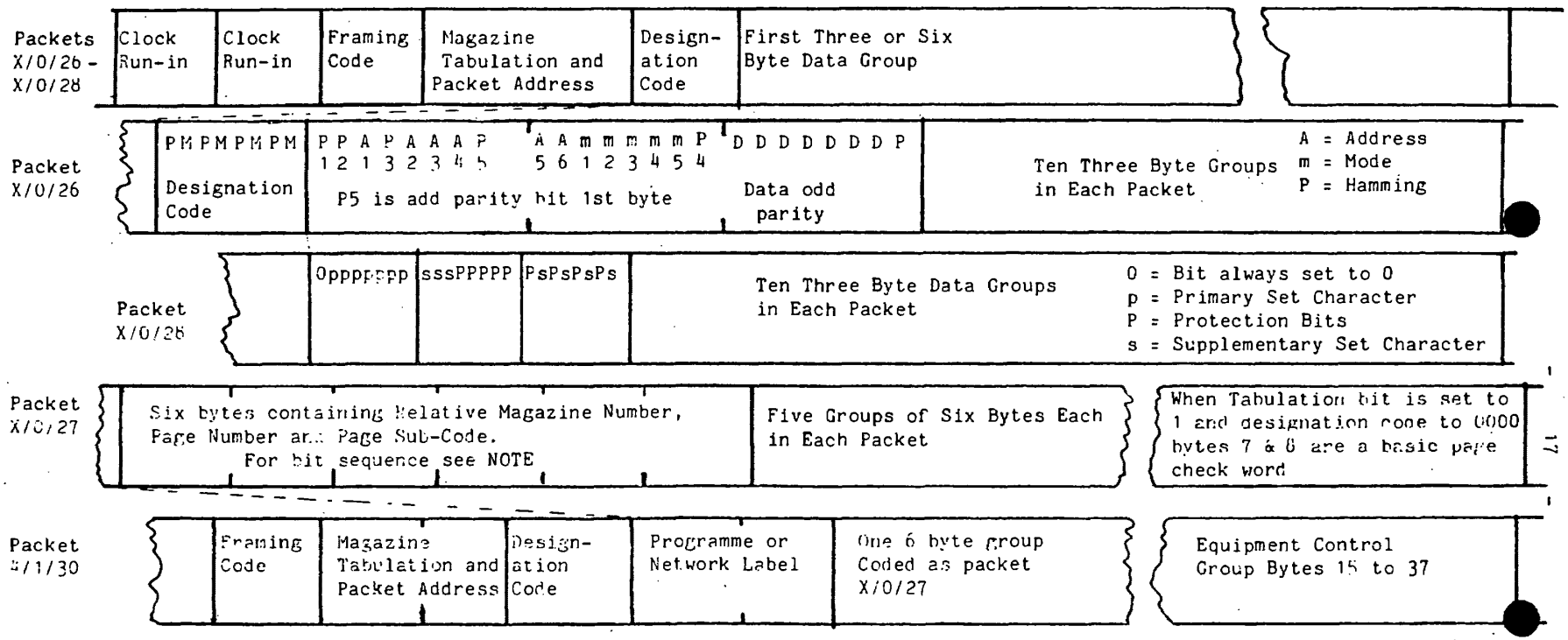
FORMAT OF PACKETS X/0/26 X/0/27 X/0/28 4/1/30



NOTE Page Number and Page Sub-Code have the same format as bytes 6 to 11 of the Page Header (see figure 1), packet X/0/0. The bits C4, C5 and C6 in this sequence are used to change the magazine number from that in bytes 4 and 5 of the packet X/0/27. Setting any of these bits to 1 complements the corresponding magazine number bit.

In all cases the LEAST SIGNIFICANT bit is transmitted first.

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	2	3	4	5	6	7
0	SP	0	(1)	P	(1)	p
1	!	1	A	Q	a	q
2	"	2	B	R	b	r
3	#	3	C	S	c	s
4	$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	'	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	i	y
10	*	:	J	Z	j	z
11	+	;	K	(1)	k	(1)
12	,	<	L	(1)	l	(1)
13	-	=	M	(1)	m	(1)
14	.	>	N	(1)	n	(1)
15	/	?	O	_	o	DEL

Figure 3

PRIMARY CHARACTER SET, COMMON CHARACTERS
(1) National Option variation, see Table on following page.
For 7 bit coding, bits 1-4 define row in ascending order and bits 5-7 define coloumns in ascending order.

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TABLE POSITION	ENGLISH U.S.USE
4/0	@
5/11	[
5/12	\
5/13	]
5/14	^
6/0	`
7/11	{
7/12	|
7/13	}
7/14	~

Figure 3 continued

PRIMARY CHARACTER SET, NATIONAL OPTION FOR U.S. USE.

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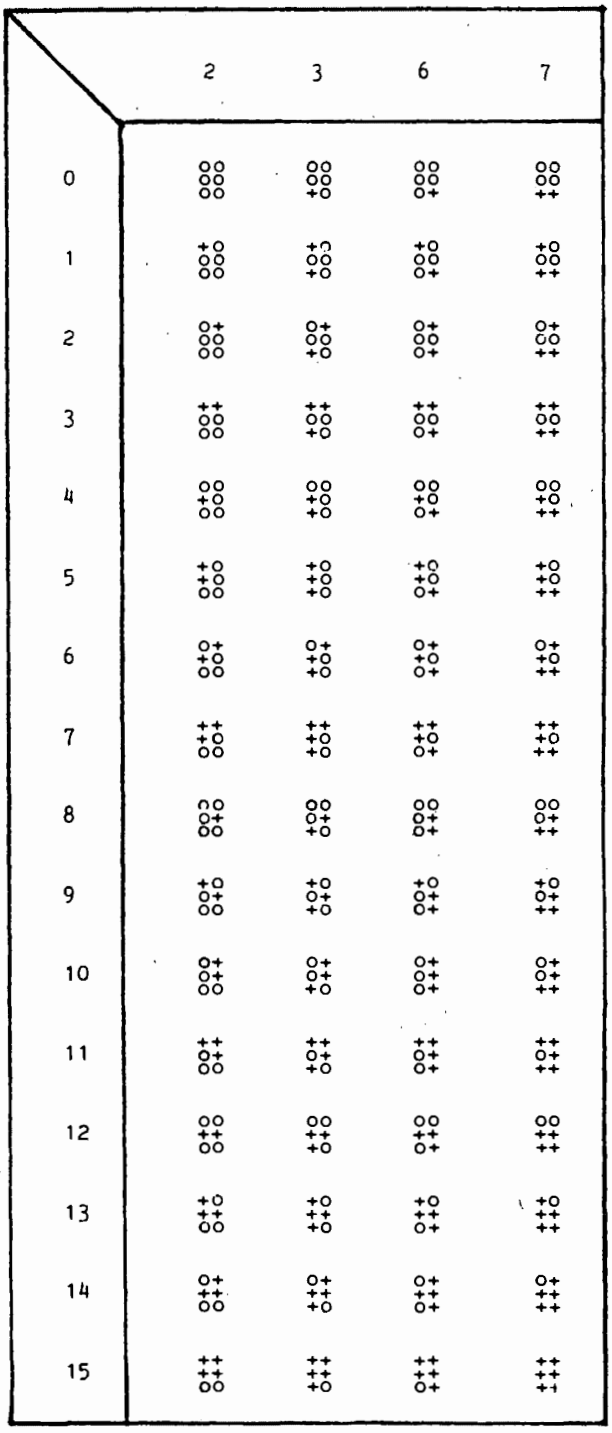

Figure 4

MOSAIC GRAPHIC CHARACTER SET

o= Background Colour
+= Foreground Colour

In the Mosaic Graphics Mode the Alphanumeric Characters from the Code Table of Figure 3 are included in Columns 4 & 5. Bit allocation is as figure 3.

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	0	1
0	(4)	(4)
1	Alpha Red	Mosaic Red
2	Alpha Green	Mosaic Green
3	Alpha Yellow	Mosaic Yellow
4	Alpha Blue	Mosaic Blue
5	Alpha Magenta	Mosaic Magenta
6	Alpha Cyan	Mosaic Cyan
7	Alpha White(1)	Mosaic White
8	Flash	Conceal(2)
9	Steady(1)(2)	Contig(1) Mosaic(2)
10	End(1) Box(2)	Separ Mosaic
11	Start Box(3)	(5)
12	Norm(1) Hght(2)	Blk (1) Bkgd(2)
13	Dble Hght	New Bkgd(2)
14	(4)	Hold Mosaic(2)
15	(4)	Release Mosaic(1)

TABLE POSITION	
0/	
0/	Reduced Intensity
1/0	Mosaic Black
1/9	Underline Stop & Contig Mo
1/10	Underline Start & Sep Mos

(1) Presumed at the start of each row.

(2) Action 'Set At', others are 'Set After'.

(3) Two consecutive codes are transmitted, action takes place between them.

(4) No action at level 1.

(5) No action at level 1 or 2.

Figure 5
CONTROL CHARACTER SET FOR SPACING ATTRIBUTES

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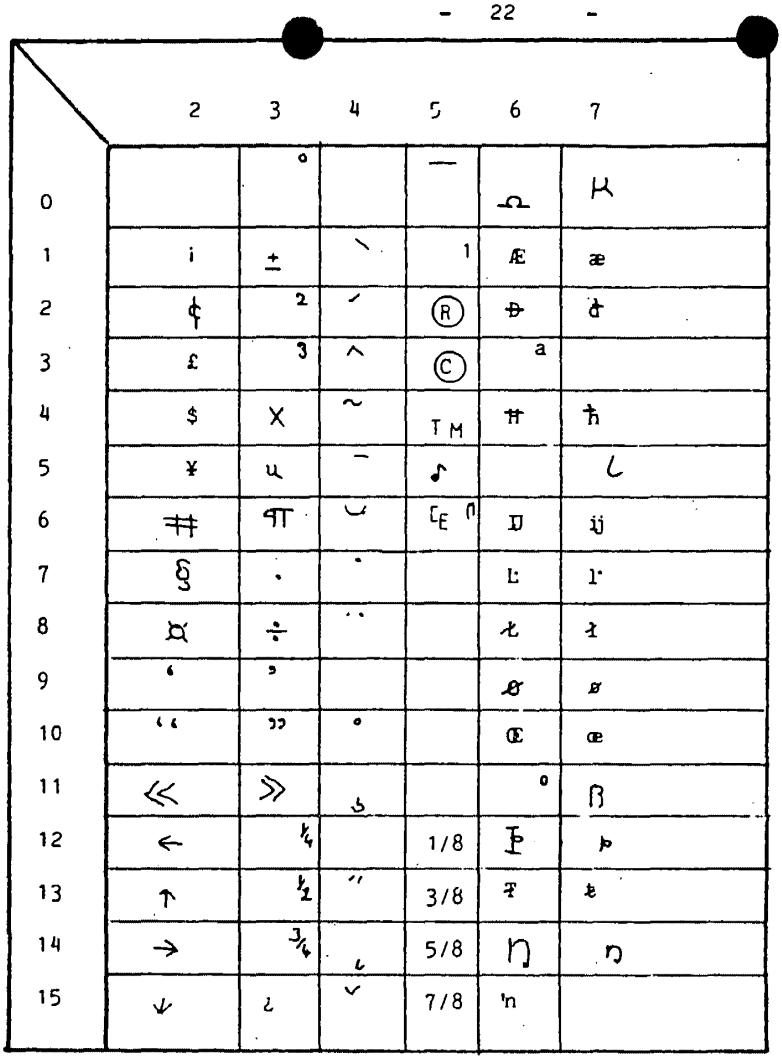

	2	3	4	5	6	7
0		°		—	Ω	Μ
1	¡	±	`	¹	Æ	æ
2	¢	²	´	®	Ð	ð
3	£	³	^	©	ª	
4	$	×	~	™	Ħ	ħ
5	¥	µ	¯	♪		ı
6	#	¶	˘	€	Ĳ	ĳ
7	§	·	¸		Ŀ	ŀ
8	¤	÷	¨		Ł	ł
9	'	'			Ø	ø
10	‘	’	°		Œ	œ
11	«	»	˛		º	ß
12	←	¼		1/8	Þ	þ
13	↑	½	˝	3/8	Ŧ	ŧ
14	→	¾	˛	5/8	Ŋ	ŋ
15	↓	¿	ˇ	7/8	ʼn	

Figure 6

SUPPLEMENTARY CHARACTER SET

Column 4 contains accents to be associated with characters from the Primary Character Set of figure 3.

Bit allocations are as figure 3

(1 This character represents the European Currency Unit and is proposed for inclusion at position 5/6.

The European Broadcasting Union has proposed that °/oo (per mil) be included. No position in the code table has been allocated.

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MODE BITS	FOREGROUND COLOUR GROUP	BACKGROUND COLOUR GROUP
01000	A	A
01001	A	B
01010	B	B
01011	B	A

DATA BITS b7 b6 b5 / b3 b2 b1	COLOUR REFERENCE NUMBER
0 0 0	1 A or B
0 0 1	2 A or B
0 1 0	3 A or B
0 1 1	4 A or B
1 0 0	5 A or B
1 0 1	6 A or B
1 1 0	7 A or B
1 1 1	8 A or B
	16 colours in all

The chromaticities of the colours are to be defined.
Bits b7, b6, b5 define the background colour
Bits b3, b2, b1 define the foreground colour
Bit b4 invokes flashing

Figure 7

INVOCATION OF PASTEL COLOURS IN FOREGROUND AND BACKGROUND

b5	b3	b2	b1	COLOUR REFERENCE NUMBER
0 = GROUP A	0	0	0	1 A or B
1 = GROUP B	0	0	1	2 A or B
	0	1	0	3 A or B
	0	1	1	4 A or B
	1	0	0	5 A or B
	1	0	1	6 A or B
	1	1	0	7 A or B
	1	1	1	8 A or B

The chromaticities of the colours are to be defined, but shall be the same as those of figure 7.
Bit b4 invokes reduced intensity.

Figure 8

INVOCATION OF PASTEL COLOURS FOR FULL SCREEN AND FULL ROW ATTRIBUTES

A-127

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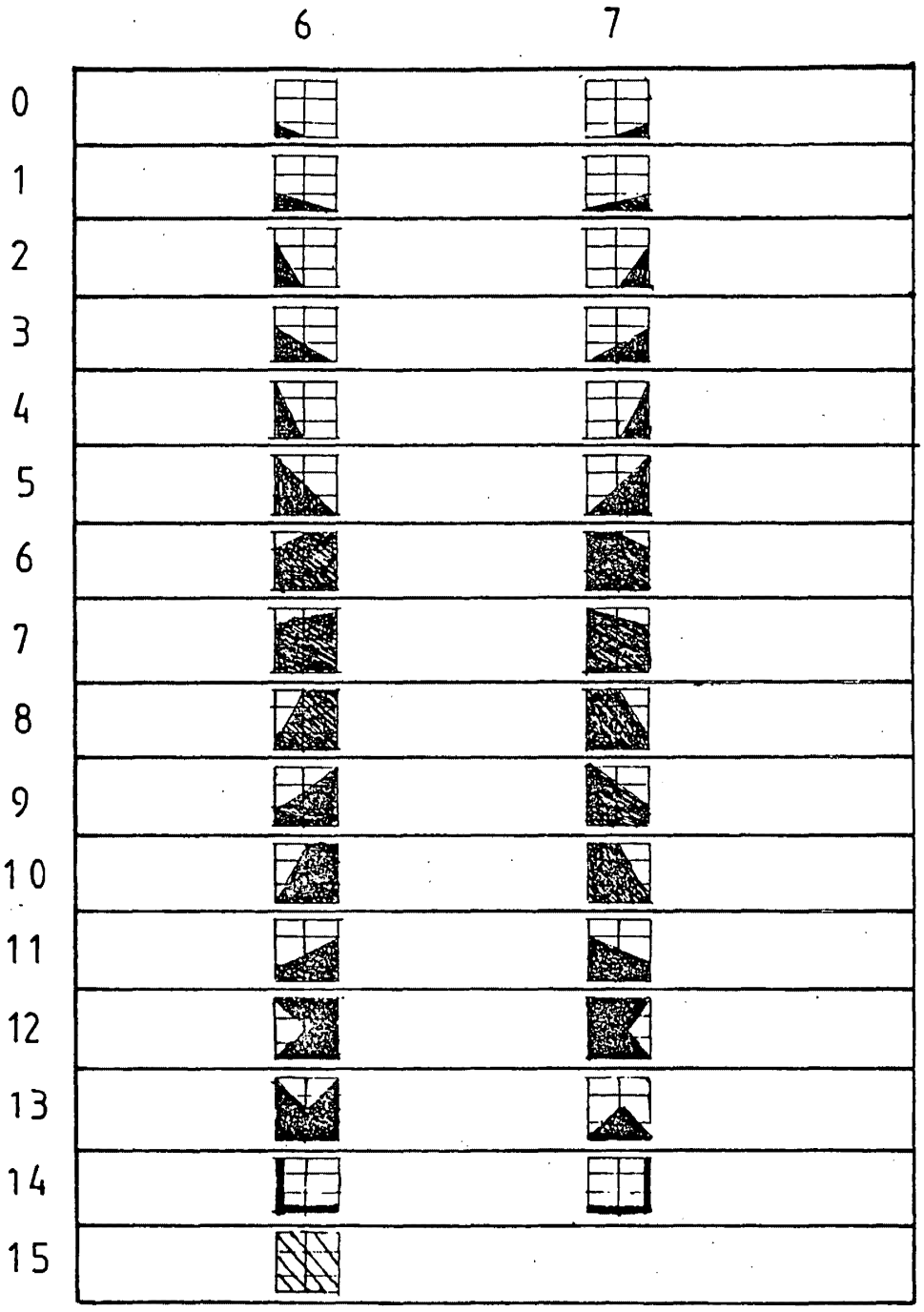

Figure 9 SMOOTHED MOSAIC GRAPHICS SET

Columns 2, 3, 4, & 5 are unallocated and the position 7/15 corresponds to the character DEL.
The character in position 6/15 invokes the illumination of alternate dots of a mosaic rectangle.
The horizontal component of the characters in positions 4/14 and 5/14 are invoked by the Separated Mosaic/Underline Alphanumeric Mode. A-128

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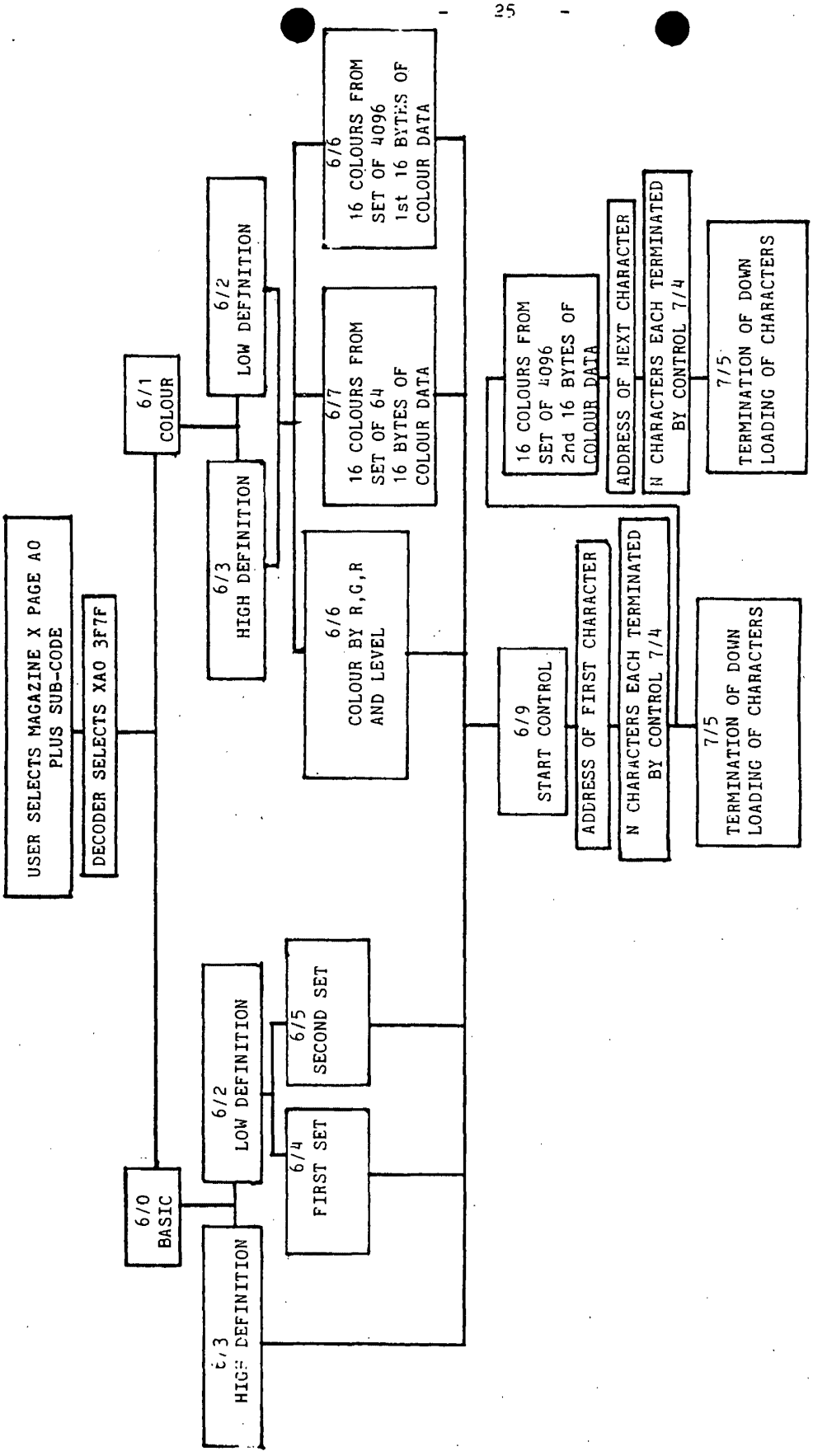

Figure 10
DOWN LOADING PROCEDURE FOR DRCS

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	0 & 1	2-5	6	7
0	(1)	(2)	BASIC MODE	COLOUR DELIMITER 1
1	(1)	(2)	COLOUR MODE	COLOUR DELIMITER 2
2	(1)	(2)	LOW DEFINITION	COLOUR DELIMITER 3
3	(1)	(2)	HIGH DEFINITION	COLOUR DELIMITER 4
4	(1)	(2)	FIRST SET	TERMINATE CHARACTER
5	(1)	(2)	SECOND SET	TERMINATE DOWN LOADING
6	(1)	(2)	COLOUR BY R,G,B & Lev.	(3)
7	(1)	(2)	16 COLOURS FROM 64	(3)
8	(1)	(2)	16 COLOURS FROM 4096	(4)
9	(1)	(2)	START CONTROL	(4)
10	(1)	(2)	(3)	(4)
11	(1)	(2)	(3)	(4)
12	(1)	(2)	(3)	(4)
13	(1)	(2)	(3)	(4)
14	(1)	(2)	(3)	(4)
15	(1)	(2)	(3)	(4)

(1) These columns reserved for standard control characters

(2) These columns contain character and colour codes for down loading

(3) These codes are reserved for future standardisation

(4) These codes are reserved for use in the Videotex service

For 7 bit coding, bits 1-4 define rows in ascending order and bits 5-7 define columns in ascending order.

Figure 11

CONTROL CODES FOR DRCS DOWN LOADING PROCEDURE

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Broadcast Service Data Packet Byte	Function	Bit Allocation
15 Local Time Zone	Undefined.	Bit 1
	Polarity, set to 1 when behind UTC (eg USA).	Bit 2
	Magnitude of offset from UTC in units of ½ hour.	Bits 3 - 7
	Undefined	Bit 8
16 Year Type and Day (1)	Set at 1 when this year or next year is leap year.	Bit 1
	Set at 1 when this year or last year is leap year.	Bit 2
	January 1st day of week.	Bits 3 - 5
	UTC day of week.	Bits 6 - 8
17 Week	Undefined.	Bits 1 and 2
	Week Number 1 to 53 according to ISO 2015.	Bits 3 - 8
18 Hours	Undefined.	Bits 1 and 2
	UTC Hours 10's.	Bits 3 and 4
	UTC Hours units.	Bits 5 - 8
19 Minutes	Undefined.	Bit 1
	UTC Minutes 10's.	Bits 2 - 4
	UTC Minutes units.	Bits 5 - 8
20 Seconds	Set to 1 during minute containing a leap second.	Bit 1
	UTC Seconds 10's.	Bits 2 - 4
	UTC Seconds units.	Bits 5 - 8

Figure 12 Time and Date Coding for Broadcast Data Packet

NOTE 1
Days of the week are numbered from Monday = 1 to Sunday = 7

A given packet time signal indicates the time at the occurence of the next such packet.

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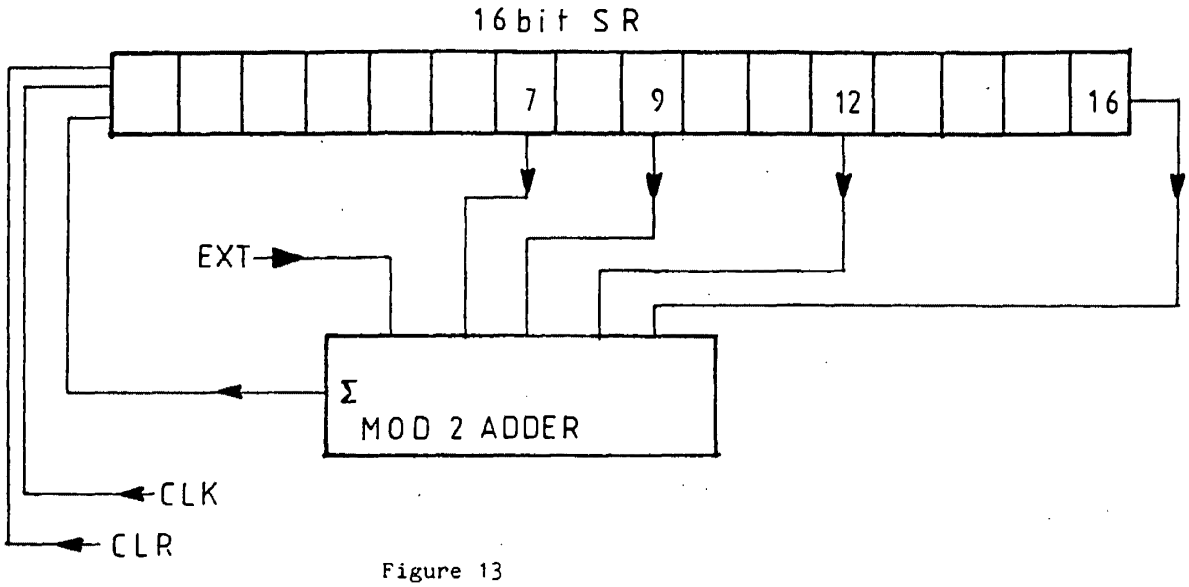

Figure 13

CHECK WORD GENERATION

In the example shown a 16 bit shift register has as input the modulo-2 sum of an external input and the contents of the 7th, 9th, 12th and 16th stages of the register. Initially the register is cleared to 'all zeros'. During a sequence of 8192 clock pulses the first 24 character bytes (192 bits) of the page header packet and the following character bytes of packets numbers with Y up to 25, in conventional transmission order form the external input. Any absent packets are considered to contain the character SPACE (2/0) throughout. At the end of this process the contents of the register are the Basic Page Check Word and it is transmitted along the register begining with the bit held in the 16th stage.

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DESIGNATION CODE	FUNCTION	DATA BITS 1 2 3 5 6 7 4				
ROW GROUP 00000	FULL SCREEN COLOUR	No Response	Red	Green	Blue	Reduced Intensity
ROW GROUP 00001	FULL SCREEN PASTEL COLOURS	16 Pastel Colours				Reduced Intensity
ROW GROUP 00100	NO RESPONSE					
ROW GROUP 00101	NO RESPONSE					
ROW GROUP 01000	FULL ROW COLOUR	No Response	Red	Green	Blue	Reduced Intensity
ROW GROUP 01001	FULL ROW PASTEL COLOURS	16 Pastel Colours				Reduced Intensity
ROW GROUP 01100	NO RESPONSE					
ROW GROUP 01101	NO RESPONSE					
ROW GROUP 10000	NO RESPONSE					
ROW GROUP 10001	NO RESPONSE					
ROW GROUP 10100	NO RESPONSE					
ROW GROUP 101[illegible]	NO RESPONSE					
ROW GROUP 11000	NO RESPONSE					
ROW GROUP 11001	NO RESPONSE					
ROW GROUP 11100	NO RESPONSE					
ROW GROUP 11101	NO RESPONSE					
ROW GROUP 11111	PACKETS 26 TERMINATOR	This code is followed by a 2 byte check digit on the data in packets "26" and packets "28".				
ROW GROUP XXX1X	DRCS MAGAZINE ASSOCIATED	The value of bit 4 in the designation code only applies when in the DRCS Mode, except for group 11111 above.				

Figure 14 PACKETS "26" DESIGNATION CODES ALLOCATION

ROW ADDRESS GROUPS

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DESIGNATION CODE	FUNCTION	DATA BITS 1 TO 7 INCLUSIVE
SPACE GROUP 00000	ALPHANUMERIC NORMAL	BITS 1, 2 & 3 respectively RED, GREEN & BLUE FOREGROUND BITS 5, 5 & 7 respectively RED, GREEN & BLUE BACKGROUND BIT 4 FLASHING
SPACE GROUP 00001	ALPHANUMERIC x 2 HEIGHT	
SPACE GROUP 00010	ALPHANUMERIC x 2 WIDTH	
SPACE GROUP 00011	ALPHANUMERIC x 2 SIZE	
SPACE GROUP 00100	1st DRCS LATCHING SHIFT	
SPACE GROUP 00101	2nd DRCS LATCHING SHIFT	
SPACE GROUP 00110	MOSAIC NORMAL	
SPACE GROUP 00111	MOSAIC SMOOTHED	
SPACE GROUP 01000 TO SPACE GROUP 01011	PASTEL COLOURS 4 CODES	BITS 1 to 7 inclusive with the 4 Designation Codes define 16 foreground and background colours
SPACE GROUP 01100	NON-SPACING ATTRIBUTES	BIT 1 SEPARATED MOSAIC/UNDERLINE ALPHNUMERICS, BIT 2 BOXING, BIT 3 CONCEAL, BIT 4 REDUCED INTENSITY FOREGROUND, BIT 5 REDUCED INTENSITY BACKGROUND, BIT 6 NO RESPONSE.
SPACE GROUP 01101	1st DRCS SINGLE SHIFT	BITS 1 TO 7 INCLUSIVE DEFINE THE DRCS CHARACTER
SPACE GROUP 01110	2nd DRCS SINGLE SHIFT	
SPACE GROUP 01111	SPECIAL CHARACTER FROM SUPPLEMENTARY SET	BITS 1 TO 7 INCLUSIVE DEFINE THE SUPPLEMENTARY SET CHARACTER
SPACE GROUP 10000 TO SPACE GROUP 11111	ACCENTS FROM SUPPLEMENTARY SET	BITS 1 TO 7 INCLUSIVE DEFINE THE ASSOCIATED PRIMARY SET CHARACTER

Figure 15 PACKETS "26" DESIGNATION CODES ALLOCATION

CHARACTER-SPACE ADDRESS GROUP

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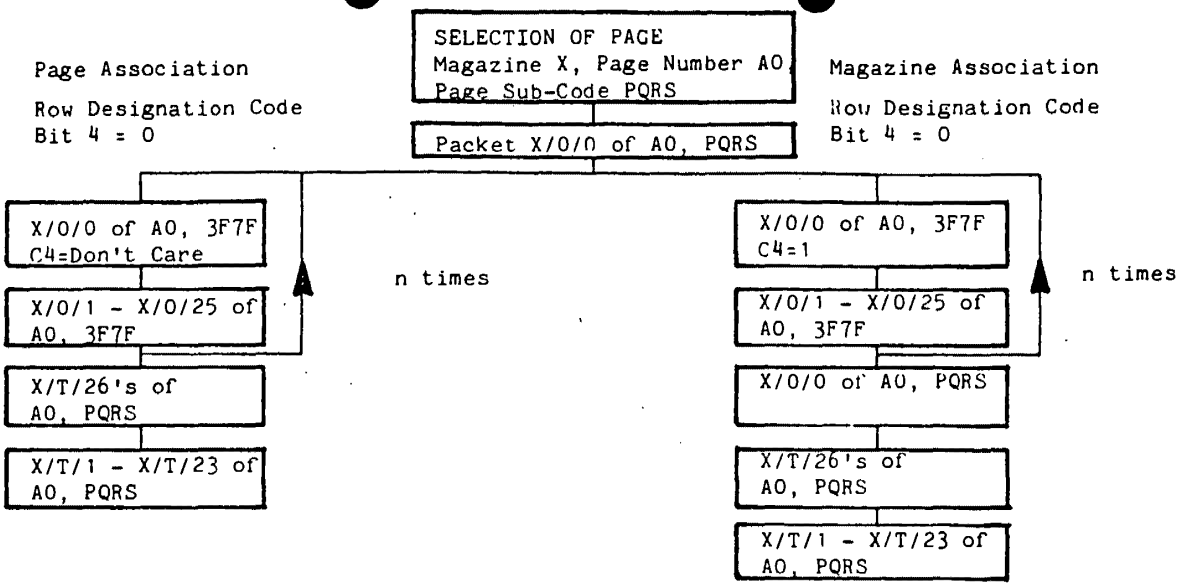

Figure 31 FULL PAGE DRCS DISPLAY PROCEDURE

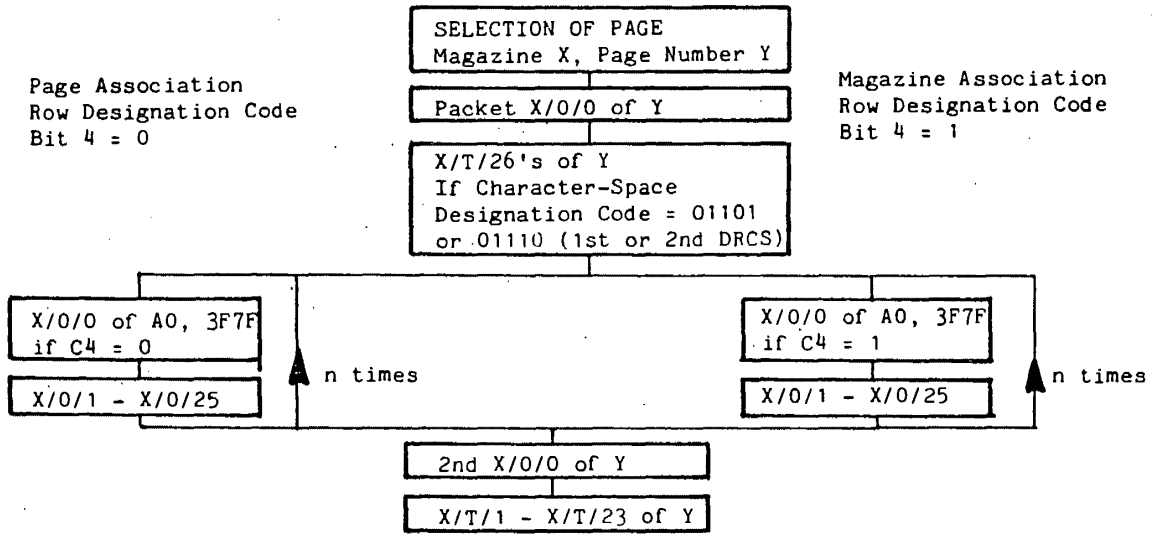

Figure 32 DRCS TO OVERWRITE BASIC PAGE

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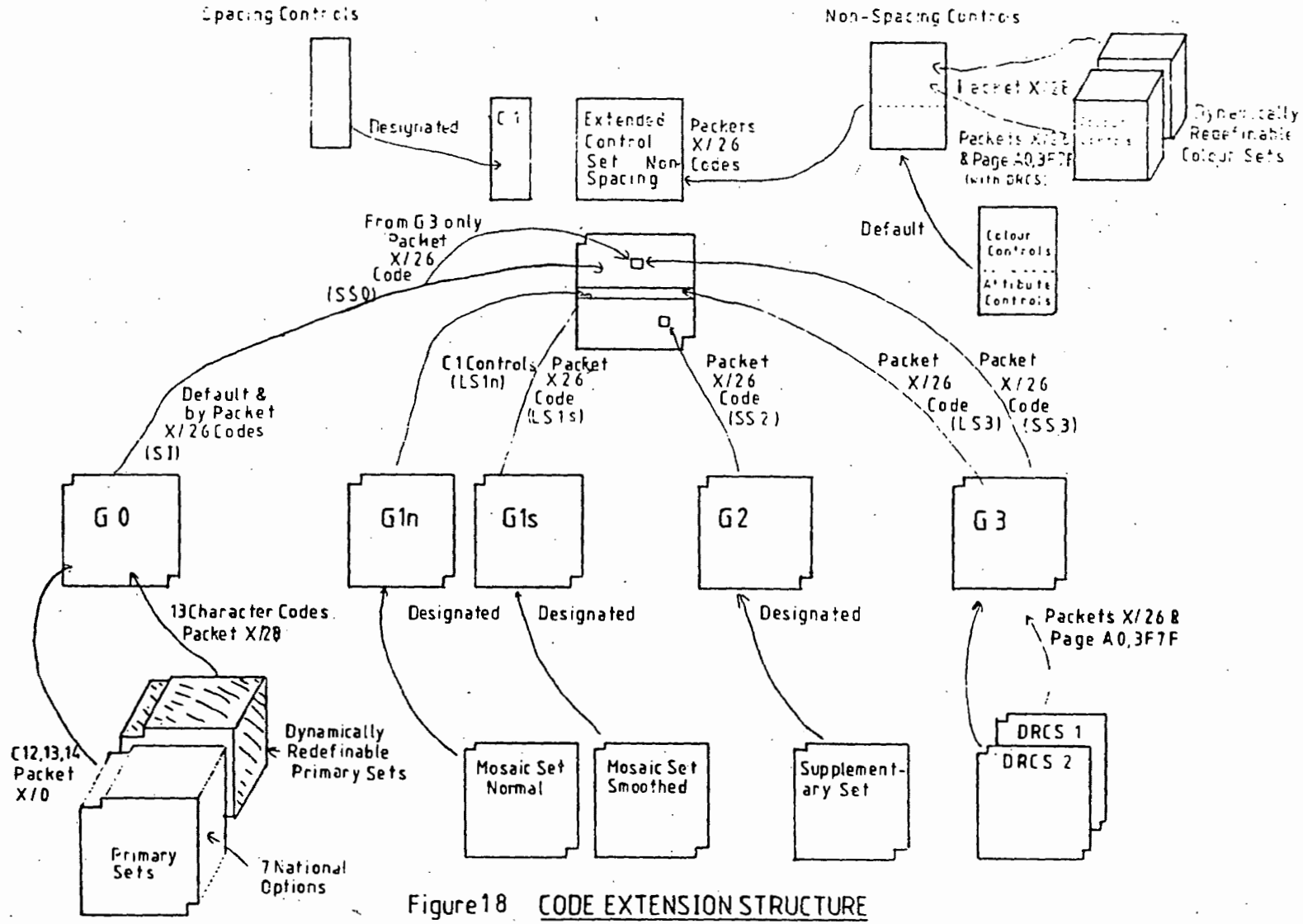

Figure 18 CODE EXTENSION STRUCTURE

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x

APPENDIX VIII: **["discrete signals" of "standardized" Teletext (exemplified)]**

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The publication contained within "Appendix VII" of this Office action, has been cited because it exemplifies "standardized" Teletext form/practice. The following is noted:

1) As was notoriously well known in the art, on the transmitter side of a Teletext system, a Teletext editor generated the respective Teletext images/frames that were to be transmitted. Each of these images/frames was then encoded into a "series of instructions" which "series of instructions", when transmitted and selectively received at the receiver side of the system, was used by the decoder/receiver to locally generate/re-generate the respective Teletext image/frame for display thereat.[53]

2) As was notoriously well known in the art, in order to transmit the series of instructions, each series of instructions was first organized into a Teletext "page" format, wherein each formatted "page" was comprised of a plurality of "discrete Teletext packet signals". In the illustrated system of APPENDIX VI, each Teletext "page" included the twenty-eight "discrete Teletext packet signals" having the structure shown on pages "A-17" and "A-18" of said Appendix VI, wherein:

A) The first packet of each "page", e.g. packet "X/0/0" on page "A-17", was a header packet which carried various types of control signals associated with the respective "page";

B) The next twenty-four packets of each "page", e.g. packets "X/T/1" to "X/T/23" on page "A-17", were information packets each included various sync and address codes along with a 32 character byte information carrying portion for carrying a 32 byte "discrete portion" of the respective "series of instructions" of the respective Teletext image/frame; and

C) At least one of the remaining packets of each "page", e.g. packet 4/1/30, was an extension packet which, in the illustrated system, was used to convey:

[53] Note "APPENDIX E" attached hereto

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1. Twenty-three bytes of an "equipment control group" for allowing the remote control/triggering/actuation of downstream network equipment(s);[54]
[SEE: the paragraph which begins "Optional features..." on the page labeled "A-1" of the publication; and "Equipment Control" in packet 4/1/30 on page labeled "A-18" of the publication]

2. A program/network label portions for allowing downstream equipment/receivers to identify the program/network being transmitted on the given channel currently being received
[SEE: figure 12 on the page labeled "A-28" of the publication; and "Program or Network Label" in packet 4/1/30 on page labeled "A-18" of the publication]

3. ETC,...

3) As was notoriously well known in the art, so formatted Teletext "pages" were the communicated through the television network:

A) By embedding each "discrete Teletext packet signal" of each page within a respective vacant line period of the TV programming being distributed by the TV network;

B) By communicating the television programming containing the embedded "discrete Teletext packet signals" through the network to a plurality of receiver stations;

C) By separating the embedded "discrete Teletext packet signals" from the communicated programming at each of the receiver stations;

D) By determining which ones of the separated "discrete Teletext packet signals" correspond to information packets of a desired Teletext page;

[54] While this document does not list the kind of downstream equipment that was to be controlled by this signal "group", the kind of equipment that could be controlled was in fact notoriously well known in the art [note "APPENDIX VIII" attached hereto].

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E) By decoding those information packets of the desired Teletext page so as to obtain/recover the respective 32 byte information portions therefrom;

F) By organizing the obtained 32 byte portion back into the original sequence of instructions;

G) By executing the organized sequence of instructions so as to "locally generate" the desired Teletext image for display at the receiver station.

More specifically, with respect to the exemplified system:

A) Each transmitted Teletext image was represented by a series of instructions up to 768 character bytes long;

B) Because each vacant line period of a TV signal did not have the capacity/bandwidth to carry all 768 character bytes at one time, each series of instructions had to be divided up into a plurality of discrete portions/segments which could be carried within a respective plurality of vacant line periods. Specifically, each of the 768 bytes of each series was divided up into 24 portions/segments/rows which were 32 character bytes long (i.e. 24 x 32 = 768), and each of these so produced 24 portions/segments/rows was then inserted into a vacant line of a TV signal via a respective one of the 24 information bearing packets "X/T/1" to "X/T/23" shown on page "A-17" of Appendix VI;

C) On the receiver side of the system: said information bearing packets "X/T/1" to "X/T/23" of a desired/selected Teletext page were then identified and decoded by a Teletext decoder so as to recover the respective discrete 32 byte portions/segments therefrom; these obtained 32 byte portions/segments were then organized/re-organized back into the original 768 byte "series of instructions" and stored in a display memory; and finally, this stored series of instructions was outputted from the display memory in order to instruct a character generator to "locally generate" the desired Teletext image that was to be locally displayed;

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4) As was notoriously well known in the art, "series of instructions" representing non-displayable types of data/information, e.g. such as computer software (e.g. "Telesoftware"), were also be formatted into standardized Teletext "pages" and communicated through a TV network in a like manner; e.g. "extended Teletext" [55]. As exemplified by the system of Appendix A, it was explicitly recognized that the information packets "X/T/1" to "X/T/23" of given pages could be used to carry 32 byte "portions"/segments software (e.g. "Telesoftware") in place of the 32 byte "portions"/segments of data which represented displayable Teletext images/frames [SEE: the paragraph which begins "Page addresses have also been reserved for the transmission of Telesoftware..." on page "A-1" of the publication; and section "19." on page "A-16" of the publication; etc,...]. And unless the Telesoftware program comprised less than the 30-40 bytes that could be carried within one vacant TV line, e.g. it being rather doubtful that any computer program would/could be so short, the Telesoftware program was necessarily broken up into a plurality of discrete 30-40 bytes portions to be carried within a respective plurality of the discrete information packets too (e.g. in the same way as the character/graphic instructions were broken up and carried by said information packets as addressed above) [56]. Again, for applicant to suggest that Telesoftware/Teletext was not transmitted as a plurality of discrete signal portion/packets that had to be "organized"/re-organized back into a complete instruction sets on the receiver side, is simply founded in an unrealistically low level of skill in the art. Such arguments represent nothing less than a huge misunderstanding and/or misrepresentation of Teletext "prior art".

---

[55] Note the discussion in the first 12 lines under the heading "ORACLE and TV Transmission System" which begins in the last 6 lines of the second column on page 561 of the Hedger publication entitled "TELESOFTWARE-VALUE ADDED TELETEXT"].

[56] Indeed, Telesoftware programs were often so long that they had to be divided up into discrete 30-40 byte portions filling not just one page but a plurality of "linked" Teletext pages [note the first 6 lines on page 562 of the Hedger publication entitled "TELESOFTWARE-VALUE ADDED TELETEXT"]

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X	G	US-2,723,307	11-1955	Baracket et al.	----------
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X	V	CHIDDIX, Jim "Automated Videotape Delay Of Satellite Transmissions", Satellite Communication Magazine, 5/1978
X	W	SCHLOSS et al., Robert, "Controlling Cable TV Head Ends and Generating Messages by Means of a Micro Computer", Omeg Communications, Inc., 1980
X	X	"EIA SYSTEMS ANALYSIS CHART", Revised Chart of August 20, 1981

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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– X = Copy of reference provided in 08/470,571

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*	B	US-4,253,157	02-1981	Kirschner et al.	707/104.1
*	C	US-2,757,226	07-1956	ZWORYKIN VLADIMIR K	380/205
*	D	US-4,290,062	09-1981	Marti et al.	345/469
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

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	V	Hedger et al., "Telesoftware-Value Added Teletext", IEEE Transactions On Consumer Electronics, Vol CE-26, August 1980
*	W	Hedger, John, "Broadcast Telesoftware: Experience with ORACLE", 1980
	X	Gunn, Hartford, "A Public Broadcaster's View of Teletext in the United States", Conference held 3/1980

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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	F	US-			
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	J	US-			
	K	US-			
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	M	US-			

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X	O	55-28691	02-1980	Japan	Oono et al.	----------
X	P	51-126712	11-1976	Japan	Kubota et al.	----------
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X	V	Green et al. "ORACLE on Independent Television", IBA Technical Review, 9/1976
X	W	Sechet, Claude, "Antiope Teletext Captioning", IEEE Transactions on Consumer Electronics, Vol CE-26, August 1980
X	X	Guillermin, J "Devolopment & Applications of the Antiope-Didon Technology", 1980

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	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
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	O					
	P					
	Q					
	R					
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X	V	Ciciora, Walter, "The Role of the Television Receiver Manufacturer in the United States", 1980
X	W	Crowther et al. "Teletext Receiver LSI Data Acquisition and Control", 1/1976
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	A	US-			
	B	US-			
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	N					
	O					
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X	U	Chambers "CEEFAX- The Generation, Distribution and Transmission of a National Teletext Service", January 1976
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X	X	Tunmann et al. "Microcomputer for CATV Systems" 4/1978

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Google Exhibit 1002, Page 3544 of 6435

Notice of References Cited	Application/Control No. 08/487,526	Applicant(s)/Patent Under Reexamination HARVEY ET AL.	
	Examiner DAVID E HARVEY	Art Unit 2614	Page 6 of 6

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
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	D	US-			
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	F	US-			
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	I	US-			
	J	US-			
	K	US-			
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	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
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Google Exhibit 1002, Page 3545 of 6435

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/487,526
Docket No.	:	5634.355
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	David E. Harvey

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Commissioner for Patents
Washington, D.C. 20231

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, applicants respectfully request consideration of the references listed on the attached citation form.

Applicants respectfully request that the Examiner consider the references cited and that the Examiner indicate that the references have been considered in this application by returning a copy of the citation form with the Examiner's initials in the left column per M.P.E.P. § 609.

Applicants submit concurrently identical information disclosure statements in applicants' related actively pending applications. Pursuant to an agreement reached between the Office and applicants (see first Office Action issued in this application), applicants are submitting to the Office a single copy of the references cited in the concurrently filed information disclosure statements.

References cited herein have been asserted against applicants' related issued patents in reexamination requests filed with the Office by Thompson, Inc. In accordance with 37 C.F.R. § 1.97, applicants do not admit that each and every reference cited herein is considered to be material to patentability or to be prior art. This Information Disclosure Statement satisfies the requirements of 37 C.F.R. § 1.97(c)(1). No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application and no item of information contained in this information disclosure statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this information disclosure statement. This statement is made to the best of my knowledge after making reasonable inquiry.

Date: May 5, 2003

HUNTON & WILLIAMS
1900 K Street, N.W.
Washington, DC 20006

Respectfully submitted,

Thomas J. Scott, Jr.

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Google Exhibit 1002, Page 3547 of 6435

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT CITATION FORM	Attorney Docket No. 05634.355	Serial No. 08/487,526
	Applicant(s) John C. Harvey and James W. Cuddihy	
	Filing Date June 7, 1995	Group Art Unit 2614

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EXAMINER INITIAL	PATENT NUMBER	PATENT DATE	NAME	CLASS/ SUBCLASS	FILING DATE*
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* If Pertinent

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EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).	

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Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/487,526
Docket No.	:	5634.355
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	David E. HARVEY

Commissioner for Patents
Washington, D.C. 20231

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, applicants respectfully request consideration of the references listed on the attached citation form. This Supplemental Information Disclosure Statement replaces the Supplemental Information Disclosure Statement filed June 18, 2002, in the above captioned application. The June 2002 Supplemental IDS was filed under 37 C.F.R. 1.98(c)(1). However, it has come to my attention that some references designated by the June 2002 Supplemental IDS may have been known to individuals associated with the filing or prosecution of this application as

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defined in 37 C.F.R. § 1.56(c) more than three months prior to June 18, 2002. Accordingly, I hereby withdraw any statement to the contrary made in the June 2002 Supplemental IDS and submit the instant Supplemental IDS under 37 C.F.R. § 1.98(c)(2). A check for $180.00 accompanies this submission. Please charge any additional fees or credit any overpayment to Deposit Account Number 06-1075.

The attached citation form includes each and every reference designated in the citation form submitted with the June 2002 Supplemental IDS. The attached citation form also includes additional references that have been asserted against applicants' related issued patents and additional references that have been cited by the Office in applicants' copending applications.

Applicants respectfully request that the Examiner consider the references cited and that the Examiner indicate that the references have been considered in this application by returning a copy of the citation form with the Examiner's initials in the left column per M.P.E.P. § 609.

Pursuant to an agreement reached between the Office and applicants (see first Office Action issued in this application), applicants are to file copies of prior art only once. As the Office was provided a copy of the references cited in the June 2002 Supplemental IDS, one copy of the additional references are submitted herewith.

"Eine Neue Generation Mikroprozessorgesteuerter Datensender Und -Empfänger Für Alle Varianten Der Datenübertragung In Der V-Lücke Des Fernsehisgnals", by A. Ebner and K. Schuster, Rundfunktechnische Mitteilungen, Vol. 26, No. 5, pp. 215-220, is a German language article related to data transmitters and receivers that can be adapted by microcomputer control to given variants of data transmission. "Codifica Numerica Del

Google Exhibit 1002, Page 3550 of 6435

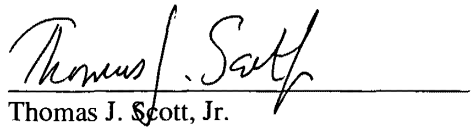
Seghale Sonoro - Interfaccia Per Gli Apparati Professionali" by M. Barbero and M. Occhiena, Elettronica e Telecomunicazi oni, Vol. 34, No. 5, pp. 209- 216, October, 1985, is an Italian language article related to interface specifications for the interconnection of digital audio equipment within a broadcasting complex. Both of these articles include English summaries.

Japanese patent document 62-12285 is related to a teletext receiving device. Japanese patent document 61-236284 is related to a character signal receiver. Both of these Japanese documents were cited by the Office to applicants in copending Application Serial Number 08/479,374 (Atty. Dkt. No. 5634.148) without corresponding English translations.

As noted above, the references cited herein have been asserted against applicants' related issued patents or cited in applicants' copending applications. In accordance with 37 C.F.R. § 1.97, applicants do not admit that each and every reference cited herein is considered to be material to patentability or to be prior art.

Date: February 7, 2003
HUNTON & WILLIAMS
1900 K Street, N.W.
Washington, DC 20006

Respectfully submitted,



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Google Exhibit 1002, Page 3551 of 6435

INFORMATION DISCLOSURE STATEMENT BY APPLICANT CITATION FORM	Attorney Docket No. 5634.355	Serial No. 08/487,526
	Applicant(s) John C. Harvey and James W. Cuddihy	
	Filing Date June 7, 1995	Group Art Unit 2614

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	WUNSCHPROGRAMM AUS DER FERNSEHZEITSCHRIFT, Funkschau 12/1981, pgs. 6070 ("RECORDING PROGRAMS FROM THE PROGRAM GUIDE," Funkschau 12/1982, pgs. 60-70)

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).	

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

January 29, 2003

In re Patent Application of:
John C. Harvey and
James W. Cuddihy

Attorney Docket No.: **5634.0355**

Application No.: 08/487,526

Group Art Unit: 2614

Filed: June 7, 1995

Examiner: HARVEY, David E.

Title: SIGNAL PROCESSING APPARATUS AND METHODS

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Commissioner for Patents
Washington, D.C. 20231

PETITION FOR EXTENSION OF TIME

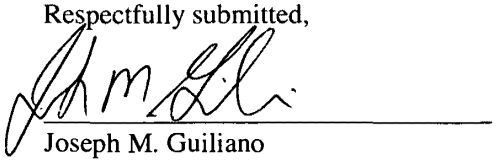
Sir:

Applicants respectfully request a three month extension of time under 37 C.F.R. § 1.136(a) for responding to the Office Action mailed July 30, 2002, in the above-identified patent application, thereby extending the period for response to January 30, 2003.

Submitted herewith is a check for **$1230**, which includes the amount of $930 to cover the fee for the extension under 37 C.F.R. § 1.17(a)(2). Any deficiency in or overpayment of this fee should be charged or credited to Deposit Account No. 06-1075.

Date: January 29, 2003

Respectfully submitted,



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2614 B

January 29, 2003

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Washington, DC 20231

Transmitted herewith is a Petition for Extension of Time Under 37 C.F.R. § 1.136 and an Amendment Under 37 C.F.R. § 1.111 with Exhibits 1-4, including a Declaration of Dr. George T. Ligler Under 37 C.F.R. § 1.132 and the translation of Japanese Unexamined Patent Application Nos. 56-116385 and 62-60378.

CLAIMS AS AMENDED						
	Claims Remaining After Amendment	Highest Number Previously Paid For	Extra	Rate		Amount
				Large Entity	Small Entity	
Number of Claims in Excess of 20	76	64	12	$ 18.00	$ 9.00	$ 216.00
Independent Claims in Excess of 3	12	11	1	$ 84.00	$ 42.00	$ 84.00
First Presentation of Multiple Dependent Claims				$ 280.00	$ 140.00	$ 0.00
Extension Fee: a) One Month				$ 110.00	$ 55.00	$ 0.00
b) Two Months				$ 410.00	$ 205.00	$ 0.00
c) Three Months				$ 930.00	$ 465.00	$ 930.00
d) Four Months				$1450.00	$ 725.00	$ 0.00
e) Five Months				$1970.00	$ 985.00	$ 0.00
Other:						$ 0.00
TOTAL FEE DUE						$ 1230.00

☐ No additional fee is required.
☒ A check in the amount of $ **1230.00** is attached.
☐ Charge $ _____ to Deposit Account No. 06-1075.
☒ Charge any additional fees or credit any overpayment to Deposit Account No. 06-1075.

Small Entity Status Claim:
☐ is hereby requested.
☐ is of record in this application.

Respectfully submitted,

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JAN 29 2003
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45 I AM 4/23/01 (NE)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. HARVEY and James W. Cuddihy
Serial No.	:	08/487,526
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	HARVEY, David E.

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Commissioner for Patents
Washington, D.C. 20231

AMENDMENT AND REQUEST FOR RECONSIDERATION

This amendment and reply is responsive to the Office action mailed July 30, 2002 (Office action). Applicants respectfully request that the following amendments be entered into the above-captioned application:

I. AMENDMENT TO THE CLAIMS

Applicants request that the amended claims below be considered. For the convenience of the Examiner, all pending claims are presented below.

Claims 2, 3, 6-10, 12, 18, 20-29, 33, 35, 37, 38, and 40-42 are amended. A version of each of these claims marked to show the amendments thereto is included in Exhibit 1.

Please cancel claims 43-49 and 51-60 without prejudice.

Please add new claims 67-104.

Claims 4, 5, 11, 13-17, 30, 34, 36, and 39 remain unchanged.

Claims 2-18, 20-30, 33-42, and 67-104 are presently pending.

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2. (Seven Times Amended) A method of outputting a multimedia presentation at a receiver station adapted to receive a plurality of signals, said method comprising the steps of:

receiving said plurality of signals, at least a portion of said plurality of signals being received from a source external to said receiver station, said plurality of signals including at least two media;

storing information from a first of said at least two media;

determining content of a second medium received in said plurality of signals;

coordinating, at said receiver station under computer control, a presentation using said information with a presentation of said second medium based on said step of determining; and

outputting said multimedia presentation to a user at said receiver station based on said step of coordinating such that said presentation using said information has a predetermined relationship to said content of said second medium.

3. (Five Times Amended) The method of claim 2, wherein said information from a first of said at least two media is stored in said computer.

4. (Unchanged) The method of claim 3, wherein said computer performs said step of determining.

5. (Unchanged) The method of claim 2, wherein each of said plurality of signals is received from an external transmitter station.

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6. (Five Times Amended) The method of claim 5, wherein said external transmitter station is an intermediate transmitter station.

7. (Five Times Amended) The method of claim 2, wherein said content of said second medium explains a significance of said presentation using said information.

8. (Three Times Amended) The method of claim 7, wherein said content of said second medium explains said significance in audio.

9. (Five Times Amended) The method of claim 8, wherein said determining step causes a tuner at said receiver station to communicate said audio to an audio output device.

10. (Five Times Amended) The method of claim 9, wherein said second medium comprises television, including video and said audio.

11. (Unchanged) The method of claim 2, wherein said plurality of signals includes a digital data channel.

12. (Four Times Amended) The method of claim 11, wherein said receiver station receives said first of said at least two media in said digital data channel.

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13. (Unchanged) The method of claim 2, wherein said step of determining comprises processing an identifier.

14. (Unchanged) The method of claim 13, wherein said identifier identifies said content of said second medium.

15. (Unchanged) The method of claim 14, wherein said content of said second medium includes audio.

16. (Unchanged) The method of claim 14, wherein said content of said second medium includes video.

17. (Unchanged) The method of claim 2, further comprising the step of storing said second medium at said receiver station.

18. (Five Times Amended) The method of claim 17, wherein said second medium comprises television including video and audio and wherein said first medium is received in a digital data channel of a multichannel cable transmission including said second medium.

20. (Five Times Amended) A method of outputting a multimedia presentation at a receiver station adapted to process a plurality of signals, said plurality of

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signals including first and second media of said multimedia presentation, said method comprising the steps of:

receiving a first of said plurality of signals from a source external to said receiver station, said first of said plurality of signals including an identifier;

processing said first of said plurality of signals to provide said first medium of said multimedia presentation and said identifier;

identifying content of said first medium based on said identifier;

controlling said receiver station, based on said step of identifying, to enable a coordinated presentation, through execution of processor instructions, of said first medium and information based on said second medium, wherein, said information based on said second medium is generated based on identifying content of said second medium; and

outputting said multimedia presentation based on said step of controlling.

21. (Three Times Amended) The method of claim 20, wherein said first medium comprises a television program including video and audio.

22. (Three Times Amended) The method of claim 20, further including the step of receiving said second medium in a digital data channel.

23. (Three Times Amended) The method of claim 20, wherein said first medium comprises a television program including video and audio and wherein said

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plurality of signals is included in a multichannel cable transmission and includes a digital data channel including said second medium.

24. (Three Times Amended) A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:

receiving a first medium including a television program;

comparing first information stored at said receiver station to second information corresponding to content of said television program to determine whether to present a second medium based on third information received from a source different from that of said first medium;

coordinating presentation, based on said determination, of said television program of said multimedia presentation with presentation of said second medium of said multimedia presentation; and

outputting said television program of said multimedia presentation at a first output device at said receiver station, and said second medium at a second output device at said receiver station.

25. (Three Times Amended) The method of claim 24, wherein said second output device comprises a printer.

26. (Three Times Amended) A method of outputting a multimedia presentation at a receiver station adapted to receive a plurality of media, said method comprising the steps of:

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receiving, at said receiver station, at least two of said plurality of media from different sources, at least one of said different sources being a remote transmitter station;

processing said at least two of said plurality of media in order to output said multimedia presentation;

identifying content of a first and content of a second of said at least two of said plurality of media based on said step of processing; and

outputting said multimedia presentation based on said step of identifying, said multimedia presentation comprising a presentation of information included in said first of said at least two of said plurality of media and information based on said second of said at least two of said plurality of media.

27. (Three Times Amended) The method of claim 26, said method further comprising the step of storing said information based on said second of said at least two of said plurality of media at said receiver station.

28. (Three Times Amended) The method of claim 27, further comprising the step of storing said first of said at least two of said plurality of media at said receiver station.

29. (Three Times Amended) A method of outputting a multimedia presentation at a receiver station having an output device, said method comprising the steps of:

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processing a control signal at said receiver station that causes execution of processor instructions to create a series of discrete video images;

identifying content of a first medium, said first medium to be output in said multimedia presentation;

causing a video image of said series of discrete video images to be output subsequent to said step of identifying; and

combining said outputted video image into said multimedia presentation at said output device based on said step of causing to be output, said multimedia presentation comprising said first medium and said outputted video image of said series of discrete video images.

30. (Unchanged) The method of claim 29, wherein said step of identifying comprises processing an identifier, said method further comprising the step of receiving said identifier from a remote transmitter station.

33. (Three Times Amended) A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:

receiving a first signal from a remote transmitter station;

outputting said first signal at said receiver station;

receiving a user response based on said step of outputting;

comparing said user response to information corresponding to content of said first signal at said receiver station;

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tuning said receiver station to receive a second signal based on said step of comparing; and

outputting information included in said second signal;

wherein said multimedia presentation comprises information included in said first signal and said information included in said second signal.

34. (Unchanged) The method of claim 33, further comprising the step of transmitting information from said receiver station based on said step of receiving said user response.

35. (Three Times Amended) The method of claim 33, wherein said information included in said second signal is output to a printer.

36. (Unchanged) The method of claim 34, wherein said transmitted information is transmitted by telephone.

37. (Three Times Amended) A multimedia presentation apparatus comprising:

at least one receiver for receiving a plurality of signals from a source external to said multimedia presentation apparatus, said plurality of signals including at least two media;

a microcomputer that stores information from a first of said at least two media and coordinates a presentation using said information with a presentation of a received second

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medium of said at least two media based on determining content of said second medium; and

at least one output device operatively connected to said at least one receiver and said microcomputer for outputting a multimedia presentation to a user at said multimedia presentation apparatus based on said coordinating such that said presentation using said information has a predetermined relationship to said content of said second medium.

38. (Three Times Amended) The apparatus of claim 37, wherein said microcomputer determines said content of said second medium by processing an identifier transmitted from said source external to said multimedia presentation apparatus, said multimedia presentation apparatus further comprising a detector operatively connected to said microcomputer for detecting said identifier.

39. (Unchanged) The apparatus of claim 38, wherein said multimedia presentation apparatus receives a multichannel signal, said multimedia presentation apparatus further comprising a converter operatively connected to said at least one receiver for communicating a portion of said multichannel signal.

40. (Three Times Amended) The apparatus of claim 39, further comprising a first controlled device operatively connected to said microcomputer for causing said converter to select said second medium.

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41. (Three Times Amended) The apparatus of claim 40, further comprising a storage device operatively connected to said converter for storing said second medium.

42. (Three Times Amended) The apparatus of claim 41 further comprising a second controlled device operatively connected to said microcomputer for causing said storage device to store said second medium.

67. (New) The apparatus of claim 37, wherein said second medium comprises a television program including video and audio.

68. (New) The apparatus of claim 37, wherein said microcomputer receives said first medium in a digital data channel.

69. (New) The apparatus of claim 37, wherein said second medium comprises a television program including video and audio and wherein said microcomputer receives said first medium in a digital data channel of a multichannel cable transmission including said second medium.

70. (New) A multimedia presentation apparatus comprising:

a receiver for receiving a first of a plurality of signals from an external source, said first of said plurality of signals including an identifier, said plurality of signals including a first medium and a second medium of a multimedia presentation;

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a microcomputer for identifying content of said first medium based on said identifier, and for executing processor instructions to enable a coordinated presentation of said first medium and information based on said second medium, wherein, said information based on said second medium is generated based on identifying content of said second medium; and

an output device for outputting said coordinated presentation of said first medium and information from said second medium.

71. (New) The apparatus of claim 70, wherein said first medium comprises a television program including video and audio.

72. (New) The apparatus of claim 70, wherein said microcomputer receives said second medium in a digital data channel.

73. (New) The apparatus of claim 70, wherein said first medium comprises a television program including video and audio and wherein said plurality of signals is included in a multichannel cable transmission and includes a digital data channel including said second medium.

74. (New) A multimedia presentation apparatus comprising:

a receiver for receiving a first medium including a television program;

a microcomputer for storing first information, comparing said first information to second information corresponding to content of said television program to determine

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whether to present a second medium based on third information received from a different source than that of said first medium, and coordinating presentation, based on said determination, of said television program with presentation of said second medium;

a first output device for outputting said television program; and

a second output device for outputting said second medium.

75. (New) The apparatus of claim 74, wherein said second output device comprises a printer.

76. (New) A multimedia presentation apparatus comprising:

a first receiver for receiving a first medium;

a second receiver for receiving a second medium;

a microcomputer for identifying content of said first medium and identifying content of said second medium and controlling, based on said identifying content, a multimedia presentation comprising information included in said first medium and information based on said second medium; and

an output device for outputting said multimedia presentation.

77. (New) The apparatus of claim 76, wherein said microcomputer controls storage of said information based on said second medium.

78. (New) The apparatus of claim 77, wherein said microcomputer controls storage of said first medium.

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79. (New) The apparatus of claim 76, wherein said first medium comprises a television program including video and audio.

80. (New) The apparatus of claim 76, wherein said second receiver receives said second medium in a digital data channel.

81. (New) The apparatus of claim 76, wherein said first medium comprises a television program including video and audio and wherein a multichannel cable transmission includes said first medium and a digital data channel including said second medium.

82. (New) The method of claim 26, wherein said first of said at least two of said plurality of media comprises a television program including video and audio.

83. (New) The method of claim 26, wherein said second of said at least two of said plurality of media is received in a digital data channel.

84. (New) The method of claim 26, wherein said first of said at least two of said plurality of media comprises a television program including video and audio and wherein said plurality of media is included in a multichannel cable transmission including a digital data channel including said second of said at least two of said plurality of media.

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85. (New) A multimedia presentation apparatus comprising:

a microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal, identifying content of a first medium, and then causing a video image of said series of discrete video images to be output;

an output device at which said video image is combined into said multimedia presentation, said multimedia presentation comprising said first medium and said video image.

86. (New) The apparatus of claim 85, wherein said microcomputer processes an identifier from a remote transmitter station to identify content of said first medium.

87. (New) The apparatus of claim 85, wherein said first medium comprises a television program including video and audio.

88. (New) The apparatus of claim 85, wherein said microcomputer processes data received in a second medium to create said series of discrete video images.

89. (New) The apparatus of claim 88, wherein said second medium is received in a digital data channel.

90. (New) The apparatus of claim 88, wherein said first medium comprises a television program including video and audio and wherein a multichannel cable

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transmission includes said first medium and a digital data channel including said second medium.

91. (New) The method of claim 29, wherein said first medium comprises a television program including video and audio.

92. (New) The method claim 29, wherein said execution of processor instructions to create a series of discrete video images includes processing data received in a second medium.

93. (New) The method of claim 92, wherein said second medium is received in a digital data channel.

94. (New) The method of claim 92, wherein said first medium comprises a television program including video and audio and wherein a multichannel cable transmission includes said first medium and a digital data channel including said second medium.

95. (New) A multimedia presentation apparatus comprising:

a first receiver for receiving a first signal from a remote transmitter station;

a second receiver for receiving a second signal;

a microcomputer for receiving a user response based on outputting said first signal, comparing said user response to information corresponding to content of said first

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signal, and based on said comparison tuning said second receiver to receive said second signal;

wherein said apparatus presents a multimedia presentation comprising information included in said first signal output at a first output device and information included in said second signal output at a second output device.

96. (New) The apparatus of claim 95, further comprising a transmitter for transmitting information from said microcomputer based on said user response.

97. (New) The apparatus of claim 96, wherein said transmitter transmits by telephone connection.

98. (New) The apparatus of claim 95, wherein said second output device comprises a printer.

99. (New) The apparatus of claim 95, wherein said first signal includes a television program including video and audio.

100. (New) The apparatus of claim 99, wherein said first signal and said second signal are received in a multichannel cable transmission.

101. (New) The method of claim 33, wherein said first signal includes a television program including video and audio.

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102. (New) The method of claim 101, wherein said first signal and said second signal are received in a multichannel cable transmission.

103. (New) The method of claim 24, wherein said television program and said third information are included in first and second channels, respectively, of a multichannel cable transmission.

104. (New) The apparatus of claim 74, wherein said television program and said third information are included in first and second channels, respectively, of a multichannel cable transmission.

II. REMARKS

A. Overview Of Claims As Amended

The claims of the present application are directed generally to methods and apparatus for generating and outputting multimedia presentations. Independent claims 2, 20, 24, 26, 29, and 33 are directed to methods for outputting a multimedia presentation at a receiver station. Independent claims 37, 70, 74, 76, 85 and 95 are directed to apparatus that are generally analogous to the methods claimed in independent claims 2, 20, 24, 26, 29, and 33.

In claim 2, a multimedia presentation is output through the coordination of a presentation, under computer control, using information from a first medium with a presentation of a second medium, whereby the presentation using information in the first medium has a predetermined relationship to the content of the second medium.

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In claim 20, a multimedia presentation is output through the coordination of a presentation of a first medium and information based on a second medium, whereby the content of the first and second media are identified.

In claim 24, a multimedia presentation of a television program and a second medium is output, whereby information stored at a receiver station is compared to content of a television program to determine whether to present the second medium based on information received from a source different from that of the television program.

In claim 26, a multimedia presentation of information included in one medium and information based on another medium is output, where content of each of the two media is identified and where one of the media is received from a remote transmitter station and the other medium is received from a different source.

In claim 29, a multimedia presentation of a first medium and a video image is output through processing a control signal at a receiver station which causes execution of processor instructions to create a series of discrete video images, whereby a video image of the series of discrete images is caused to be output after the identification of the first medium.

In claim 33, a multimedia presentation of information included in a first signal received from a remote transmitter station and information included in a second signal is output, whereby a user response is compared to information corresponding to content of the first signal in order to tune the receiver station to receive the second signal.

Claim 37 is an apparatus claim, which generally corresponds to method claim 2. Similarly, new claims 70, 74, 76, 85 and 95 are all new independent apparatus claims that generally correspond to method claims 20, 24, 26, 29, and 33, respectively. The remaining new claims (claims 67-69, 71-73, 75, 77-84, 86-94, 96-104) are all dependent claims. Applicants' proposed amendments to each independent claim and claims depending therefrom are discussed in detail below.

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1. Independent Claim 2 And Claims Depending Therefrom

In claim 2, a plurality of signals, which include at least two media, are received at a receiver station and a multimedia presentation is output. Claim 2 has been amended to clarify that information from the first of the two media is stored. Further, the recitation whereby the first medium was stored to provide a first portion of the multimedia presentation has been deleted to conform to this amendment. The coordinating step of claim 2 has been similarly amended to specify that the coordinated presentation uses the information from the first of the two media, rather than the first portion of the multimedia presentation. The outputting step was similarly amended to reflect this change. Finally, claim 2 has also been amended to replace the viewer or listener with a user at the receiver station.

Dependent claims 3 and 7 have been amended to conform to the amendments made to claim 2 from which they depend.

Dependent claim 6 is amended to delete unnecessary recitations.

Dependent claim 8 is amended to delete unnecessary recitations.

Dependent claim 9 is amended to delete unnecessary recitations and further specify that the determining step causes a tuner at the receiver station to communicate the audio to an audio output device.

Dependent claim 10 is amended to delete unnecessary recitations.

Dependent claim 12 has been amended to conform to the amendments made to claim 2 from which it depends.

Dependent claim 18 has been amended to specify that the second medium is comprised of television including video and audio and that the first medium is received in a digital data channel of a multichannel cable transmission that includes the second medium.

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2. Independent Claim 20 And Claims Depending Therefrom

Claim 20 as amended sets forth outputting a multimedia presentation based on the step of controlling a receiver station to enable a coordinated presentation, through execution of processor instructions, of a first medium and information based on a second medium. Claim 20 is further amended to set forth that the information based on the second medium is generated based on identifying content of the second medium.

Dependent claim 21 is amended to delete unnecessary recitations and further specify that the first medium is comprised of a television program including video and audio.

Dependent claim 22 is amended to delete unnecessary recitations and to include the additional step of receiving the second medium in a digital data channel.

Dependent claim 23 is amended to delete unnecessary recitations and to further specify that the first medium comprises a television program including video and audio and that the plurality of signals is included in a multichannel cable transmission and includes a digital data channel including the second medium.

3. Independent Claim 24 And Claims Depending Therefrom

Claim 24 as amended sets forth outputting a multimedia presentation based on the steps of receiving a first medium, which includes a television program, and comparing first information stored at a receiver station to second information corresponding to content of the television program to determine whether to present a second medium based on third information received from a source different from that of the first medium. Amended claim 24 further specifies that based on the step of determining, a presentation of the television program with the second medium is coordinated and the television program of the multimedia presentation is output a first output device and the second medium is output at a second output device.

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Dependent claim 25 is amended to delete unnecessary recitations and to further specify that the second output device comprises a printer.

4. Independent Claim 26 And Claims Depending Therefrom

Claim 26 as amended sets forth outputting a multimedia presentation by receiving at a receiver station a plurality of media from a remote transmitter station and another source, and processing the plurality of media in order to output the multimedia presentation. Amended claim 26 further sets forth the steps of identifying content of a first medium and content of a second medium based on the step of processing, and outputting the multimedia presentation comprised of a presentation of information included in the first medium and information based on a second medium, based on the identifying step.

Dependent claim 28 is amended to delete unnecessary recitations and to further include the step of storing information based on the second medium at the receiver station.

5. Independent Claim 29 And Claims Depending Therefrom

Claim 29 as amended sets forth outputting a multimedia presentation comprised of a first medium and a video image of a series of discrete video images by processing a control signal at a receiver station that causes execution of processor instructions to create a series of discrete video images. Amended claim 29 further sets forth the steps of identifying content of a first medium to be output in the multimedia presentation, causing one of the discrete video images to be output, and combining the outputted video image into the multimedia presentation based on the step of causing the video image to be output.

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6. Independent Claim 33 And Claims Depending Therefrom

Claim 33 as amended sets forth outputting a multimedia presentation comprised of information included in a first signal and information included in a second signal by receiving a first signal from a remote transmitter station and outputting the first signal at a receiver station. Based on outputting the first signal, a user response is received and information corresponding to content of the first signal is compared at the receiver station to the user response. Based on the comparing step, the receiver station is tuned to receive a second signal and information included in the second signal is output as part of the multimedia presentation.

Dependent claim 35 is amended to delete unnecessary recitations and to further specify that the information included in the second signal is output to a printer.

7. Independent Claim 37 And Claims Depending Therefrom

Amended claim 37 defines a multimedia presentation apparatus comprising a receiver for receiving a plurality of signals, including at least two media, from a source external to the multimedia presentation apparatus. The multimedia presentation apparatus of claim 37 further comprises a microcomputer that stores information from a first medium and coordinates a presentation using the information with a presentation of a received second medium based on determining the content of the second medium. The multimedia presentation apparatus further comprises an output device that is operatively connected to the receiver and microcomputer for outputting the multimedia presentation to a user based on coordinating such that the presentation of information has a predetermined relationship to the content of the second medium.

Dependent claims 38-42 have been amended to conform to the amendments made to claim 37 from which they depend.

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None of the proposed amendments add new matter, and all of the proposed amendments are supported by both the instant (*i.e.*, 1987) specification and applicants' 1981 specification in accordance with 35 U.S.C. § 112, first paragraph. *See, e.g.*, Declaration of Dr. Ligler attached as Exhibit 2.

B. Response To The General Denial Of Applicants' Priority Claim

1. Introduction

Despite applicants' detailed discussion in their May 6, 2002 Response to Interview Summary ("Response to Interview Summary ") of the legal test for complying with 35 U.S.C. § 120 and the proper application of that test to the instant application, the Examiner and applicants continue to disagree regarding those issues. Some areas of disagreement stem from different views on what the law requires or what standard the law imposes, while other disagreements appear to stem from misunderstandings regarding the respective positions on the issues. In the following sections applicants respond to the issues raised by the Examiner generally in the order they appear in Section I of the Office action.

2. Restatement Of Applicants' Position On The Legal Requirements Of § 120

The test to determine whether a claim is entitled to the benefit of an earlier filing date under 35 U.S.C. § 120 is straightforward. The proper legal standard for satisfying § 120, as articulated on many occasions by the Federal Circuit, is that the claimed invention must be described in the parent application[1] in a manner that satisfies the terms of § 112:

> A claim in a CIP [continuation-in-part] application is entitled to the filling date of the parent application when the

[1] While the case law addressing priority focuses on demonstrating written description support in the parent application, applicants acknowledge that the claims must also be supported under § 112 by the instant specification.

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> claimed invention is described in the parent specification in a manner that satisfies, inter alia, the description requirement of 35 U.S.C. § 112.

Therma-Tru Corp. v. Peachtree Doors Inc., 44 F.3d 988, 992, 33 USPQ2d 1274, 1276 (Fed. Cir. 1995). The crucial issue for determining if a claim is entitled to the filing date of an earlier application is whether the earlier application shows that the inventor was in possession of the claimed invention as of the date sought under § 120.

> To qualify for an earlier filing date, section 120 requires, *inter alia*, that the earlier-filed U.S. patent application contain a disclosure which complies with 35 U.S.C. § 112, ¶1 (1994) for each claim in the newly filed application. Thus, this benefit only applies to claims that recite subject matter *adequately* described in an earlier application, and does not extend to claims with subject matter outside the description in the earlier application. In other words, a claim complies with 35 U.S.C. § 120 and acquires an earlier filing date *if, and only if, it could have been added to an earlier application without introducing new matter.*

Studiengesellschaft Kohle, m.b.H. v. Shell Oil Co., 112 F.3d 1561, 1564, 42 USPQ2d 1674, 1677 (Fed. Cir. 1997) (citations omitted; emphasis added); *see also Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571-72, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997) (the earlier application "must describe [the claimed] invention, and do so in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought"); *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562, 19 USPQ2d 1111, 1115-16 (Fed. Cir. 1991) ("'satisfaction of the description requirement insures that subject matter presented in the form of a claim subsequent to the filing date of the application was sufficiently disclosed at the time of filing so that the prima facie date of invention can fairly be held to be the filing date of the application.'") (citation omitted).

Numerous cases further hold that compliance with § 120 allows for a parent and later filed CIP application to describe and support the claimed invention in *different* ways. Differences between what is disclosed and claimed in the two applications are

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simply not relevant to satisfying § 120, as long as what is being *claimed* in the CIP application is supported under § 112 by the parent application and the later application. There is ample support for applicants' position:

> In order to determine whether a prior application meets the "written description" requirement with respect to later-filed claims, the prior application need not describe the claimed subject matter in exactly the same terms as used in the claims; it must simply indicate to persons skilled in the art that as of the earlier date the applicant had invented what is now claimed.

See Eiselstein v. Frank, 52 F.3d 1035, 1038, 34 USPQ2d 1467, 1470 (Fed. Cir. 1995);

> [T]he earlier and later applications need not use identical words, if the earlier application shows the subject matter that is claimed in the later application, with adequate direction as to how to obtain it. . . .
>
> . . . .
>
> . . . [A]n invention may be described in many different ways and still be the same invention. In *In re Kirchner*, 305 F.2d 897, 904, 134 USPQ 324, 330 (C.C.P.A. 1962), the court held that compliance with section 120 "does not require that the invention be described in the same way, or comply with section 112 in the same way, in both applications."

Kennecott Corp. v. Kyocera Int'l, Inc., 835 F.2d 1419, 1422, 5 USPQ2d 1194, 1197 (Fed. Cir. 1987);

> [I]t is evident that the salutary provision in the statute which confers the benefit of an earlier filing date is not dependant on that which may be gleaned from the claims or specification to be the subject matter regarded by the applicants as their invention in the earlier application. It turns on whether the *disclosure* requirements of the first paragraph of § 112 are met with respect to the subject matter *now* claimed.

Martin v. Johnson, 454 F.2d 746, 750, 172 USPQ2d 391, 394 (C.C.P.A. 1972);

> [In *In re Brower*, 433 F.2d 813 (C.C.P.A. 1970)] we pointed out that 35 U.S.C. § 120 specifies only that the

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> previously filed application must disclose the invention "in the manner provided by the first paragraph of section 112," and made it clear that there is no requirement under section 120 that the invention claimed in the subsequent application must correspond to what was regarded as the invention in the earlier application.

In re Ahlbrecht, 435 F.2d 908, 909, 168 USPQ 293, 294-95 (C.C.P.A. 1971).

In *In re Kirchner*, 305 F.2d 897, 134 USPQ 324 (C.C.P.A. 1962), the Court addressed a factual scenario similar to the instant application. In an opinion by Judge Rich, the Court concluded that the applicant was entitled to the priority date of the parent application even though the two disclosures were different. At the end of its decision the Court described the requirements of § 120:

> Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 and be the same invention as that disclosed in the later application. It does not require that the invention be described in the same way, or comply with section 112 in the same way, in both applications.

Kirchner, 305 F.2d at 904, 134 USPQ at 330. While the *Kirchner* case focused on the different utilities being disclosed in the two applications for the same claimed invention, the *Kennecott* decision makes it clear that the claimed invention itself can be described differently in the earlier and later filed applications and still obtain the benefit of the earlier filing date. *See Kennecott*, 835 F.2d at 1422, 5 USPQ2d at 1197.

The case of *Martin v. Johnson*, 454 F.2d 746, 172 USPQ 391, addressed a situation in which an applicant had disclosed an invention in different ways in the parent and later filed applications. In that case, Johnson sought the benefit of the priority date of his parent application in an interference proceeding. The Court held that Johnson was entitled to the priority date of the parent application despite Martin's contention that the invention disclosed in Johnson's parent application was different from the invention disclosed and claimed in his CIP application. *Id.* at 748, 172 USPQ at 393. In response

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to Martin's assertion that "'the only thing carried forward through the line of cases asserted by Johnson is the mere name of the compound of the count,'" the Court concluded:

> From the standpoint of the description requirement, the omission of the structural formula from the Johnson application is of no consequence.
>
> The fact remains that the compound described is the same, and the description need not be in *ipsis verbis* to be sufficient. The fact that the effective amount of the compound may be different in the several [Johnson] applications is irrelevant. The [claim at issue in the interference] count is not directed to the method of using the herbicide where the effective amount might be a factor; it is drawn instead to the compound itself, and effective quantity is not an element.

Johnson, 454 F.2d at 751, 172 USPQ at 395 (internal citations omitted). As the *Johnson* decision makes clear, in performing the §§ 112 and 120 analysis, the focus must be on precisely what is being *claimed* in the CIP application. Differences between the disclosures in the parent and CIP applications are not relevant to the priority analysis as long as what is being relied on by the applicant provides sufficient support for the claim. Johnson's applications, for example, disclosed different mixtures of herbicidal compounds in which the effective amounts of the total herbicide and the effective amounts of the claimed compound varied with respect to the parent and CIP applications. Because the claim at issue in the interference count was directed to only the compound and because the claimed compound was disclosed in each of the different mixtures disclosed in the parent and CIP applications, the claim was entitled to priority under § 120.

Similar reasoning was applied in an analogous case addressing the issue of whether a claimed invention was reduced to practice. In *In re Dardick*, 496 F.2d 1234, 181 USPQ 834 (C.C.P.A. 1974) the issue was whether the applicant could swear behind a reference by showing that the claimed invention was reduced to practice prior to the date

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of the reference. To demonstrate reduction to practice, the applicant submitted evidence under Rule 131 that a particular embodiment of the claimed invention was reduced to practice and tested. The Examiner, however, objected to the evidence of reduction to practice on the grounds that the reduction of practice was "'of an embodiment of an invention not disclosed in the application.'" *Id.* at 1239-40, 181 USPQ at 838. However, the Court held that there is "no legal requirement that the embodiment of an invention relied upon as a reduction of practice must be identical to that described in the application." *Id.* In other words, undisclosed embodiments could be used to demonstrate reduction to practice as long as they show reduction to practice of what was being claimed—differences that did not relate to what was being claimed are irrelevant.

Because the case law clearly allows for an applicant to describe an invention differently in earlier and later filed applications and still obtain the benefit of the earlier filing date, it is not surprising that applicants have found no cases addressing compliance with § 120 which suggest that the two disclosures identified to support a claim should or need be compared for similarity. Instead, as discussed, the case law establishes that such a comparison is unnecessary and indeed improper. *See, e.g., Johnson*, 454 F.2d at 750, 172 USPQ2d at 394.

The test for satisfying § 112 in the priority context as set forth above does not deviate from the written description test under § 112 applied when § 120 is not invoked. In *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 64 USPQ2d 1945 (Fed. Cir. 2002), a case that did not involve § 120, the Court cited the proposition from *Eiselstein* that an application need not use the same terms as found in the claims to comply with § 112. The issue in *All Dental* was whether or not the claim term "original undefined mass" was supported under § 112 in the specification. The Court concluded that the term was supported by the specification even though the specification did not use that term. "[T]he failure of the specification to specifically mention a limitation that later appears in the claims is not a fatal one when one skilled in the art would recognize upon

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reading the specification that the new language reflects what the specification shows had been invented." *All Dental*, 309 F.3d at 779, 64 USPQ2d at 1948; *see also In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983) ("'The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language.'"); *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1570, 39 USPQ2d 1895, 1904 (Fed. Cir. 1996) ("the disclosure need only reasonably convey to persons skilled in the art that the inventor had possession of the subject matter in question"). As applicants have consistently argued to the Examiner, upon reading the 1981 and 1987 specifications, one skilled in the art would recognize that the inventions claimed in the instant application reflect what was shown to have been invented in 1981. This is now confirmed by the accompanying Declaration of Dr. Ligler.

Section 120 imposes no requirement that a parent and a later filed application use identical or even similar disclosures to describe the claimed invention. The case law is clear that the relevant requirement under § 120 is that the subject matter actually being claimed in the later-filed application comply with the requirements of § 112, first paragraph. Accordingly, the starting point for any analysis under § 120 is what is currently being claimed, and the Examiner's repetitious arguments focusing on comparing applicants' two disclosures at an abstract level, without reference to specific claims or claim limitations, is unnecessary and improper.

3. Response To The Various Unsupported "Theories" Relied On By The Examiner For Denying Priority Under § 120

The Examiner has steadfastly refused to accept applicants' 1981 priority claim with respect to all pending claims in this application. But in denying the 1981 priority

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claim, the Examiner has failed to conduct the proper claim-by-claim analysis required under the controlling authorities set forth above. Instead, the Examiner has denied the priority claim based on a general comparison of the specifications to one another. This is plainly improper. *See Eiselstein*, 52 F.3d at 1038, 34 USPQ2d at 1470; *Kennecott Corp.*, 835 F.2d at 1422, 5 USPQ2d at 1197; *In re Ahlbrecht*, 435 F.2d at 909, 168 USPQ at 294-95. At times, the generalized denial of applicants' priority claim appears to be based on the notion that, because different words and phrases may be used to describe the claimed subject matter in the 1981 and 1987 specifications, the claims cannot be supported by both specifications. This basis, of course, flies in the face of several controlling Federal Circuit cases that clearly hold that *ipsis verbis* support is not required. *See Eiselstein*, 52 F.3d at 1038, 34 USPQ2d at 1470; *Kennecott Corp.*, 835 F.2d at 1422, 5 USPQ2d at 1197. At other times, the generalized denial appears to be based on the idea that the new subject matter included in the 1987 specification somehow causes the claimed "basic" subject matter to be nonexistent in the 1987 specification or somehow changed in character such that it cannot be relied upon to support claims. The accompanying Declaration of Dr. Ligler demonstrates that this is not the case.

Not surprisingly, the Examiner has provided *no legal authority* to support his outright denial of applicants' priority claim based on a general comparison of the 1981 and 1987 disclosures. Applicants believe that no such authority can be found. So instead, the Examiner has offered new "theories" to support the complete denial of applicants' priority claim. These "theories" include the "wiggle room" theory, the "pledge" theory, the "smudge" theory, and the "metes and bounds" theory. Again, no *legal authority* is offered in support of these "theories." For this reason alone, applicants submit that all discussion of these "theories," and any rejections or objections based thereon, should be withdrawn. If the Examiner chooses to include these "theories" in the next Office action, applicants respectfully request that the Examiner provide citations to controlling legal authority that justifies these "theories." Notwithstanding the foregoing,

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applicants respond below to the "merits" (to the extent any can be discerned) of the "theories."

a. The "Wiggle Room" Theory

In Section I (C) of the Office action the Examiner introduces the "wiggle room" theory. In attempting to explain this theory, the Examiner presents a hypothetical in which a potential infringer is faced with the task of interpreting applicants' pending claims, first, if such claims were to issue from the 1981 specification, and second, if such claims were to issue from the 1987 specification. Applicants are aware of no authority supporting the Examiner's analysis which speculates on how a potential infringer would interpret claims pending during prosecution. The perspective of a potential infringer and how the Examiner thinks a hypothetical potential infringer would interpret, understand, or feel about claims pending during prosecution is irrelevant, unsupported by the law, and not a proper basis for a denial of priority under § 120. Claims that are properly supported by both specifications are entitled to the 1981 priority date. It is simply not relevant to the § 112 and § 120 analysis whether or not a potential infringer using, as the Examiner describes "an enhanced system," would infringe the pending claims.

Applicants note that the Examiner's apparent argument in his application of the "wiggle room" theory—that applicants claim of priority should be rejected because of alleged problems or issues that a potential infringer would encounter if applicants' claims were granted the earlier priority date—is not a proper basis to deny applicants' claims the priority date under § 120. There is no legal basis whatsoever that support such an argument. Further, applicants note that potential infringers could face the very situation described by the Examiner with respect to claims that issue from *any* CIP application containing new matter, regardless of the manner by which the parent application's subject matter is disclosed in the CIP application. For example, if a basic invention is disclosed in a parent application, and a CIP application incorporates the parent application by

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reference and also discloses a new embodiment of the basic invention as new matter, a potential infringer analyzing claims issuing from the CIP application faces the very same issues of claim interpretation as described by the Examiner. Specifically, any ambiguity as to whether CIP claims directed to the basic invention cover the new embodiment becomes less ambiguous by virtue of the disclosure of the new embodiment in the CIP application. This is true *regardless* of the manner by which the parent application's subject matter appears in the CIP (i.e., through incorporation by reference, in full text format, or otherwise). This flaw in the Examiner's "wiggle room" theory is in part the result of the erroneous assumption that an applicants' specification or specifications are determinative of the scope of a given claim.[2] In short, the Examiner's "wiggle room" theory concerning how a potential infringer might view applicants' claims is incorrect, improper, and irrelevant.

b. The "Pledge" Theory

In Section I (H) the Examiner asserts that "by claiming the benefit of section 120 priority for a given claim filed in a subsequently filed CIP application, an applicant is essentially '*pledging*' (e.g. putting everyone on notice) that the claim is directed 'solely' to the subject matter that is found within the specification of the Parent application, and not to any of the 'new subject matter' that has been introduced via the subsequently filed CIP." Office action, p. 13. Contrary to the Examiner's position, an applicant's decision to assert an earlier priority date under § 120 *does not* necessarily limit the scope of the claim in this manner. Instead, an applicant's decision to assert priority under § 120 simply demands that a particular claim be supported in both the earlier and later specifications. The scope of the claim is determined under the legal principles applicable

[2] This issue is raised several times in the Office action. Applicants further address the Examiner's erroneous contention that the scope of applicants claims is "necessarily" limited by the disclosure relied upon to support a particular claim below in their response to the Examiner's "pledge" and "metes and bounds" theories.

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to claim interpretation. For example, if a parent application discloses a genus and the CIP discloses the genus and several new species, a claim issuing on the CIP application which claims the genus may be broad enough to cover the new species and be entitled to the benefit of the parent application's filing date, even though the species are first disclosed in the CIP. Of course, the content of both specifications may be relevant to the claim interpretation analysis; but there is no *per se* rule regarding the limits or bounds of a particular claim based on an applicant's claim to priority under § 120. There is simply no legal basis for the Examiner's position that by asserting priority to the 1981 specification, applicants have "pledged" that the *scope* of their claims is limited to what was disclosed in the 1981 specification and not to what is disclosed in the later application.

c. The "Smudge" Theory

In Section I (H) of the Office action, the Examiner asks "why should a pending claim having limitations that are directed to even a smudge of new 1987 subject matter be entitled to the earlier 1981 filing date of the Parent specification which did not disclose that smudge of new subject matter?" Office action, p. 14. Applicants are not entirely clear what point the Examiner is trying to make with this "smudge" theory. To the extent the smudge theory stands for the proposition that applicants' priority claim may be denied due to applicants' use of certain words or phrases in the 1987 specification that do not appear verbatim in the 1981 specification, the Examiner's "smudge" theory directly contradicts established legal authority which plainly holds that "earlier and later applications need not use the identical words" to describe the invention because "an invention may be described in different ways and still be the same invention." *Kennecott Corp.*, 835 F.2d at 1422, 5 USPQ2d at 1197. Accordingly, applicants are justified in citing to passages from the 1987 specification that may also include discussions of enhancements and improvements that are not described in the 1981 specification.

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Applicants cite such passages from the 1987 specification because those passages also disclose the subject matter disclosed in the 1981 specification that is currently being claimed. This is further evidenced by the Declaration of Dr. Ligler.

As best applicants can ascertain, the Examiner relies on the "smudge" theory to penalize applicants for disclosing the subject matter from the 1981 specification in the 1987 specification in an integrated fashion with the new enhancements and improvements. The "smudge" theory ignores the fact that the subject matter disclosed in the 1981 specification also appears in passages relied upon by applicants from the 1987 specification—even if the same words and phrases are not always used to describe the same subject matter. The Examiner's application of the smudge theory is tantamount to requiring applicants to point to *identical* support for a given claim, which is directly contradicted by the relevant legal authorities.

d. The "Specification Defines The Metes And Bounds" Theory

On pages 34-35 of the Office action the Examiner states his understanding that the "currently pending claims must be 'directed' to 'subject matter' that was described in applicant's 1987 CIP specification whereby the 'subject matter' that is described in the specification effectively defines the metes and bounds of the claims' limitations that are directed to it (e.g. the broadest reasonable interpretation that can be given to a claim.)" Office action, p. 34-35. Applicants do not fully understand this sentence.[3] However, it appears that the Examiner asserts that the subject matter relied upon by an applicant to support a given claim defines the metes and bounds, or scope, of a given claim. As more fully set forth in their Response to Interview Summary, the Examiner's "metes and bounds" theory is unsupportable and contrary to established legal authority. In contrast

[3] As with the other "theories" addressed in this Section, applicants have not found any legal authority that sheds any light on the "metes and bounds" theory, nor has the Examiner cited any authority.

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to the Examiner's use of the phrase "metes and bounds," many patent cases hold that a patent's *claims* define the metes and bounds, or scope, of the patent grant. Often, cases use the "metes and bounds" expression to stress that it is the patent claims, rather than what is disclosed in the specification, that defines the scope of the invention. *See Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966-67 (Fed. Cir. 1989) ("A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using, or selling the protected invention.").

Interestingly, the parenthetical from the Examiner's quote identified above ("the broadest reasonable interpretation that can be given to a claim") appears to contradict the very proposition suggested by the Examiner's metes and bounds theory. As applicants have previously stated, the M.P.E.P. instructs Examiners that "pending claims must be 'given their broadest reasonable interpretation consistent with the specification.'" M.P.E.P. § 2111 (8th ed. 2001); *see also In re Bass*, -F.3d-, No. 02-1046, 2002 WL 31818303 (Fed. Cir. Dec. 17, 2002). The Examiner appears to interpret this M.P.E.P. instruction as saying that claims must be given their broadest reasonable interpretation *limited* to what is directed in the specification. But, of course, the M.P.E.P. does not say this, and neither do the controlling Federal Circuit cases. Thus, the M.P.E.P. and the Examiner's own parenthetical contradict the Examiner's position that a claim is defined by, and therefore limited to, what is disclosed in the specification.

Contrary to the Examiner's position, claims should not be limited to the embodiments disclosed in the specification. *See, e.g., Burke, Inc. v. Bruno Indep. Living Aids, Inc.*, 183 F.3d 1334, 1340, 51 USPQ2d 1295, 1299 (Fed. Cir. 1999) ("Consistent with the principle that the patented invention is defined by the claims, we have often held that limitations cannot be read into the claims from the specification or the prosecution history."); *Intervet Am., Inc. v. Kee-Vet Labs., Inc.*, 887 F.2d 1050, 1053, 12 USPQ2d 1474, 1476 (Fed. Cir. 1989) ("[T]his court has consistently adhered to the proposition

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that courts cannot alter what the patentee has chosen to claim as his invention, that limitations appearing in the specification will not be read into claims, and that interpreting what is *meant* by a word *in* a claim 'is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.'") (citation omitted).

The Examiner's "metes and bounds" theory is contrary to established principles governing the interpretation of patent claims. The Examiner's duty is to give the claims their broadest reasonable interpretation consistent with the specification. Limiting the claims to embodiments disclosed in the specification is improper when examining claims (or in any other context). When properly interpreted, it is clear that applicants' claims are supported by both specifications as demonstrated, e.g., by the Declaration of Dr. Ligler.

e. Conclusion Regarding The Examiner's "Theories"

In summary, the Examiner's novel "theories" are improper, unsupportable and contrary to established legal precedent. The absence of any citations by the Examiner in support of these "theories" is particularly telling. The few cases the Examiner does cite to in the Office action actually support applicants' view of the proper legal test under §§ 112 and 120. For example, in Section I (M) of the Office action, the Examiner cites the following additional passage from the *Kirchner* decision (a case upon which applicants rely to demonstrate the proper test under §§ 112 and 120):

> And to determine what is the invention under consideration, one must be governed by the claims of the later application, because it is there one must look to determine what invention the "application for patent" referred to in the opening words of section 120 is for

Office action, p. 20 (quoting *Kirchner*). The quote identified by the Examiner simply reinforces applicants' position that in performing an analysis regarding whether or not the requirements of § 120 is satisfied, the starting point is the invention (i.e., the pending

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claims) in the CIP application. Similarly, the following quotation from the *Transco* decision relied on by the Examiner also stresses that the relevant inquiry is what is recited in the pending claims:

> However, if a claim in a continuation-in-part application *recites* a feature which was not disclosed or adequately supported by a proper disclosure under section 112 in the parent application, but was introduced first or adequately supported in the continuation-in-part application such a claim is entitled only to the filing date of the continuation-in-part application.

Office action, p. 31 (emphasis added) (quoting *Transco Prods., Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 558, 32 USPQ2d 1077, 1082 (Fed. Cir. 1994)). Applicants fully agree with this quotation. The important point is that applicants' claims do *not recite* features which were first or only disclosed and described in the 1987 specification. The claimed features of the instant application are in fact described in both specifications.

Accordingly, applicants respectfully request that all discussion of the "theories," and any objections or rejections based thereon, be promptly withdrawn. Applicants further respectfully request a proper claim-by-claim analysis of the §§ 112 and 120 issues in view of the evidence presented by applicants—particularly the Declaration of Dr. Ligler. Applicants submit that this evidence plainly shows that both specifications describe the subject matter claimed in this application in the manner required by § 112, first paragraph, and that therefore, applicants' priority claim under § 120 is proper.

4. Response To Specific Issues Raised In Section I Of The Office Action

a. The Extent To Which Subject Matter From The 1981 Specification Appears In The 1987 Specification

In Section I (A) of the Office action, the Examiner again questions the extent to which the subject matter of applicants' 1981 specification was "carried forward" into

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applicants' 1987 specification. The Examiner argues that it is "impossible" to determine if any portion of the 1981 specification was "carried forward" into applicants' 1987 specification. The Examiner then asserts that "for this reason alone" applicants are not entitled to a 1981 priority date for any of the pending claims. As is often the case, the Examiner's position is not supported by any controlling legal authority. In the analysis of whether or not applicants are entitled to their 1981 priority date, the law does not require the Examiner to *first* determine what subject matter was carried forward from the 1981 specification into the 1987 specification. To determine if applicants are entitled to their 1981 priority date *with respect to a particular claim*, the Examiner must simply determine if *a particular claim* is supported under § 112, first paragraph, by each specification. Finally, regarding the Examiner's discussion of the "incorporation by reference" issue in Section I (F), applicants continue to maintain that it is unnecessary to incorporate by reference. No authority to the contrary has ever been provided by the Examiner. It is therefore improper for the Examiner to attempt to penalize applicants for incorporating their 1981 subject matter into the 1987 specification in an integrated fashion.

Further, contrary to the Examiner's assertions, applicants have, on numerous occasions in this application and in related pending applications, demonstrated that the features disclosed in the 1981 specification are also disclosed in the 1987 specification. In response, the Examiner asserts generally that:

> only the "enhanced and improved" 1987 versions of the 1981 inventions actually exist within the instant 1987 CIP specification . . . (Office action, p. 6);
>
> the "unmodified and unenhanced" 1981 subject matter described in the past 1981 Parent disclosure simply does not exist within the instant 1987 CIP disclosure . . . (Office action, p. 8, n. 4);
>
> the "1981 inventions" from the 1981 specification were left behind at the time of the of filing the instant 1987 CIP

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> specification in favor of the enhanced/improved/modified "1987 inventions" . . . (Office action, p. 10, n. 5);
>
> the 1987 subject matter of applicant's instant 1987 CIP specification is "inconsistent" with the 1981 subject matter of applicant's past parent specification because the 1987 CIP specification has introduced 1987 "enhancements and improvements" which effect [sic] the scope and meaning of everything that is disclosed in the 1987 CIP specification. (Office action, p. 35.)

These conclusory statements on this issue are supported with few examples. The few examples that the Examiner does provide (concerning what the Examiner alleges in Section I(V) of the Office action to be "inconsistencies" between the two specifications, which are addressed below by applicants) cannot and do not support the sweeping and unqualified statements cited above. The biggest problem, however, is that the Examiner steadfastly refuses to conduct the proper claim-by-claim analysis when addressing the §§ 112 and 120 issues. Instead, the Examiner relies on generalizations and a few examples that are (a) incorrect and (b) *not tied to any particular claim.* This is improper.

Finally, the Examiner misrepresents applicants' clear statement on this issue when he asserts that "applicant now acknowledges that the 1981 application was not incorporated into the 1987 application." Office action, p. 54. What applicants actually stated in their last Response was that the 1981 application "was not incorporated *by reference"* into the 1987 application. Applicants have at all times maintained that the subject matter from the 1981 specification is disclosed in the 1987 specification.

b. The Mischaracterization And Misquoting Of The ITC Decision

In the discussion of the relationship between applicants' two specifications, the Office action quotes several passages from a decision issued in prior litigation pending before the International Trade Commission ("ITC") involving one of applicants' issued patents. In the discussion of the ITC decision, the Office action misquotes the published decision and neglects to present the various passages in their proper procedural and

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factual contexts. Due to numerous inaccuracies surrounding the ITC quotations, the entire discussion of this issue in the Office action is confusing and misleading. Placed in an accurate and proper context, the record from the ITC litigation actually supports applicants' position on the written description and priority issues.

Before addressing the specific passages quoted in the Office action, applicants must first provide a procedural overview of the ITC litigation. In the litigation before the ITC, the owner of applicants' issued patents and the assignee of the instant application, Personalized Media Communications L.L.C. (PMC), alleged that certain products imported into the United States infringed several claims of U.S. Patent No. 5,225,277. Following an evidentiary hearing, the ITC administrative law judge, Judge Luckern, issued a decision entitled "Initial and Recommended Determinations" (Initial Determinations) on October 20, 1997. *See In re Certain Digital Satellite Sys. (DSS) Receivers & Components Thereof*, No. 337-TA-392, 1997 WL 696255 (Int'l Trade Comm'n Oct. 20, 1997). In connection with the evidentiary hearing, three separate groups submitted briefs and arguments to Judge Luckern: 1) PMC; 2) the accused infringers (Respondents); and 3) the ITC Staff. Judge Luckern's Initial Determinations made various findings and concluded that: 1) claims 3, 6, 7, 12, 15, 35, and 44 were invalid as indefinite; 2) claims 3, 6, 7, 12, 15, 35, and 44 were invalid as not enabled; 3) claim 7 was invalid as anticipated; and 4) no asserted claim was infringed. Significantly, the Respondents challenged only one claim, claim 44, for lack of written description support. Judge Luckern found that claim 44 was *not invalid* under § 112, first paragraph, for a failure to provide proper written description support. *Thus no claim asserted in the ITC litigation was held invalid by Judge Luckern under 35 U.S.C. § 112, first paragraph, for failure to provide adequate written description support.*

On December 4, 1997, the ITC issued its Final Determination which adopted some, but not all, of Judge Luckern's Initial Determinations. Specifically, the ITC's Final Determination adopted Judge Luckern's claim constructions and findings that the

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asserted claims were indefinite and not infringed. On the other hand, the ITC did not adopt Judge Luckern's other findings concerning, for example, whether the claims were enabled or whether claim 7 was anticipated. On appeal before the Federal Circuit were only those findings by Judge Luckern that the ITC expressly adopted in its Final Determination. The Federal Circuit's opinion: 1) reversed Judge Luckern's and the ITC's determination that the asserted patents claims were invalid for indefiniteness; 2) vacated Judge Luckern's and the ITC's determination that asserted claim 7 was not infringed; and 3) affirmed Judge Luckern's and the ITC's determination that claims 6 and 44 were not infringed. *See Personalized Media Communications, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 48 USPQ2d 1880 (Fed. Cir. 1998). As a result of the Federal Circuit opinion, the case was remanded to the ITC. After the case was remanded to the ITC, PMC withdrew its complaint and the ITC vacated Judge Luckern's Initial Determination with respect to the findings of invalidity for anticipation and lack of enablement. *See In re Certain Digital Satellite Sys. (DSS) Receivers & Components Thereof*, No. 337-TA-392, 2001 WL 535427 (Int'l Trade Comm'n May 13, 1999). Accordingly, the quotes relied upon by the Examiner in the Office action, all of which are from Judge Luckern's discussion of invalidity for lack of enablement, were vacated by the ITC.

The Office action fails to provide any substantive and procedural context for the various citations to Judge Luckern's Initial Determinations. For example, it fails to indicate that during the course of the ITC litigation *not one of the asserted claims was found to be invalid for failure to satisfy the written description requirement of § 112, first paragraph.* Second, it fails to mention that the ITC refused to adopt Judge Luckern's findings of invalidity based on enablement and, therefore, those findings were not reviewed by the Federal Circuit. Third, it does not point out that the Federal Circuit reversed all of Judge Luckern's and the ITC's conclusions that the asserted claims were invalid for indefiniteness under § 112, second paragraph. Finally, it fails to indicate that

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Judge Luckern's findings on the enablement issue—where all of the Examiner's quotes originally appeared—were vacated by the ITC and have no legal effect whatsoever.

Even more disturbing is the Office action's misleading statements with respect to certain quotations. The first quote introduced in the Office action on this point is the following:

> To the extent -- and I'm unaware of any significant differences between the '490 patent [the 44 pages of applicant's past 1981 Parent specification] and the '277 patent [the 557 pages of applicant's instant 1987 CIP specification]. I haven't seen one, and I don't remember it. Certainly, I made an effort early on to determine whether or not the disclosures of the '490 patent made their way into the '277 and although they're spread around and sometimes stated a little bit differently, for all relevant purposes of this hearing, the '490 patent is expanded by the '277. It's certainly not inconsistent.

Office action, p. 2. This quote is mischaracterized in the Office action as "testimony" of applicants' counsel before the ITC. This quote appears to be cited for the purpose of supporting the Examiner's unfounded argument that "no conscious effort to carry the '1981 subject matter' forward into the instant 1987 CIP specification ever appears to have been made..." Office action, p. 2. Using the above quote, the Office action appears to insinuate that if the lawyer responsible for preparing the 1987 application had to go back and review it to determine if the 1981 disclosure was included, then the 1981 disclosure must not be included in the 1987 application. This is grossly misleading.

First, this passage cited by the Examiner is not "testimony" before the ITC—it is an attorney's argument made by PMC's litigation counsel during closing arguments. Further, the attorney making the statement, Robert Taylor, has never represented applicants in connection with the preparation or prosecution of any of their patent applications. Because the attorney representing PMC in the litigation was not directly involved in prosecuting any of PMC's applications, it is not surprising that he would have to review the two specifications to determine how the 1981 specification was

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incorporated into the 1987 specification in connection with his representation of PMC as litigation counsel. The fact that PMC's litigation counsel undertook such an effort, and concluded that the '490 patent is simply expanded by the '277 patent, is consistent with applicants' position, namely, that the subject matter from the 1981 specification is indeed included in the 1987 specification.

Regarding the second quote from Judge Luckern's Initial Determination discussing the length of the 1987 specification (appearing on page 3 of the Office action), applicants submit that Judge Luckern's observation that the 1987 specification is longer and contains additional material compared to the 1981 specification is of no consequence. The third quote from the Initial Determination is misquoted in the Office action. The correct quote, in which Judge Luckern comments on applicants' specifications, is identified below with the portion added by the Examiner in bold and in brackets:

> the disclosure in the 24 columns of the '490 patent [the 44 pages of the past 1981 parent specification], if indeed it is **[at]** all carried forward, is interspersed among some 328 columns of the '277 patent [the 557 pages of the instant 1987 CIP specification]

Office action, p. 3. The inaccurate version of this quote misleads the reader into thinking that the author questioned whether *any* of the parent specification was carried forward. The accurate version of the quote makes it clear that at most, Judge Luckern questioned whether *all of* the parent specification was carried forward. In any event, Judge Luckern did not find that any of PMC's claims were invalid for failure to satisfy the written description requirement of § 112, and the other findings on the enablement issue which Judge Luckern was discussing were vacated.

Later in the Office action, the Office action again quotes the Initial Determinations out of context. The passage quoted on page 42 of the Office action is not Judge Luckern's opinion, but rather, the argument is one that was advanced in the brief submitted by the ITC Staff. The Examiner's citation to this passage in Judge Luckern's

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Initial Determinations fails to attribute the passage as being a quote from the ITC Staff's brief filed in the litigation. Further, the quote does not at all support the Examiner's position. The Examiner contends that applicants had clearly argued in the ITC litigation that "the 1987 'SPAM' transport scheme was not disclosed within applicant's 1981 parent application." Contrary to the Examiner's assertion, the ITC Staff's brief indicated that PMC had simply noted its brief that the acronym "SPAM" was first introduced in the 1987 specification.

When the various citations to the Initial Determinations are presented accurately and in their proper substantive and procedural context, the citations do not support the Examiner's position. Indeed, the ITC record is consistent with applicants' position on the written description issue. The statements made by PMC's counsel are also consistent with applicants' position on the priority issue, and the other quotations are nothing more than dicta concerning a finding by Judge Luckern that was later vacated. Even if these findings had not been vacated, the observations by Judge Luckern do not contradict applicants' position that the pending claims are entitled to the 1981 priority date under § 120.

c. Common Subject Matter vs. Different Subject Matter

Applicants' addressed the Examiner's arguments related to the "common subject matter" issue in detail in their Response to Interview Summary. The disagreement on the "common subject matter" issue appears to stem from the different tests applied by the Examiner and applicants to determine what constitutes common subject matter. As best understood by applicants, the Examiner asserts that common subject matter only exists when each specification's disclosure "perfectly circumscribes" the same subject matter. In contrast, applicants assert that common subject matter exists if the relied upon disclosures from each specification both support the claim for which priority is asserted. As applicants have previously stated, there is no legal authority supporting the

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Examiner's denial of applicants' priority claim based on a comparison of the specifications without regard to a specific claim. In contrast to the Examiner's test for common subject matter which would reject applicants' claim of priority without ever referring to a particular claim, applicants' test only can be performed in the context of a particular pending claim.

Similarly, the Examiner's dispute with respect to applicants' position that the written description support relied upon to support a given claim need not be identical (*i.e.,* different words and phrases can be used to support a given claim and satisfy § 120) is unwarranted. The Examiner's position directly contradicts the Federal Circuit's holding that "section 120 'does not require that the invention be described in the same way, or comply with section 112 in the same way, in both applications.'" *Kennecott*, 835 F.2d at 1422, 5 USPQ2d at 1197 (citation omitted). In fact, applicants are aware of no legal authority supporting the Examiner's position that the support relied upon by an applicant under § 120 must be compared to determine if it "perfectly circumscribes" the same subject matter. Under § 120, the relied upon support must satisfy the written description requirement of § 112 for the claim at issue, and if written description support exists in both specifications, there is common subject matter. It simply does not matter if the words and phrases are different, or if the support provided from the 1987 disclosure includes references to the enhancements and improvements (so long as what is being claimed is supported).

In Section I (M) the Examiner challenges applicants' interpretation of the *In re Kirchner* decision. The facts of the Kirchner case are undisputed. In that case, the identical chemical compound was disclosed in the parent and CIP applications. In the CIP application, however, a new utility for that compound was disclosed and the utility disclosed in the parent application was not carried forward into the CIP application. The Court of Custom and Patent Appeals concluded that the claims in the CIP directed to the

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compound were entitled to the effective filing date of the parent application under § 120. *In re Kirchner*, 305 F.2d at 903-904, 134 USPQ at 330.

The Examiner asserts that the *Kirchner* decision identifies two requirements that must be met to obtain the benefit of an earlier filing date under § 120:

> 1) that "the invention" being claimed in the later filed CIP application must have been disclosed in the earlier filed Parent application in such manner so as to comply with the first paragraph of section 112;
> *AND* .....
> 2) that said "invention", as disclosed in the parent application in a manner that complies with the first paragraph of section 112, **be the "same invention" as that which is disclosed in the later application.**

Office action, p. 20-21 (emphasis in original). Applicants see no reason to restate the clear language of *Kirchner*. Regardless, there is nothing about this restatement that sanctions an abstract comparison of applicants' specifications outside of the context of a specific claim. What the *Kirchner* decision requires is that the invention—as defined by the *claims* (not the disclosure) of the CIP application—be disclosed in both applications. *In re Kirchner*, 305 F.2d at 903-904, 134 USPQ at 330. Each relevant claim defines only one invention, and although the invention must be disclosed in both applications, each application clearly can describe and support that invention in different ways.

In the instant application, each of the relevant inventions, as defined by the currently pending claims, is supported by similar disclosure from both specifications. *See* Declaration of Dr. Ligler. Applicants acknowledge that the 1987 disclosure contains numerous improvements and enhancements to the 1981 disclosure. Notwithstanding this fact, as long as each of applicants' inventions claimed in the instant application is described adequately in both specifications, the test under § 120 is met. Contrary to the Examiner's assertions, applying the straightforward test described by applicants to the instant claims will ensure that applicants' do not obtain the benefit of a 1981 filing date for claims that include limitations of the various improvements and enhancements found

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in the 1987 specification. If applicants attempt to include limitations of the improvements and enhancements from the 1987 specification in a given claim, that claim could not receive priority under § 120 because the claim could not be supported under § 112 by the subject matter disclosed in the 1981 specification. This does not mean, however, that applicants cannot rely on passages from the 1987 specification that include those improvements and enhancements to support a claim that does not include limitations of those improvements and enhancements. The question is whether or not the provided 1987 support describes the more basic inventions being claimed, regardless of whatever else those passages may also describe.

Further, contrary to the Examiner's allegations, applicants do not assert that different subject matter can be used to give a pending claim "different interpretations." In the following quote, the Examiner mischaracterizes applicants' position on this issue:

> According to applicant's way of thinking, the only thing that applicant needs to do in order to obtain the earlier 1981 filing date for his pending amended claims is to show that each of his pending amending claims can be given different 1987 and 1981 claim interpretations which allows each claim to be respectively supported, in parallel, by "different subject matter" from the two specification. [sic]

Office action, p. 4. Applicants do not assert that a given claim must or should be interpreted in different ways when determining whether or not the claim is supported by the two specifications. A given claim must be given one consistent interpretation—the broadest reasonable interpretation—when determining if the claim is supported by the each specification. The Examiner's various allegations that, due to certain additions included in applicants' 1987 specification, the pending claims must necessarily (at least sometimes) be given two different interpretations is wrong. Following the mandate that the claims are to be given the broadest reasonable interpretation consistent with the specification, each claim can be interpreted in a clear and consistent manner with reference to both specifications.

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Similarly, with respect to the instant application, as long as additional details or enhancements present in the 1987 specification are not inconsistent with a broad claim interpretation that would be supported by both disclosures, it would be improper to use details or enhancements from the 1987 specification to interpret a claim narrowly. Accordingly, the Examiner is wrong to conclude in Section I (C) of the Office action that "the instant 1987 disclosure imposes very real modifications onto the meaning/scope of the currently pending amended claims in a way that was not supported by the past 1981 Parent specification as originally filed." Office action, p. 8. *See* Declaration of Dr. Ligler, ¶¶ 43-57.

d. Applicants Claims Are Directed To The Same Inventions Disclosed In Both Specifications

To counter applicants' position that the pending claims are entitled to a 1981 priority date, Examiner asserts that inventions described in the 1981 specification and the inventions described in the 1987 specification are "different inventions." *See* Section (I) (B) of the Office action.

Applicants' acknowledge that the 1987 specification contains significant new matter that is not found in the 1981 specification. Notwithstanding this fact, the relevant inventions are defined by the scope of each pending claim, and each pending claim is supported by a description of that particular invention in both specifications. An invention may be described in different ways and still be the same invention, and applicants continue to maintain that those features of the basic system disclosed in the 1981 specification which applicants rely on for § 112 support are also found in the 1987 specification. Often the same or very similar language is used to describe the systems/methods and the systems/methods' elements/steps in the 1981 and 1987 specifications.

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As applicants explained in their Response to Interview Summary, the fact that applicants' CIP application includes new matter is not evidence that applicants did not carry forward the previously disclosed subject matter into the 1987 specification. Many of the signals described in the 1987 specification under the discussion of SPAM perform the same functions as signals described in the 1981 specification. Just because the functionalities of such signals are disclosed in the context of a SPAM messaging protocol in the 1987 specification does not mean that signals performing the same functions were not disclosed in the 1981 specification. *See, e.g.,* Declaration of Dr. Ligler, ¶¶ 24, 39, 40, and 56. Accordingly, these control and instruct signals are described by both specifications, even though they may be disclosed in the context of a SPAM messaging protocol in the 1987 specification.

e. Applicants' Reliance For § 112 Support On Portions Of The 1987 Specification That Include Details And Enhancements Not Found In The 1981 Specification Is Proper

The Examiner takes issue with the support applicants have identified in the dual column charts provided for each of the pending claims. The written description support from the 1987 specification identified by applicants for many of the currently pending claims are examples from the 1987 specification that also include details and enhancements that are not found in the 1981 specification. The Examiner appears to argue that because the passages that applicants rely on from the 1987 specification include these details and enhancements, applicants are automatically precluded from obtaining priority for those claims under § 120. The Examiner's position is incorrect. Just because the 1987 specification discloses new details and enhancements to the general system, it does not mean that the basic aspects of the more advanced system cannot be used to support a claim directed to those basic aspects or features. The following passage from Section I (E) of the Office action highlights the Examiner's misunderstanding:

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> Apparently, it is applicant's position that the added/new 1987 subject matter contained within applicant's own citations of alleged section 112-1 support should be weeded out, discarded and/or ignored in order to allow the alleged underlying principles, ones that were allegedly carried forward from the past 1981 parent specification, to emerge therefrom (thereby allowing applicant's subsequently filed CIP claims to obtain the earlier 1981 filing date of the parent application). The examiner thinks not!

Office action, p. 11. First, applicants want to make clear that it is not their position that the details and enhancements disclosed in applicants' 1987 specification need to be "weeded out, discarded and/or ignored" to allow those basic aspects or features of the 1987 disclosure which are also disclosed in the 1981 specification to "emerge therefrom." For a claim to be entitled to an earlier priority date under § 120, a claim must simply be supported under § 112 by both specifications. In determining whether or not a claim is properly supported under § 112, an Examiner is not required to weed out, discard, or ignore certain portions of the specification—the specification either contains the necessary support or it does not.

As applicants have already stated, the starting point for analyzing the § 112 and § 120 issues is what is recited in the claims. In the 9/04/01 and 7/30/02 Office actions, the Examiner has repeatedly indicated his wholly unsupported belief that applicants' are reciting in the instant claims the improvements and enhancements that are found only in the 1987 specification. For example, in the 9/04/01 Office action the Examiner stated:

> Clearly, the "more sophisticated" 1987 alleged inventions that are *necessarily being claimed* are not entitled to the 1981 filing date
>
> [A]ll limitations of the currently pending claims are necessarily directed to that which is described in the present 1987 disclosure; namely, the more "sophisticated" systems/methods of the present 1987 disclosure.

9/04/01 Office action, pp. 19, 60. Applicants, in their 2/04/02 Response quoted the second quote identified above as follows:

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> all limitations of the currently pending claims are necessarily [only] directed to that which is described in the present 1987 disclosure

2/04/02 Response, p. 100. Applicants added the word "only" (clearly bracketed to reflect that it was not the Examiner's original language) to point out applicants' understanding of the Examiner position on this issue. Specifically, applicants understand the Examiner's statements above to mean that he is of the view that the claims of the instant application must be claiming subject matter disclosed in the 1987 specification but that is *not disclosed* in the 1981 specification.

In the 7/30/02 Office action, the Examiner now quotes this passage from applicants' 2/04/02 Response, but omits the bracketed "only" language. Thus, several times in the 7/30/02 Office action the following *inaccurate* statement appears, which is attributed as "applicants' position:"

> the [examiner's] assumption that 'all limitations of the currently pending claims are necessarily directed to that which is described in the present 1987 disclosure' is mistaken and wholly unsupported.

Office action, p. 15, 54, 59. *This is not applicants' position and applicants did not make the quoted statement.* In their 2/04/01 Response, applicants' position was simply that the Examiner has incorrectly, and without support, asserted that applicants' claims recite the "sophisticated," or enhanced or improved subject matter that is disclosed *only* in the 1987 specification. Had the Office action simply quoted applicants correctly, applicants' position would have been clear. However, by misquoting applicants' prior Response, the Office action appears to characterize applicants' position as being something that they have never asserted. Applicants' position has been consistent: 1) the pending claims do not recite the improved subject matter that is only disclosed in the 1987 specification; and 2) the pending claims are supported by subject matter that is disclosed in both specifications.

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In Sections (G) and (H) of the Office action, the Examiner again asserts that applicants are claiming improved subject matter disclosed in the 1987 specification. Applicants' maintain that none of the currently pending claims recite the "improved" subject matter which *would only* be supportable by the details and enhancements found in the 1987 specification. Instead, all of the pending claims can be, and are in fact, supported by the basic aspects or features that are found in to both specifications—even if applicants identify portions of the 1987 specification that also contain, in addition to the basic aspects or features disclosed in the 1981 specification, certain details and enhancement only found in the 1987 specification. If a claim includes limitations of the improvements or enhancements found in the 1987 specification (i.e., the broadest reasonable interpretation of that claim is such that the claim is limited to the improvements or enhancements), then that claim cannot be supported by the 1981 specification. But this is simply not the case with the claims of the instant application.

f. Applicants' "Dual" Column Support Charts

The Examiner's assertion in Section I (I) of the Office action that applicants "do[] not wish to cite, or indeed [are] unable to cite section 112-1 support from the instant CIP disclosure for these limitations" is unwarranted. Office action, p. 16. By the time the Examiner issued the 7/30/02 Office action, applicants had provided the Examiner with the detailed dual column support charts (that the Examiner finds "most helpful," Office action, p. 16) *in every single pending application in which applicants assert a 1981 priority date.* Accordingly, it is simply disingenuous for the Examiner to state "[a] noteable [sic] exception being the most helpful claim charts of alleged "dual" § 112 support which applicant has, only on a few occasions, been willing to kindly provide." Office action, p. 15, n. 9.

In a very confusing portion of the Office action beginning on page 53, the Examiner denies that he has ever "objected" to applicants' submission of the dual column

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support charts, despite the appearance of the following passage in the 9/04/01 Office action:

> At most, applicant might have to provide a cursory explanation as to how the limitations of the pending claim are supported by such identified "EXAMPLE"/ "SECTION". So where is it? Instead of citing a section/example and quickly explaining how support is provided for each claim the cited example/section, applicant has shown that he feels the need to provide massive exhibits which map limitations of the pending amended claims to scattered portions of the present omnibus 1987 disclosure.

9/04/01 Office action, p. 50 (footnotes omitted). Applicants acknowledge that the Examiner has since made it clear that the support charts are appropriate and helpful.[4] But certainly, applicants' concern regarding the Examiner's reaction to the support charts was justified in view of the above-quoted passage.

In the instant Response applicants also include a declaration by an expert, Dr. Ligler, that explains how applicants' claims are supported by both specifications. Accordingly, applicants have provided: 1) detailed charts demonstrating precisely where in each specification the relevant support exists for each claim limitation; 2) narrative summaries explaining how the relied upon support from each specification supports each claim in a similar fashion; and 3) an expert declaration further addressing the adequacy of the support relied upon by applicants for the claims, as amended. Applicants respectfully request that the Examiner respond, on a claim-by-claim basis, with a reasoned analysis as

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[4] It should be noted that in response to the objections in the 9/04/01 Office action regarding the charts that applicants had submitted in its copending applications, in the instant application applicants provided (in addition to the charts) narrative summaries which explain how each claim (as amended) is supported by both specifications, as suggested by the above-quoted passage. In spite of the considerable effort that was undertaken by applicants to provide these summaries of how each claim is supported by both specifications, the Examiner did not respond to or even acknowledge the summaries in the recent Office action.

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to why the ample evidence of written description support provided by applicants for each claim does not meet the requirements of § 112, if those rejections are maintained.

In Section III the Examiner also asserts that applicants have "misled" the Examiner and the Office about the requirements of §§ 112 and 120. Specifically, the Examiner relies on the following quote from a paper filed by applicants:

> The present application claims priority under 35 U.S.C. § 120 of the following applications . . . .Consequently, Applicants will demonstrate disclosure only with respect to the '81 case . . .

Office action, p. 53. First, applicants firmly deny ever having misled the Examiner or the Patent Office about what is required under §§ 112 and 120. The above quote, which originally appeared in applicants' 8/6/97 Amendment filed in application Ser. No. 08/470,571 ("the '571 application"), simply reflects applicants' long held view that the claims of the '571 application, as well as the claims of the instant application, are entitled to the 1981 priority date. The Examiner is incorrect in his implication that applicants misled the Office into believing that the 1987 specification was somehow irrelevant to complying with §§ 112 and 120. Indeed, in the very document cited by the Examiner, applicants provided citations in footnotes to the 1987 specification (which corresponded to the 1981 specification citations also provided in the same paper) when demonstrating written description support. *See* 8/6/97 Amendment filed in the '571 application, at p. 20.

Applicants note that the Examiner's unjustified, and in fact, improper allegation has nothing to do with his criticism of applicants' submission of the dual column support charts. Rather than support the Examiner's position that applicants have somehow "misled" the Office on the legal requirements for priority, the dual column support charts actually demonstrate applicants' extensive efforts to assist the Examiner in determining that the claims are supported by both specifications. Further, applicants have voluntarily identified to the Examiner precisely which of applicants' copending applications are entitled to a 1981 priority date and which are not. The law clearly does not require this

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(until such time that an intervening reference is applied that applicants wish to antedate). And, of course, both specifications have been before the Examiner during the entire course of prosecution, thereby allowing the Examiner to conduct any appropriate analysis required with respect to the §§ 112 and 120 issues.[5]

Finally, applicants note that it is improper for the Examiner to make such allegations. These allegations unfairly disparage applicants and, in applicants' view, improperly discredit the Office. Indeed, the M.P.E.P. prohibits Examiners from commenting on such issues. *See* M.P.E.P. § 2010. In fact, the very Appendix cited by the Examiner in Section III (i.e., the Appendix to the document mailed on 9/10/01 in application Ser. No. 08/474,139) was withdrawn by the Patent Office pursuant to § 2010 of the M.P.E.P. because the allegations made therein "are unrelated to the issue of patentability of the subject matter claimed in applicants' pending applications and were not made pursuant to a duty of the Examiner imposed by law." *See* Interview Summary mailed on 3/21/02 in application Ser. No. 08/474,139. Accordingly, these improper allegations must be withdrawn, along with any rejections or objections based thereon.

g. The Examiner's Struggle With Determining What Exactly Is Being Claimed In Applicants' Pending Claims

In Section I (I) of the Office action the Examiner discusses his difficulty in determining what exactly is being claimed by applicants in their pending claims. Contrary to the Examiner's assertions, applicants have provided substantial assistance (e.g., the support charts, narrative summaries of support, detailed responses to the Examiner's § 112-1 "Examples" in the 9/04/01 Office action, and now Dr. Ligler's

[5] Applicants note that they have relied on ample controlling authority to support their position on the requirements of §§ 112 and 120. In contrast, applicants have had to contend with the wholly unsupported "wiggle room," "pledge," "smudge," and "metes and bounds" theories advanced in the Office action.

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Declaration) to the Examiner with respect to what exactly is being claimed in the pending application and how each claim is supported under § 112 in both specifications.

The Examiner's attempt to support his position that he has difficulty understanding what applicants are claiming in the instant application by relying on various quotations from Judge Luckern's Initial Determination in the ITC litigation (*see* Section I (I), p. 16-17) is without merit. First, as applicants have already noted, with respect to the only claim even challenged under the written description requirement of § 112, Judge Luckern concluded that the claim was not invalid on that basis.[6] Second, Judge Luckern's belief that the 1987 specification is "difficult to understand as it is dealing with many possible systems," even if true, is not a proper reason for the Examiner to conclude that none of applicants' claims are supported under § 112. Further, the comments advanced by the Staff in the ITC litigation describing "directions to a treasure map" and "ships passing in the night" can hardly be applicable to the instant application. In the instant application, applicants have gone to great lengths to provide, explain and demonstrate exactly how the pending claims are supported in both specifications. Finally, as the attached Declaration of Dr. Ligler demonstrates, one of ordinary skill in the art would recognize that the subject matter of applicants' claims is adequately described by both specifications.

The Examiner apparently has difficulty with the fact that applicants at times are claiming inventions in the pending claims that do not use precisely the same words that are disclosed in the 1987 and 1981 specifications. The fact that the identical words are not used in applicants' claims is of no consequence as long as one skilled in the art would recognize that applicants disclosed that invention in both specifications. *See Eiselstein*, 52 F.3d at 1038, 34 USPQ2d at 1470; *Kennecott Corp.*, 835 F.2d at 1422, 5 USPQ2d at

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6 Additionally, in allowing the claims asserted in the ITC to issue, the PTO understood that those claims were adequately supported under § 112.

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1197. In determining "what exactly is being claimed" the Examiner appears to rely on the specification(s) to limit the scope of the claims. For example, with respect to many of applicants' pending claims, the Examiner looks to the support relied on by applicants in their 1987 specification, and then, in interpreting the pending claim, the Examiner reads the various details from the relied upon support in the 1987 specification into the pending claims. After the Examiner has interpreted the claims to "necessarily" incorporate and be limited to the details found in applicants' 1987 specification, the Examiner concludes that the claim cannot possibly be supported by the 1981 specification because the details that the Examiner has found to be incorporated into the claims are not present in the 1981 specification. The Examiner's analysis is flawed. The proper analysis of whether written description support exists for a pending claim and whether a pending claim is to be entitled to an earlier priority date begins with the language of the claim. Of course, in interpreting a claim the Examiner can, and indeed should, use the relevant portions of the specification to understand and interpret the claim, but the Examiner must give the claim the broadest reasonable interpretation consistent with the specification. Then the Examiner must determine whether the claim is supported under § 112, first paragraph, by the instant 1987 specification, and then by the 1981 specification.[7] As applicants have repeatedly and consistently asserted, the portions of the 1987 specification identified by applicants to support a particular claim include the basic subject matter disclosed in the 1981 specification. The fact that portions of the 1987 specification relied upon by applicants to support a particular claim may also include various details, enhancements and/or improvements that are not found in the 1981 specification is of no consequence.

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[7] The Examiner and applicants agree that because applicants' position on priority has been challenged, the Examiner must first determine whether or not § 112 support exists in the 1987 specification. Only after the Examiner has concluded that support exists in the 1987 specification does the Examiner need to determine whether or not support exists in the 1981 specification.

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In Section I (T) of the Office action, the Examiner contends that applicants are improperly using the "new and "expanded" 1987 disclosure:

> 1) to expand and/or modify the teachings which were originally conveyed by the disclosure of his 1981 parent application;
>
> 2) to draft new amended claims based on these "new", "expanded", and/or "modified" teachings of the 1987 CIP disclosure so as to impart the "new" and "expanded" 1987 scope and meaning to the newly drafted amended claims; and then
>
> 3) to allege that the amended claims, having the "new" and "expanded" 1987 scopes and meanings, are entitled to the 1981 priority of the originally filed parent disclosure which does not support these "new" and "expanded" 1987 scopes and meanings.

Office action, p. 34. The primary flaw in the Examiner's argument is the notion that simply relying on support from the 1987 specification, automatically "imparts" a scope or meaning to the claims such that they are limited to the "new" or "enhanced" teachings from the 1987 specification. There is absolutely no legal basis to support the Examiner's assumption that details from the specification must be read into the claims as limitations. If the "new" or "enhanced" teachings from the 1987 specification do not exist in the language of a currently pending claim the claim need not be, and in fact should not be, interpreted by the Examiner to include such "new" or "enhanced" teachings. *See In re Bass*, -F.3d-, No. 02-1046, 2002 WL 31818303 at *2 (Fed. Cir. Dec. 17, 2002) ("In examining a patent claim, the PTO must apply the broadest reasonable meaning to the claim language, taking into account any definitions presented in the specification."); M.P.E.P. § 2111 ("pending claims must be 'given their broadest reasonable interpretation consistent with the specification'").

The Examiner makes a similar allegation in Section I (R) of the Office action where he asserts that

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> [The] 1987 teachings that only exist within the instant "1987" disclosure necessarily contribute to the scope/meaning that must now be given to the limitations of the currently pending amended claims and thus, there is simply no way that these claim limitations can be interpreted as being limited **solely** to subject matter which was adequately disclosed in the 1981 parent application via all of the requirements of section 112.

Office action, p. 32 (emphasis in original). As already explained above, the Examiner is simply incorrect from both a factual and legal perspective, in his assumption that certain enhancements and improvements that are found in the 1987 specification but not in the 1981 specification *must* be read into the scope or meaning of applicants' currently pending claims. The crucial point that the Examiner does not appear to accept is that none of applicants' pending claims contains limitations of the enhancements, improvements or details that are found only in the 1987 specification. While the passages from the 1987 specification that applicants rely on to support their pending claims may include various enhancements, improvements and details not found in the 1981 specification, they also include those basic or general aspects which *are* also disclosed in the 1981 specification. *Applicants' position on this issue is made abundantly clear by the fact that all of the pending claims can, in fact, be supported by the subject matter disclosed in the 1981 specification which does not contain any of the improvements or enhancements. See* Declaration of Dr. Ligler.

h. Although Differences Between The 1981 And 1987 Specifications Exist, There Are No Significant Inconsistencies Between The Two Specifications

In Section I (J) of the Office action the Examiner lists several examples which allegedly support his position that there significant inconsistencies between the 1981 and 1987 specifications. First, without providing any detail or analysis the Examiner asserts that 1987 specification "sets forth circuit configurations for the current 1987 inventions which differ from the circuit configurations of the past '1981 inventions' . . ." Office

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action, p. 17. Even though there are some differences between the circuit configurations described in the two specifications, the configurations are not inconsistent and there is no reason why such differences would preclude applicants from demonstrating sufficient § 112 support in each specification for the pending claims. Indeed, as shown below, there are *substantial similarities* between the circuit configurations of both disclosures, which support applicants' position that the 1981 subject matter *has* been carried forward into the 1987 specification.

Again, as discussed above, the starting point for analyzing whether a claim is supported under § 112 and whether a claim should be entitled to an earlier priority date under § 120 is determining what is being claimed. Differences between the support that is relied upon by an applicant in two specifications are irrelevant as long as what is being relied on by the applicant in both applications provides sufficient support for the claim. *See Johnson*, 454 F.2d at 751, 172 USPQ at 395. Second, the Examiner also alleges that the 1987 specification sets forth more advanced signaling structures and processing than found in the 1981 specification. Again, even if true, the enhanced and improved signaling structure and processing of the 1987 specification do not preclude applicants from demonstrating sufficient § 112 support in each specification. Third, the Examiner alleges that certain "blocks" in the 1987 diagrams have "new/expanded/different" functions and operations associated with them compared to the 1981 specification. Office action, p. 17 The Examiner fails to identify any specific example from the diagrams and does not even argue the alleged differences are at all inconsistent. Fourth, and again without reference to any specific examples, the Examiner alleges in Section I (J) of the Office action that applicants use certain terminology differently and inconsistently in the two specifications. Without reference to specific examples, applicants cannot meaningfully respond to the Examiner's unsupported allegations.[8]

[8] Applicants do respond in detail to *specific* examples addressing alleged inconsistencies raised by the Examiner in Section I (V) of the Office action.

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Applicants note, however, that unless the alleged "inconsistencies" and alleged use of "different terminology" prevents applicants from demonstrating that a specific claim or claim limitation is adequately supported by both specifications, the Examiner's allegations are not relevant.

In Section I (K) the Examiner asserts that he must compare applicants' two specifications in order to determine whether the specifications "describe the same invention, contain common subject matter or have descriptions that are inconsistent, etc." Contrary to the Examiner's assertions, applicants' position is not that the Examiner cannot perform such comparisons. Instead, applicants simply believe that none of these comparisons are required under the proper legal tests applicable to § 112 and § 120.

i. The Examiner's Continued Discussion Of "Programming"

Applicants and the Examiner continue to disagree over their interpretation of the term "programming" and the use of that term in applicants' 1981 and 1987 specifications. In applicants' view, which is set forth in detail in their Response to Interview Summary, the Examiner continues to interpret the 1981 definition in a unjustifiably narrow manner.

In the instant application, as amended, the term programming is not at all used in the claims. Although applicants' continue to disagree with the Examiner regarding applicants' ability to use the term "programming" in claims for which applicants claim 1981 priority, *see also* Declaration of Dr. Ligler, ¶¶ 44-47, the issue is moot in this application. Applicants, however, reserve their right to further address the "programming" issue, if and when the issue is pertinent to any pending claim.

j. The Examiner's Examples Of "Inconsistencies" Between The 1981 And 1987 Specifications

In Section I (V) the Examiner identifies and discusses several alleged inconsistencies between the two specifications. As an initial matter applicants submit

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that any perceived inconsistencies are only relevant to the extent that the alleged inconsistency impacts or affects a pending claim. It is simply improper for the Examiner to continue to focus on alleged "differences" or "inconsistencies" without reference to a specific claim.

(1) Programming

Applicants have stated above that the Examiner's discussion of the "programming" issue is not relevant to the instant application because they do not use that term in any pending claim. In Section I (V) of the Office action, the Examiner contends that even if applicants avoid literally using the term "programming" in the claims, "the 'expanded' 1987 definition of the 'programming' terminology nonetheless continues to impart its expanded scope and meaning onto all of the 1987 disclosures that are described in terms of this expanded 1987 'programming' definition." Office action, p. 37. Applicants do not understand what the Examiner means when he asserts that the 1987 definition of programming somehow "impart[s] its expanded scope and meaning onto all of the 1987 disclosures that are described in terms of this expanded 1987 'programming' definition," and the Examiner provides no examples to support this statement. Applicants do not see how the "programming" issue can be relevant to claims that do not use that term. *See also* Declaration of Dr. Ligler, ¶¶ 44-47. If the Examiner disagrees, the impact must be explained in the context of specific pending claims—not in a generalized manner that fails to take into account the subject matter being claimed.

The Examiner further asserts that "these expanded 1987 disclosures continue to impart expanded 1987 scopes and meanings onto the limitations of the currently pending amended claims which necessarily derive required section 112 support therefrom." Office action, p. 37. As applicants have stated above, it is improper for the Examiner to use the written description support that applicants rely on from the specifications to read limitations from the specification(s) into applicants' claims when the claims do not

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expressly contain those limitations. Accordingly, the Examiner's position contradicts the prohibition of reading limitations from the specification into a claim, *see Burke,* 183 F.3d at 1340, 51 USPQ2d at 1299; *Intervet,* 887 F.2d at 1053; 12 USPQ2d at 1476, and the requirement that an Examiner give pending claims their broadest reasonable interpretation consistent with the specification. *See In re Bass*, -F.3d-, No. 02-1046, 2002 WL 31818303; M.P.E.P. § 2111 (8th ed. 2001). The Examiner's attempt to read the definition of programming from the 1987 specification into currently pending claims that do not use that term is improper and contrary to the law.

(2) The Signaling Structures Disclosed In The Specifications

(a) Introduction

The inventions disclosed in both specifications and claimed in the instant application are generally directed to transmitting and processing of signals that are transmitted and then received at receiver stations. The 1981 and 1987 specifications both use various terminology to describe the numerous types of "signals" that are transmitted to, among other things, receiver stations. For example, the specifications disclose signal words, signal units, instruction signals or instructions, identifier signals or identifiers, control signals, commands and many other specific signals. Additionally, the specifications disclose several embodiments for embedding the various types of signals. For example, the 1981 specification discloses that signals:

> may run and repeat continuously throughout the programing or they may run only occasionally or only once. They may appear in various and varying locations. In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television

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> audio, they are likely to lie between eight and fifteen kilohertz. Signals may also be transmitted on frequencies outside the ranges of television and radio. Different and differing numbers of signals may be sent in different and differing word lengths and locations.

1981 Specification, col. 4, ll. 15-30.

The 1987 specification similarly discloses these ways of embedding and transmitting signals:

> In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once. They may appear in various and varying locations. In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.

1987 Specification, P. 14, ll. 3-25. Thus, contrary to the Examiner's assertions, there is substantial overlap in the disclosures of various means and manners for embedding and transmitting signals.

Applicants acknowledge that certain details related to the enhanced and improved embodiments for embedding and transmitting signals disclosed in the 1987 specification are not expressly disclosed the 1981 specification. Applicants do not, however, include

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these limitations in the pending claims of the instant application. Despite this fact, the Examiner continues to argue in the abstract and without reference to any particular claim, that none of applicants' claims are entitled to the 1981 priority date because applicants' two specifications disclose different and inconsistent signaling technology:

> The examiner notes that "SPAM" technology, on which the "more sophisticated" systems of applicant's present 1987 disclosure are based, is vastly different from the "cuing-type signal" technology on which the "primitive" systems of applicant's 1981 parent application were based; e.g. the ability of SPAM to carry and distribute "software" being but just one of the more notable difference. Clearly, the "more sophisticated" 1987 alleged inventions that are now *necessarily being claimed* are not entitled to the 1981 filing date of their 1981 "primitive" ancestors; i.e. applicant is not allowed to transport his "more sophisticated" 1987 alleged inventions back in time to the 1981 filing date of his different, albeit sometimes "correlated", "primitive" 1981 alleged inventions.

Office action, p. 87 (emphasis in original). While the above quote mischaracterizes the enhanced and improved signaling technology disclosed in 1987 and the signaling technology disclosed in the 1981 specification, the most egregious flaw in the Examiner's argument above is in his assertion that applicants are "now necessarily" claiming the "more sophisticated systems" disclosed in the 1987 specification. Even a brief review of the claims actually pending in the instant application demonstrates that applicants have not included limitations of any such improvements or enhancements found only in the 1987 specification. The Examiner, however, steadfastly refuses to support his position with references to or analyses of specific claims.

The following sections address the Examiner's allegations of how applicants' disclosures related to signaling are inconsistent.

(b) Instruct Signals

The Examiner asserts that the "instruct signals" disclosed in the 1987 specification are inconsistent with the "instruct signals" disclosed in the 1981

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specification. The Examiner's assertion is incorrect. The term "instruction signal" is used in the 1987 specification in the discussion of the Wall Street Week ("WSW") example. *See* 1987 Specification, p. 25-26. Likewise, the term "instruction signal" is used in the WSW example in the 1981 specification. As the following chart demonstrates, the instruction signals used in the 1987 Wall Street Week example are disclosed in a very similar manner as the "instruction signals" disclosed in the 1981 specification:

1981 Specification	1987 Specification
Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission. . . .	Microcomputer, 205, is preprogrammed to receive said input of signals at its asynchronous communications adapter and to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission. . . .
Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON".
This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. (Col. 19, line 7 - Col. 20, line 7.)	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. (P. 21, ll. 20-24; P. 25, l. 33 - P .26, l. 11.)

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Applicants' use of the term "instruction signal" in both specifications, as reflected in the above chart, is consistent. Further, the above chart clearly demonstrates that both specifications disclose instruction signals that are not "computer software/programming," as the Examiner uses that term. *See also* Declaration of Dr. Ligler, ¶¶ 40 and 49. The Examiner's position, on the other hand, is wholly unsupported. Moreover, the Examiner fails to discuss the term in the context of any pending claim.

(c) Signal Word

In Section I (V) (3) of the Office action, the Examiner asserts that applicants use the term "signal word" inconsistently in the 1981 and 1987 specifications. Despite the Examiner's assertions, applicants' use of the term "signal word" in the 1987 specification is not inconsistent with applicants' use and definition of that term in the 1981 specification. As acknowledged by the Examiner, applicants carried forward the identical definitions of "signal word" (and the term "signal unit") from the 1981 specification into the 1987 specification. Despite the fact that the term "signal word" is defined identically in both specifications, the Examiner argues that applicants use the term in a manner that is "inconsistent" and repugnant" to its definition.

The term "signal word" is defined in both specification as follows:

> The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.

1981 Specification, col. 3, ll. 3-12; 1987 Specification, p. 14, l. 32 - p. 15, l. 6. The Examiner asserts without support or explanation that the term signal word is used throughout the 1987 specification in a manner inconsistent with its definition to refer to "the N-bit bytes of 'computer-type' data which make up the digital information that is

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now distributed and/or processed by the 1987 inventions." Office action, p. 39. The Examiner asserts that although the term "signal word" is defined in the 1987 specification to refer to "each occurrence/appearance of ancillary signaling within the distributed TV/Radio/Other programming" the term is actually used in the 1987 specification to refer to "the 'words'/bytes of digital computer-type data which comprise (and do not carry) said ancillary signaling." *Id.*

Applicants do not fully understand the Examiner's argument. Applicants' use of "signal word" throughout the 1987 specification is consistent with its definition. Applicants defined the term "signal word" broadly to include many different types of signals. The definition states that "signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations." Applicants' use of the term "signal word" in connection with data (computer type or otherwise) of a certain bit length is not inconsistent with this definition. The definition of "signal word" is in no way limited to preclude applicants use of the term in connection with the "N-bit bytes of computer type data." The Examiner provides no argument, justification or reason whatsoever to support his opinion that applicants' definition of "signal word" is inconsistent with this usage. Further, there is no reason why a person of ordinary skill in the art would not understand that applicants' definitions of signal words and signal units are applicable to the SPAM messaging protocol disclosed in the 1987 specification. *See* Declaration of Dr. Ligler, ¶ 50.

Finally, applicants firmly dispute the following allegation made by the Examiner:

> via slight of hand, the alleged meaning of the "signal word" terminology was quickly changed within the instant 1987 disclosure so as to refer to the "words"/bytes of digital computer-type data which comprise (and did not carry) said ancillary signaling

Office action, p. 39. This accusation is grossly inappropriate, and quite obviously, wholly unsupported. As applicants have explained above, they have not used the term

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"signal word" in a manner that is inconsistent with its definition in the 1987 specification. The Examiner fails to even suggest anything that would motivate applicants to engage in "slight of hand" when preparing their 1987 specification. Accordingly, this allegation, and any rejection or objection based thereon, should be promptly withdrawn.

(d) The "SPAM" Transport Scheme vs. The 1981 Signaling Transport Scheme

In Section I (V) (5) of the Office action, the Examiner asserts that the "SPAM transport scheme" disclosed by applicants in their 1987 specification is inconsistent with the signaling transport scheme disclosed in the 1981 specification. First, applicants dispute the Examiner's characterization of the SPAM messaging scheme disclosed by applicants in their 1987 specification.

Applicants acknowledge that the 1987 specification discloses new ways for embedding signals in transmissions that were not disclosed in 1981. Applicants maintain, however, that the two specifications are consistent with respect to this issue. Certainly, both specifications contain the common disclosure of embedding signals in transmissions that are sent and then received at receiver stations where the signals are removed (i.e., stripped out) and processed. As long as applicants do not claim or include limitations of the specific enhancements/improvements disclosed in 1987, there is no reason why both disclosures cannot support claims simply reciting that signals are embedded, transmitted, and processed (along with other features disclosed in both specifications). Accordingly, the Examiner is incorrect in making the conclusory statement that "all of the currently pending amended claims have at least one limitation whose scope and meaning is defined by 1987 'SPAM' signaling . . . none of the claims are entitled to the 1981 priority date of the parent disclosure which did not describe SPAM." Office action, p. 42-43. As applicants have already explained, it is simply improper for the Examiner to read

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limitations of the enhanced and improved SPAM signaling scheme into claims that do not include any such limitations. A proper determination as to whether a specific claim is supported under § 112 can only be made by focusing on the specific limitations that actually exist in that claim. Applicants submit that if their claims are addressed on a claim by claim basis, one will conclude that both specifications provide adequate written description support. *See* Declaration of Dr. Ligler, ¶ 53.

(3) Inherency

In Section I (V) (4) of the Office action, the Examiner requests applicants to identify all teachings from each specification that are inherently disclosed in the other specification. Applicants are aware of no authority that would obligate them to respond to this heretofor unheard of request. Of course, both specifications are and have been before the Examiner and are therefore available for any legitimate examining activity. To the extent that applicants need to rely on an inherent feature or features that exists in either disclosure to overcome a rejection or objection by the Examiner, applicants reserve the right to identify such inherent teachings in response to such a rejection.

In Section I (V) (4) of the Office action, the Examiner also challenges applicants' use of the term "implicitly" in their Response to the Examiner's 8/28/01 Office action. Specifically, the Examiner asserts, again without support, that:

> what might have been "implicitly" taught in the past 1981 parent specification is irrelevant to section 112-1 support issues
>
> [and]
>
> The fact that the 1987 feature . . . was "implicitly" there is insufficient to establish something as being 'inherent'

Office action, p. 40-41. The Examiner's position is directly contradicted by the instructions in the M.P.E.P. on this issue:

> While there is no *in haec verba* requirement, newly added claim limitations must be supported in the

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> specification through express, implicit, or inherent disclosure.

M.P.E.P. § 2163 (I) (B).

> To comply with the written description requirement of 35 U.S.C. 112, para. 1, or to be entitled to an earlier priority date or filing date under 35 U.S.C. 119, 120, or 365(c), each claim limitation must be expressly, implicitly, or inherently supported in the originally filed disclosure.

M.P.E.P. § 2163 (II) (A) (3) (b). Accordingly, the Examiner's assertion that applicants had improperly invoked the term "implicitly" is without merit.

(4) The Wall Street Week Example

In Section I (V) (6), the Examiner asserts that while the Wall Street Week ("WSW") examples described in both specifications "have their similarities, the actual methods/details/structures used to carry out these two Wall Street Week embodiments are quite different." Office action, p. 43. The Examiner goes on to discuss alleged differences and then concludes that it would be "improper" to give claims directed to WSW a 1981 priority date "unless it can show that the support that is provided for the claims by both disclosures is in fact the same/common to both disclosures." Office action, p. 46. The Examiner's assertion is wrong for several reasons.

In his discussion of the WSW examples, the Examiner identifies two alleged differences between how the example is disclosed in both specifications. The Examiner asserts that the "microcomputer (205)" in both specifications is different. The microcomputer from applicants' 1987 specification is alleged to have "circuitry" for: 1) overlaying locally generated graphics over the TV signal broadcast, and 2) receiving, loading, and running downloaded computer software. In contrast, the Examiner alleges that the microcomputer disclosed in the 1981 specification: 1) lacks such overlaying circuitry, and 2) is preprogrammed with computer software to execute functions defined by received discrete instructions.

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Applicants submit that the Examiner's is incorrect with respect to these two aspects of how the microcomputer functions in the two WSW examples. First, the Examiner fails to identify any actual differences in the circuitry of microcomputer 205 with respect to the overlaying of locally generated graphics as evidenced by the disclosures. Instead, the Examiner makes sweeping and wholly unsupported allegations that the "elements" of the "structures" related to microcomputer, 205 disclosed in applicants' 1981 and 1987 specifications are "clearly different in both structure and operation" and:

> **showing that, as with applicant's use of common terminology, it would be erroneous for one to assume that common labels and common reference numerals were used in applicant's 1981 and 1987 disclosures as an indication of common elements or "common subject matter".**

Office action, p. 44 (emphasis in original). Contrary to the Examiner's assertion, applicants respectfully submit that applicants' use of common terms and common numerals strongly suggests that there is, in fact, substantial overlapping subject matter in the two specifications. *See, e.g.,* Declaration of Dr. Ligler, ¶¶ 43-57. Any differences do not impact the conclusion that both specifications support the pending claims. *See* Declaration of Dr. Ligler, ¶ 57. Second, while the WSW example disclosed in 1987 is capable of receiving programming that can be downloaded and run at microcomputer 205, the 1987 specification also indicates that microcomputer (like the microcomputer 205 in the 1981 specification) contains preprogramming. *See, e.g.,* 1987 specification, p. 14, ll. 15-22.

Applicants submit that the Examiner's discussion of the two WSW examples exaggerates any differences between the two examples in 1981 and 1987 specifications. Moreover, the Examiner fails to address the substantial similarities between the two Wall Street Week examples. Applicants maintain that all of the pending claims can be

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supported by those features and teachings of the 1981 WSW example that are also found in the 1987 example.

(5) All Recitations Directed To "Signals/Instructions/Data" Conveyed In TV Transmissions Derive Support From SPAM Signaling First Disclosed In 1987

In Section I (V) (7) of the Office action, the Examiner asserts that applicants' claim to a 1981 priority date is "refuted" because applicants claims "derive their required Section 112 support from the 'SPAM' signaling" that was not introduced until the 1987 specification was filed. Office action, p. 46-47. The Examiner is incorrect. As applicants have already stated, details related to the SPAM signaling structure that are not found in the 1981 specification need not, and indeed should not, be improperly read into applicants' pending claims. All of applicants' pending amended claims are adequately supported by both specifications, and details related to the SPAM signaling protocol that are not recited in applicants' claims have no bearing on the fact that applicants' claims are adequately supported by both specifications. *See* Declaration of Dr. Ligler, ¶ 53.

(6) Differences Related To How Receiver Stations Are Programmed In The Two Specifications

In Section I (V) (7) of the Office action, the Examiner argues that the receiver stations disclosed in applicants' 1981 and 1987 specifications differed in that the receiver station disclosed in the 1987 specification could by reprogrammed "on the fly," while the receiver station disclosed in the 1981 specification could not. First, applicants note that the Examiner does not make a rejection or objection in connection with the arguments made in Section I (V) (7) of the Office action. Second, the 1981 specification clearly discloses reprogramming the receiver station via receipt of a remote transmission over a telephone connection. *See* 1981 Specification, col. 9, ll. 21-22; *see also* Declaration of

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Dr. Ligler, ¶ 52. Finally, applicants note that the alleged differences between applicants' two specifications discussed in Section I (V) (7) of the Office action do not alter the fact that both specifications support the claimed subject matter. *See* Declaration of Dr. Ligler, ¶ 52.

(7) The Examiner's Position On Best Mode Issues

In Section I (V) (8) of the Office action, the Examiner presents an abridged version of his "best mode" based test for denying applicants' priority claim. Applicants responded to the Examiner's arguments concerning these best mode issues in detail in their 5/06/02 Response to Interview Summary. The Examiner has not acknowledged or responded to applicants' discussion of these issues. The Examiner appears to acknowledge that the Federal Circuit's holding in *Transco Prods., Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994) does not support his position, however, applicants' cannot determine whether or not the Examiner's position has changed on the overall issue. Applicants respectfully request that the Examiner specifically respond to applicants' arguments on this issue, or withdraw the "best mode" based test for denying applicants' priority claim in its entirety.

k. Arguments Related To Claims In A Copending Application Previously Reciting The Term "Interactive Video"

In Section II (1) of the Office action, the Examiner raises issues regarding applicants' use of the term "interactive video." Section II (1) of the Office action responds to issues pertinent to the '571 application. In the '571 application, applicants' responded to a rejection made by the Examiner in his 8/28/01 Office action concerning a claim that previously recited the term "interactive video." In applicants' 1/28/02 Response filed in the '571 application, applicants noted that although they disputed the Examiner's basis for rejecting the relevant claim, they had nevertheless deleted the

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limitation "interactive" from the claim. Notwithstanding the lack of relevance of this issue to the instant application, applicants maintain that both the 1981 and 1987 specifications unquestionably disclose "interactive video apparatus." *See, e.g.,* 1981 Specification col. 20, ll. 23-27, and "Local Input" in Figure 6D; 1987 Specification, p. 288, ll. 1-20. The term "interactive video" still does not appear in any of applicants' pending amended claims, and the issues raised by the Examiner in Section II (1) of the Office action are therefore moot. If and when the issues raised in Section II (1) of the Office action are germane to this application or any of applicants' other copending applications, applicants will respond further to the issues raised in Section II (1) of the Office action.

I. The Examiner's Characterization (And Applicants' Alleged Misunderstanding) Of Teletext

In Section II (2) of the Office action, the Examiner discusses his characterization of "standardized" Teletext and certain arguments advanced by applicants in their prior responses to certain prior art rejections made by the Examiner in his 9/04/01 Office action. Applicants fully address the issues raised in Section II (2) of the Office action in their discussion of the Examiner's prior art rejections below.

5. Response To The 30 Examples

In Section IV of the Office action, the Examiner lists of 30 "Examples" discussing issues related to applicants' compliance with §§ 112 and 120. The vast majority of the 30 Examples are simply verbatim duplicates of text that the Examiner has copied from earlier sections of the two most recent Office actions. Seven (7) of the Examples (Examples 1, 2, 3, 12, 15, 16, and 20) are copied from earlier sections of the 7/30/02 Office action. Nineteen (19) other Examples (Examples 4, 6-11, 13, 14, 17, 18, and 22-29) are copied from the Examiner's 9/04/01 Office action in the instant application. Of the 30 Examples, only four (4) Examples present any "new" discussion of §§ 112/120

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issues, and even these four Examples simply rehash arguments that have been advanced by the Examiner elsewhere.

At the beginning of Section IV, the Examiner alleges that in some cases applicants have "handled and addressed" these issues inconsistently in different applications. The Examiner states that the list of "Examples" will be maintained by the Patent Office "in an attempt to ensure consistency in the way that these issues are handled between applications in the future." Office action, p. 56. Many of the issues discussed in the 30 Examples have been raised by the Examiner before in different forms in some of applicants' various copending applications. In addressing such issues, applicants have at all times strived to address these reoccurring issues in a consistent manner in all of applicants copending applications. Applicants' position on their ability to demonstrate that their pending claims can be supported under § 112 and their assertion that many of their claims are entitled to priority under § 120 have not changed. Further, applicants' position with respect to what the law requires for applicants to satisfy §§ 112 and 120 has also not changed. Accordingly, applicants believe that the Examiner is mistaken in his unsupported assertion that applicants have "handled and addressed" the issues raised in the 30 Examples "inconsistently."

Applicants also question the relevance of the 30 examples, as well as applicants' need to respond to these examples, because none of the examples forms the basis for any objection or rejection of a pending claim. *See* 37 C.F.R. § 1.111(b) (2001) ("In order to be entitled to reconsideration or further examination, the applicant . . . must reply to every ground of objection and rejection in the prior Office action."). Accordingly, all 30 Examples should be withdrawn in their entirety. Applicants reserve their right to further address any issue raised in the 30 Examples if the Examiner makes an actual rejection or objection based on any of the issues raised in the Examples.

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Example 1

Example 1 is substantially identical to Section III (1) of the 7/30/02 Office action, which applicants have responded to above.

Example 2

Example 2 is substantially identical to the final part of Section I (A) of the 7/30/02 Office action, which applicants have responded to above.

Example 3

Example 3 is substantially identical to Section III (2) of the 7/30/02 Office action, which applicants have responded to above.

Example 4

Example 4, is substantially identical to Section II (1) of the 9/04/01 Office action in the instant application. Applicants have already fully responded to the issues raised in Example 4 in their 2/04/02 Response. The Examiner does not indicate that he has considered applicants' response to the issues raised in Example 4. In addition to applicants' prior response to the issues raised in Example 4, applicants address the "locally generating" issue in detail below. Applicants continue to respectfully disagree with the Examiner's assertion that Teletext decoders locally generate images for output or display in the same manner as being claimed in the instant application.

Example 5

In Example 5, the Examiner asserts that applicants' 1987 "packetized SPAM" structure represents little more than applicants' own version of a "conventional extended Teletext system." The issues discussed in Example 5 are not discussed in the context of any of the claims currently pending in the instant application and the Examiner does not reject any of the pending claims based on the assertions made in Examples 5. If and when the Examiner makes rejections of specific pending claims on the basis of issues raised in Example 5, applicants will further respond to such rejections. Notwithstanding

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the lack of any rejection in Example 5, applicants strenuously disagree with the Examiner's disparaging assertions and characterizations of the subject matter disclosed in applicants' 1987 specification. Applicants note that they have previously addressed how applicants' claims differ from many "Teletext" prior art references in their prior responses in the instant application, and applicants further distinguish the currently pending claims from "Teletext" prior art references below.

Example 6

Example 6 is substantially identical to Section II (2) of the 9/04/01 Office action in the instant application. Applicants have already fully responded to the issues raised in Example 6 in their 2/04/02 Response. The Examiner does not indicate that he has considered applicants' response to the issues raised in Example 6. In addition to applicants' prior response to the issues raised in Example 6, applicants address the "computer software/programming" issue in detail above. Applicants continue to respectfully disagree with the Examiner's assertions regarding the "computer software/programming" issue. Finally, applicants note that none of applicants' currently pending claims use the terms "computer software" or "programming." *See also* Declaration of Dr. Ligler, ¶¶ 44-47.

Example 7

Example 7 is substantially identical to Section II (3) of the 9/04/01 Office action in the instant application. Applicants have already fully responded to the issues raised in Example 7 in their 2/04/02 Response. The Examiner does not indicate that he has considered applicants' response to the issues raised in Example 7. Applicants continue to respectfully disagree with the Examiner's assertions and characterizations of Teletext decoders found in the prior art and the signal processor disclosed by applicants. Applicants submit that the signal processors disclosed in applicants' specifications perform functions that are not disclosed in the cited Teletext prior art references. Further,

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applicants note that the Examiner does not make any rejections of or objections to any of applicants' pending claims in Example 7.

Example 8

Example 8 is substantially identical to Section II (4) of the 9/04/01 Office action in the instant application. Applicants have already fully responded to the issues raised in Example 8 in their 2/04/02 Response. The Examiner does not indicate that he has considered applicants' response to the issues raised in Example 8. In Example 8, the Examiner asserts that it is applicants' position that applicants' claimed/disclosed technology is not "correlated/analogous" to Teletext technology. The Examiner, however, fails to provide any details regarding his position that "conventional Teletext systems" generally are correlated or similar to applicants' claimed technology. Indeed, such generalized "correlations" or "analogies" are wholly irrelevant to the issue of whether or not applicants' claims are patentable. Applicants' position is that none of the cited references, related to Teletext or otherwise, alone or in combination, teach the methods and apparatus claimed by applicants. Applicants further distinguish the currently pending claims from so-called "conventional Teletext systems/technology" below.

The Examiner further argues that applicants have indicated it is their belief that the scope of many of their pending claims encompasses the "Weather Star" system/receiver technology. First, the question of whether or not a particular system would be covered by a pending claim is wholly irrelevant to the examination of the instant claims, unless such system is prior art. The Examiner has not established that the Weather Star system is prior art. Second, although the Examiner vaguely refers to applicants' "pending amended claims," he makes no reference to a specific application or a specific claim. Due to the Examiner's broad treatment of these issues, applicants cannot further respond in any meaningful manner to the issues raised in Example 8.

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Example 9

Example 9 is substantially identical to Section II (5) of the 9/04/01 Office action in the instant application. In Example 9, the Examiner discusses the issue of whether "digital television signals/programming" was well known in the relevant art at the time that applicants filed their specifications. In their 2/04/02 Response, applicants fully addressed the Examiner's rejections under § 112, second paragraph, of claims with limitations of "digital television," and applicants maintain their previously stated position regarding the Schwartz et al. reference. None of applicants' currently pending amended claims recite the limitation "digital television." Further, only one claim, claim 63, recites the term "digital," in the context of the communication of a video apparatus with a remote data source "via a digital information channel." Applicants do not use the term "digital" in claim 63 in a manner believed to be objectionable by the Examiner. Accordingly, the issues raised in Example 9 are moot. Applicants note that there are no rejections of or objections to any of applicants pending claims based on the issues raised in Example 9, and applicants reserve the right to further respond to the issues raised in Example 9 if any of these assertions are relied on to object to or reject any claim in the future.

Example 10

Example 10 is substantially identical to Section II (6) of the 9/04/01 Office action in the instant application. Applicants have already fully responded to the issues raised in Example 10 in their 2/04/02 Response. The Examiner does not indicate that he has considered applicants' response to the issues raised in Example 10.

In Example 10, the Examiner discusses two references issued to Zaboklicki: DE 2,914,981 and GB#2,016,874. Despite the Examiner's characterization of applicants' arguments regarding these references, applicants continue to maintain that neither Zaboklicki reference anticipates or renders obvious any of applicants' pending claims.

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Applicants will continue to address in detail any rejection under § 102 or § 103 in which a Zaboklicki reference is applied.

Examples 11 and 12

Examples 11 and 12 are substantially identical to sections of Section II (7) of the 9/04/01 Office action and Section I (N) of the 7/30/02 Office action, respectively. Applicants have already fully responded to the "programming" issues raised in Examples 11 and 12 in their 2/04/02 Response and their Response to Interview Summary. In addition to applicants' prior responses to the "programming" issues, applicants further address this issue in detail above. *See also* Declaration of Dr. Ligler, ¶¶ 44-47.

Example 13

Example 13 is substantially identical to Section II (8) of the 9/04/01 Office action in the instant application. In Example 13, the Examiner discusses whether or not radio and television arts represent non-analogous arts. The Examiner states that applicants have previously asserted that the radio and television arts are non-analogous arts. The Examiner's assertions in Example 13 do not form the bases for any rejection of or objection to any specific claim pending in the instant application. To the extent necessary, applicants will further address the issues raised by the Examiner in Example 13 if and when such issues are ever raised in the context of a rejection of or objection to a specific pending claim.

Example 14

Example 14, discussing the "simultaneous and sequential" claim recitation, is substantially identical to Section II (9) of the 9/04/01 Office action in the instant application. Applicants have already fully responded to the issues raised in Example 14 in their 2/04/02 Response. The Examiner does not indicate that he has considered applicants' response to the issues raised in Example 14. Further, the Examiner's

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assertions in Example 14 do not form the bases for any rejection of or objection to any specific claim pending in the instant application.

Examples 15 and 16

Examples 15 and 16 are substantially identical to Section I (P) and (Q), respectively, of the 7/30/02 Office action. Applicants have already fully responded to the "programming" issue raised by the Examiner in their 2/04/02 Response and their Response to Interview Summary. In addition to applicants' prior responses to the "programming" issues, applicants further address this issue in detail above. *See also* Declaration of Dr. Ligler, ¶¶ 44-47.

Examples 17, 18, 23, 24, 25, and 26

Examples 17, 18, 23, 24, 25, and 26 are substantially identical to Sections II (10), (11), (15), (16), (17), and (18), respectively, of the 9/04/01 Office action in the instant application. Examples 17, 18, 23, 24, 25, and 26 discuss various issues related to applicants' ability to obtain a priority date based on their 1981 specification and the proper legal test to be applied when analyzing an applicant's ability to obtain a priority date under § 120. Applicants have already fully responded to the issues raised in Examples 17, 18, 23, 24, 25, and 26 in detail in their 2/04/02 Response and their Response to Interview Summary. The Examiner does not indicate that he has considered applicants' response to the issues raised in Example 17, 18, 23, 24, 25, and 26. In addition to applicants' prior response to the issues raised in Examples 17, 18, 23, 24, 25, and 26, applicants further address those issues in detail above.

Example 19

In Example 19, the Examiner asserts that applicants' have not demonstrated that their pending claims are supported by "common subject matter." Applicants have already fully responded to the "common subject matter" issue raised in Example 19 in their 2/04/02 Response and their Response to Interview Summary. In addition to

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applicants' prior responses to the "common subject matter" issue, applicants further address this issue in detail above. Applicants further note that the allegation that applicants support claim 123 pending in the '571 application with the Wall Street Week example from the 1981 specification and with the Super Discount Supermarket example from the 1987 specification, fails to take into account applicants' narrative summaries for claim 123 submitted by applicants in their 1/28/02 Response filed in the '571 application. In the narrative summary submitted by applicants in the '571 application regarding how claim 123 is supported under § 112, first paragraph, by both specifications, applicants rely only on the Wall Street Week example disclosed in both specifications. In any event, applicants have cancelled claim 123 in the '571 application, therefore the issue is moot.

Example 20

Example 20 is substantially identical to Section I (I) of the 7/30/02 Office action, which applicants have responded to above.

Example 21

In Example 21, the Examiner describes and compares the technology disclosed by applicants in their 1981 and 1987 specifications and asserts that the technology disclosed in applicants' two specifications is "vastly different." While it is true that the 1987 application includes many enhancements and improvements, applicants maintain that the subject matter disclosed in their 1981 application is also disclosed in the 1987 application. Applicants have further addressed the issues raised in Example 21 in greater detail above.

Example 22

Example 22, regarding applicants' alleged inconsistent use of terminology, is substantially identical to Section II (14) of the 9/04/01 Office action in the instant application. Applicants have already fully responded to the issues raised in Example 22

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in their 2/04/02 Response. The Examiner does not indicate that he has considered applicants' response to the issues raised in Example 22. In addition to applicants' prior response to the issues raised in Example 22, applicants further address these issues above.

Example 27

Example 27 is substantially identical to Section II (19) of the 9/04/01 Office action in the instant application. In Example 27, the Examiner asserts that certain structures recited in some of applicants' claims (namely, a receiver, a signal detector, a processor, and an output device) are also "found within a conventional CPU/MP/computer implemented Teletext" receiver. Office action, p. 93. The example is not discussed in the context of any of the claims pending in the instant application and the Examiner does not reject any of the pending claims based on the arguments made in Example 27. If and when the Examiner makes rejections of specific pending claims on the basis of issues raised in Example 27, applicants will further respond to such rejections. Applicants further respond above to the Examiner's assertion that applicants' "'SPAM' is, for all intents and purposes, synonymous with conventional 'Extended Teletext.'" *Id.*

Example 28

Example 28, addressing applicants' disclosure of "interactive" features at receiver stations, is substantially identical to Section II (20) of the 9/04/01 Office action in the instant application. In Example 28, the Examiner questions applicants' written description support for the recitation "interactive ultimate receiver station" previously appearing in claim 56 of the '571 application. None of applicants pending claims in the instant application includes the limitation "interactive." Applicants maintain that both the 1981 and 1987 specifications unquestionably disclose "interactive receiver stations." *See, e.g.,* 1981 Specification col. 20, ll. 23-27, and "Local Input" in Figure 6D; 1987 Specification, p. 288, ll. 1-20.

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Example 29

Example 29, discussing limitations allegedly directed to combining images through "replacing" portions of the images, is substantially identical to Section II (21) of the 8/27/01 Office action in the instant application. The issue raised in Example 29 is not relevant to claims pending in the instant case. Applicants have, however, fully responded to these issues in their 1/28/02 and 1/09/03 Responses filed in the '571 application.

Example 30

In Example 30, the Examiner discusses the publication date of an article/reference by Gunn et al. Applicants acknowledge that the Gunn reference refers to a conference in London that took place from March 26-28, 1980. But this information alone does not qualify the reference as prior art (i.e., it was unclear when the paper was published). However, since the mailing of the 7/30/02 Office action, applicants received a copy of the Gunn reference that bears a Massachusetts Institute of Technology ("MIT") Library received stamp dated December 4, 1980. The Examiner also alleges in Example 30 that applicants have previously neglected to provide the Office with information regarding the publication dates of many references. Applicants have diligently supplied the Office with references as they have become known to applicants. In some instances, dates were not provided with certain references, so applicants were not able to provide the Office with dates for each and every reference identified on some of applicants' Information Disclosure Statements.

C. Response To Rejections Under Section 112, Second Paragraph

In Section V of the Office action, claim 45-49 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The cancellation of claims 45-49 renders these rejections moot.

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D. Response To Rejections Under Section 112, First Paragraph

In Section VI of the Office action, the Examiner rejects applicants claims 2-18, 20-30, 33-49, and 51-60, under § 112, first paragraph, as containing subject matter which was not sufficiently disclosed in applicants' specification. Applicants respectfully submit that the Declaration of Dr. Ligler filed herewith demonstrates that the instant specification, as well as applicants' 1981 specification, each provide support for all of applicants' pending claims, as amended, as required by 35 U.S.C. § 112.

In Sections VI (F), (G), (H), (O), (P), (Q), (S), (U), (V), and (A2), the Examiner requests clarification as to where certain recitations appearing in claims 7, 8, 9, 21, 22, 23, 25, 27, 28, and 35 are described in applicants' originally filed disclosure. Applicants' proposed claim amendments have rendered moot the Examiner's concerns in these sections with regard to written description support for certain recitations previously appearing in these claims. The Declaration of Dr. Ligler shows where support may be found in both specifications for new recitations in the claims. In Sections VI (H2) through (V2), the Examiner requests clarification as to where certain recitations of claims 43-49 and claims 51-60 are described in applicants' originally filed disclosure. As applicants' have canceled claims 43-60, the Examiner's concerns with regard to written description support for these claims are also moot.

In Section VI (A) the Examiner requests clarification as to where certain recitations of claim 2 are described in applicants' originally filed disclosure. Applicants' proposed claim amendments have rendered moot the Examiner's concerns in parts 5, 9 and 10 of Section VI (A). With regard to written description support for the recitations identified in parts 1-4, 6-8, and 11-13 of Section VI (A), Paragraphs 21-27 of the Declaration of Dr. Ligler demonstrate where support exists in both specifications for the identified recitations.

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In Sections VI (B), (C), (D), (E), (I), (J), (K), and (L) the Examiner requests clarification as to where certain recitations of claims 3, 4, 5, 6, 11, 12, 13, 14, 15, and 16 are described in applicants' originally filed disclosure. Written description support for the identified recitations in those claims is set forth in Tab F of Dr. Ligler's Declaration.

In Section VI (M) the Examiner requests clarification as to where certain recitations of claims 17 and 18 are described in applicants' originally filed disclosure. Written description support for these recitations are addressed in Tab F of Dr. Ligler's Declaration. Applicants' proposed claim amendments have rendered moot the Examiner's concerns with regard to written description support for the recitations previously appearing in claim 18.

In Section VI (N) the Examiner requests clarification as to where certain recitations of claim 20 are described in applicants' originally filed disclosure. The Examiner's concerns in Sections VI (N)(1)-(5) are addressed in Paragraph 36 of Dr. Ligler's Declaration. Applicants' proposed claim amendments have rendered moot the Examiner's concerns in Sections VI (N)(6)-(8).

In Section VI (R) the Examiner requests clarification as to where certain recitations of claim 24 are described in applicants' originally filed disclosure. The Examiner's concerns in Sections VI (R)(1) and (4) are addressed in Paragraph 37 of Dr. Ligler's Declaration. Applicants' proposed claim amendments have rendered moot the Examiner's concerns in Sections VI(R)(2), (3), (5) and (6).

In Section VI (T) the Examiner requests clarification as to where certain recitations of claim 26 are described in applicants' originally filed disclosure. The Examiner's concerns in Sections VI (T)(1)-(5) are addressed in Paragraph 38 of Dr. Ligler's Declaration. Applicants' proposed claim amendments have rendered moot the Examiner's concern in Section VI (T)(6).

In Section VI (W) the Examiner requests clarification as to where certain recitations of claim 29 are described in applicants' originally filed disclosure. The

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Examiner's concerns in Sections VI (W)(1), (5), and (6) are addressed in Paragraph 39 of Dr. Ligler's Declaration. Applicants' proposed claim amendments have rendered moot the Examiner's concerns in Sections VI (W)(2)-(4).

In Section VI (X) the Examiner requests clarification as to where certain recitations of claim 30 are described in applicants' originally filed disclosure. The Examiner's concerns with regard to written description support for claim 30 are addressed in Tab F of Dr. Ligler's Declaration. *See also* Declaration of Dr. Ligler, ¶¶ 21-27, and 39.

In Section VI (Y) the Examiner requests clarification as to where certain recitations of claim 33 are described in applicants' originally filed disclosure. Applicants' proposed claim amendments have rendered moot the Examiner's concerns in parts 4 and 5 of Section VI (Y). With regard to the Examiner's concerns in parts 1-3, and 6 of Section VI (Y), Paragraphs 28-35 of the Declaration of Dr. Ligler demonstrate where support exists in both specifications for the identified recitations.

In Section VI (Z) the Examiner requests clarification as to where certain recitations of claims 34 and 36 are described in applicants' originally filed disclosure. These concerns are addressed in Tab F of Dr. Ligler's Declaration.

In Section VI (B2) the Examiner requests clarification as to where certain recitations of claim 37 are described in applicants' originally filed disclosure. Applicants' proposed claim amendments have rendered moot the Examiner's concerns in parts 1-3, 5, and 7-8 of Section VI (B2). With regard to written description support for the recitations identified in parts 4, 6, and 9 of Section VI (B2), Paragraphs 21-27 and Tab F of the Declaration of Dr. Ligler demonstrate where support exists in both specifications for the identified recitations.

In Sections VI (C2)-(G2) the Examiner requests clarification as to where certain recitations of claims 38-42 are described in applicants' originally filed disclosure. The

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Examiner's concerns with regard to written description support for the identified recitations in claims 38-42 are addressed in Tab F of Dr. Ligler's Declaration.

E. Response To Prior Art Rejection Of Claims

As an initial matter, applicants note that the Examiner has been unable to uncover a single anticipatory reference for any claim. The Examiner does, however, make numerous rejections of applicants' claims using various combinations of references under 35 U.S.C. § 103. Applicants note that the Examiner also relies on generalized teachings of "conventional" devices exemplified by cited references. For the reasons discussed below, this reliance on generalized teachings is improper. In the few instances where the claims are rejected based on a single reference, the Examiner relies on § 103, not § 102, which further demonstrates that no single reference teaches any of applicants' claims. Applicants address the prior art rejections in detail below.

1. Requirements Of Section 103

To establish a *prima facie* case of obviousness under § 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference to combine the teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references combined) must teach or suggest all of the claim recitations. M.P.E.P. § 706.02(j) (8th ed. 2001). Further, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not based on applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In order to support a § 103 rejection based on the modification of a single reference, the Examiner must provide specific evidence to show *why* one of ordinary skill would be motivated to modify the reference in such a way to incorporate all of the claimed elements. *See In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316-17

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(Fed. Cir. 2000) ("Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference.") (emphasis added). Broad conclusory statements concerning motivation to modify, standing alone, are not sufficient to support an obviousness rejection. *See In re Freed,* 425 F.2d 785, 787, 165 USPQ 570, 571-72 (C.C.P.A. 1970) (an obviousness rejection must be based on facts, "cold hard facts"); *In re Kotzab*, 217 F.3d at 1370, 55 USPQ2d at 1317 ("Broad, conclusory statements standing alone are not 'evidence.'"). Accordingly, a statement that a modification would be an "obvious design choice," without factual support, is insufficient as a matter of law. *In re Dembiczak,* 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999), *abrogated on other grounds by In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000). Finally, as the absence of a suggestion to modify a reference is dispositive in an obviousness determination, a rejection which fails to provide specific evidence as to *why* one of ordinary skill would be motivated to modify the relevant reference is insupportable, as a matter of law. *See Gambro Lundia AB* v. *Baxter Healthcare Corp.,* 110 F.3d 1573, 42 USPQ2d 1378 (Fed. Cir. 1997).

In order to support a § 103 rejection based on a combination of references, the Examiner must provide a sufficient motivation for making the relevant combinations. *See* M.P.E.P. §§ 2142 and 2143.01; *see also In re Rouffet*, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998) ("When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references."). It is well-settled that an Examiner can "satisfy [the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness] only by showing some *objective teaching* in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) (emphasis added); *see also In re Lee*, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed.

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Cir 2002) ("'deficiencies of the cited references cannot be remedied by the Board's general conclusions about what is 'basic knowledge' or 'common sense'"). As with rejections based on the modification of a single reference, "[b]road conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence [of a motivation to combine]'" and thus do not support rejections based on combining references. *In re Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. Without objective evidence of a motivation to combine, the obviousness rejection is the "essence of hindsight" reconstruction, the very "syndrome" that the requirement for such evidence is designed to combat, and without which the obvious rejection is insufficient as a matter of law. *Id.* at 999, 50 USPQ2d at 1617-18.

As set forth in greater detail below, the Examiner has failed to follow these requirements when making the § 103 rejections of the claims of the instant application. For this reason alone, the § 103 rejections should be withdrawn.

2. Response To Section VII Of The Office Action

Section VII of the Office action contains no rejections of or objections to any of applicants' claims. Thus, Section VII is not directly relevant to the patentability of applicants' claims. Accordingly, no response by applicants is required by 37 C.F.R. § 1.111. Nonetheless for completeness and to clarify the record, applicants provide the following comments regarding the assertions made in Section VII. Applicants reserve the right to further respond if any of these assertions are relied on to object to or reject any claim in the future.

Section VII initially asserts that applicants "not only impose[] an unrealistically low level of skill onto section 102 and 103 issues, but applicant effectively places a heavy burden on the examiner to provide an education in what was already well known." Office action, p. 115. The Examiner then sets forth what *he maintains* is the known operation of teletext as one of ordinary skill in the art would have understood it. It is then

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asserted that the signaling structure set forth in applicants' 1987 specification "comprised little more than applicant's own version of conventional packetized Teletext data." Office action, p. 118. Applicants respectfully submit that such disparaging remarks are both unnecessary and improper. Whether or not the Examiner's understanding of teletext bears any resemblance to applicants' disclosed systems is irrelevant. What matters is whether or not *actual prior art* under 35 U.S.C. § 102 may be properly applied to applicants' *claimed inventions.* Applicants maintain that there are substantial elements set forth in the pending claims that are absent from the *actual prior art* for the reasons set forth below in response to Section VIII of the Office action. However, applicants note the following observations regarding the general argument that applicants' signaling structure is little more than teletext.

First, the Examiner expressly states that he is not saying that applicants' own implementation of a signaling structure is necessarily unpatentable because the Examiner may consider it a variant of teletext systems that distribute data in television signals. Office action, p. 119. Applicants maintain that many elements of their claimed invention are not found in any prior descriptions of teletext based systems.

Second, the thrust of the argument in Section VII is that steps of manipulating and organizing discrete signals do not distinguish the claimed invention from the prior art. Applicants maintain that there are novel features of manipulating and organizing discrete signals disclosed in the 1981 and 1987 specifications. However, applicants' claims pending in this application do not rely on or claim these novel features. The presently pending claims in this application do not include limitations specifically directed to manipulating and organizing discrete signals. Each of the instant claims is distinguishable over the applied art for reasons not specifically related to how discrete signals are organized.

Third, the description of teletext relied upon in Section VII is the Examiner's own description, which was written specifically to provide a basis for rejecting applicants'

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claims. The Examiner's description of teletext is not in itself prior art. Section VII makes no reference to any prior art teletext references. Rather, Section VII refers to Appendix B of the Office action, which is yet another description of teletext written by the Examiner. Appendix B in turn relies primarily on "the publication contained within 'Appendix A' of this Office action." Office action, p. 173.

Appendix A is titled ["standardized" Teletext (exemplified)] and contains what appears to be a specification for British teletext. Applicants were made aware of the document attached as Appendix A in connection with litigation involving a related patent and, thus, provided it to the Office. The specification is apparently an attachment to a Petition for Rulemaking of the United Kingdom Teletext Industry Group submitted to the Federal Communications Commission on March 18, 1981. There is no evidence of record to establish that the Appendix A document was publicly accessible in a manner that would qualify the document as a printed publication under 35 U.S.C. § 102. If the Examiner considers the document contained in Appendix A to be prior art, then applicants request that the Examiner explain how the document qualifies as prior art. For example, is it asserted to be a printed publication under 35 U.S.C. § 102(a) or (b)? Is it evidence of prior public use under 35 U.S.C. § 102(b)? Applicants note that the Examiner has presented no evidence that Appendix A was sufficiently accessible to the public to qualify as a "printed publication" under § 102. *See, e.g.*, M.P.E.P. § 2128.01 ("While distribution to Government agencies and personnel alone may not constitute publication . . . distribution to commercial companies without restriction on use clearly does." quoting *Garret Corp. v. United States*, 422 F.2d 874, 878, 164 USPQ 521, 524 (Ct. Cl. 1970)). Applicants also note that prior use in the U.K. does not qualify as prior art under 35 U.S.C. § 102(b). Applicants are entitled to know the specific basis for the Examiner's view that the Appendix A document is prior art in order to have a fair and reasonable opportunity to respond. In the absence of any such explanation by the Examiner, applicants submit that the Appendix A document is not prior art. And of

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course, the Examiner's characterizations of the Appendix A document, contained in Section VII and Appendix B, also do not qualify as prior art.

Applicants wish to respectfully note that they will not acquiesce in the Examiner's apparent position that "standardized teletext" qualifies as prior art. The Examiner must apply actual prior art under 35 U.S.C. § 102 to the specific claims of the instant application. The Appendix A document has not been established as an available prior art reference. If the Examiner's understanding of "standardized teletext" is based on some assemblage of teletext-based references which qualify as prior art, then a proper claim rejection would be based on the specific references in any such assemblage under 35 U.S.C. § 103. And *each* reference in the assemblage must qualify as prior art under 35 U.S.C. § 102. Of course, applicants will respond to any rejection based on multiple references appropriately. To the extent that the Examiner has taken "official notice" of so called "standardized teletext," applicants hereby request that the Examiner provide specific references to justify that assertion, as required by M.P.E.P. § 2144.03.

Fourth, the Examiners' argument appears to be based on the assumption that applicants' currently pending claims are not entitled to the November 3, 1981 priority date. Applicants maintain for the reasons set forth in detail above that all of the pending claims in the instant application are entitled the benefit of the 1981 priority date. Although not entirely clear from the Office action, the Examiner's description of teletext appears to be the Examiner's understanding of the state of the art prior only to applicants' 1987 priority date. Accordingly, the Examiner's discussion of teletext is of limited value, not only because the Examiner's discussion is not actual prior art, and not only because the claims are distinguishable from the cited teletext references, but also because the instant claims are entitled to the 1981 priority date that may predate the features of teletext described by the Examiner.

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For at least these reasons, applicants respectfully submit that Section VII fails to establish any basis for any rejection of the pending claims. It should therefore be withdrawn in its entirety.

3. Summary Of The Prior Art Rejections

Section VIII of the Office action includes 13 lettered parts (designated A-M) each applying a single reference under 35 U.S.C. § 103(a) or a combination of references under 35 U.S.C. § 103(a). Ten references are applied in eight different combinations.

Claims 53 and 57-60 are cancelled. Accordingly, rendered moot is Part C, which rejects claims 53 and 57-60 as being unpatentable over U.S. Patent 4,034,990 to Baer (Baer) in view of U.S. Patent 4,247,106 to Jeffers et al. (Jeffers) and further in view of Teletext's "Telesoftware" as discussed in the publication "TELESOFTWARE- VALUE ADDED TELETEXT" by Hedger.

The rejections of claims 43-49 and 51-60 in parts B, E, H, L and M are rendered moot due to the cancellation of those claims.

Applicants respond to the prior art rejections in detail below.

4. 35 U.S.C. § 103 (a) Rejection Based On Baer In View Of Jeffers

Parts A and B of Section VIII of the Office action rejects claims 2-6, 11-14, 16, 17, 20-24, 26, 29, 30, 37-39, 43-46, 48, 49, 51, 52, and 54-56 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,034,990 issued to Ralph H. Baer (Baer) in view of U.S. Patent 4,247,106 issued to Michael F. Jeffers et al. (Jeffers). The cancellation of claims 43-46, 48, 49, 51, 52 and 54-56 serves to render this rejection moot with respect to these claims.

Baer is directed to an apparatus for playing games on a television receiver. Video signals received by the Baer apparatus have a video background for the game and have active player symbols that have recognizable characteristics allowing circuitry to extract

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them from the surrounding video signals so that they can be combined with other signals generated in the viewer's game circuits.

Jeffers is directed to a system to distribute game programs through cable television systems. At the head end an array of game-regulating programs are impressed onto an electronic distribution system, such as serially time division multiplexed onto a game delivery channel. The user sets a game code register to correspond to the desired game. The receiver examines the incoming digits of the game delivery channel for a game identification number corresponding the game code register. Upon finding such a match, the next following sequence of instructions is input into memory of the receiver. The memory of the game controller is loaded with the desired game.

The Office action fails to provide any objective teaching in the prior art that would lead one of ordinary skill to combine the teachings of Baer and Jeffers. The Office action merely states that "such a modification represented nothing less than a known, desirable, and obvious upgrade of technology," (Office action, p. 125) pointing for support to an introductory passage in Jeffers. However, that passage does nothing more than recite Jeffers' understanding of conventional television game technology (e.g., "games...formed of discrete, dedicated, electronics hardware which performed only one game (or, via switches, a switch-selected one of a very limited number of games.)") There is nothing in this passage (or elsewhere) in Jeffers that acknowledges the existence of a game system that includes Baer's improvement, where analog video backgrounds could be used with signals generated by the local game circuitry. Nor does Jeffers in any way suggest that the Baer system could be improved using the teachings of Jeffers. In fact, for the reasons explained below, it is clear that Baer and Jeffers represent different solutions to the common problem at the time of television game inflexibility. A person of ordinary skill in the art would not have combined these teachings.

First, the Examiner is incorrect when he states, "the control circuitry (24) in Baer most likely comprised a software driven computer." There is absolutely no teaching in

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Baer of a "computer" or "software," and not surprisingly, the Examiner has offered no citations to the contrary. Thus, Baer is dealing with systems of the general type mentioned in the cited introductory passage of Jeffers, which used dedicated logic circuitry. To address the inflexibility of such systems, Baer provides the improvement of a "cooperative program source," which essentially is an encoded, prerecorded analog video signal that is used in connection with the output of the local game circuitry. According to Baer, this "extends the variety and complexity of the games" (col. 1, ll. 59).

In contrast, Jeffers tackles the same problem from a completely different angle. Instead of anything like a "cooperative program source," Jeffers provides variety and flexibility by distributing game programs to receiver stations using television signals. The subscriber simply identifies the game he/she wants, and the corresponding instruction set of the desired game is loaded into RAM (col. 3, ll. 14-68). Since substantial variety and flexibility is provided through downloading of selected games, there is simply no need for Baer's improvement, which provides some limited measure of variety and flexibility in the context of dedicated logic-based systems. Moreover, Jeffers makes it clear that games can be "corrected and updated" (not just selected) using the downloading technique (col. 4, ll. 22-24), thus further obviating any need for Baer's "cooperative program source."

Finally, Jeffers specifically states that once a game is loaded, the apparatus "functions in the now per se conventional manner to actually implement the selected game in conjunction with a television receiver and player control(s)." (col. 1, ll. 54-56) This plainly counsels against the use of the Jeffers system with Baer's system, which could hardly be considered conventional at the time.

As the Office action provides no objective evidence of a motivation to combine these references, a *prima facie* case of obviousness has not been established. Indeed, the references teach away from any such combination. For this reason alone, all of the Examiner's rejections based on Baer and Jeffers should be withdrawn. Additional

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reasons why Baer and Jeffers alone or in combination fail to teach or suggest applicants' claimed subject matter are provided below.

a. Independent Claim 2 And Related Claims

Baer in view of Jeffers fails to show or suggest a step of coordinating, under computer control, a presentation using stored information from a first medium with a presentation of a second medium as set forth in claim 2. As noted above, Baer is directed to a video game system including game control circuits. Jeffers is directed to a system for distributing television games.

Claim 2 as amended sets forth a plurality of signals including at least two media. The claimed method includes the step of coordinating, at the receiver station under computer control, a presentation using information from a first medium with a presentation of a second medium. With regard to the first medium, claim 2 sets forth a step of storing the information from the first medium. With regard to the second medium, claim 2 sets forth that the step of coordinating is based on a step of determining content of the second medium. Baer in view of Jeffers fails to suggest the two media used in claim 2. In the Office action, it is suggested that computer gaming "software" of Jeffers constitutes a first medium. Office action, p. 126. Jeffers, however, fails to suggest a second medium. As discussed above, there is no suggestion to combine Jeffers and Baer to arrive at a system that both receives gaming "software" and receives a signal from a "cooperative program source." Furthermore, even if one were to contemplate such a combination, one would not arrive at the claimed use of two media as set forth in claim 2. Even if the game control circuits 24 of Baer were programmed with downloaded "software" of Jeffers (which they cannot be for the reasons discussed above), such downloaded software still fails to meet all the requirements of the first medium set forth in claim 2, because there is no additional suggestion in the applied art of *information* from the "software" that is coordinated with a presentation of a second medium. Baer

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does not teach such information from a first medium because Baer fails to teach storing any information from a received medium. Accordingly, Baer and Jeffers, taken individually or in combination, fail to suggest two media as set forth in claim 2.

Claim 2 further sets forth that the presentation using information from the first medium has a predetermined relationship to the content of the second medium. In the Office action, it is asserted that the system of Baer comprised circuitry for coordinating the presentation of locally provided "video graphics data" with presentation of the analog video signal. Baer describes that the "video program contains certain coded data signals representing the positions, identities, sizes or other characteristics of certain elements involved in the game." (col. 2, ll. 24-27) Accordingly, Baer discusses only one medium that includes the video signal and certain coded data. There is no suggestion in Baer of a presentation of information from a first medium having a predetermined relationship to the content of a second medium. Jeffers fails to correct for this deficiency of the primary reference, as Jeffers is silent regarding output of any particular game program.

For at least the above reasons, applicants respectfully request that the 35 U.S.C. §103(a) rejection of amended claim 2 as unpatentable over Baer in view of Jeffers be withdrawn.

Claims 3-6, 11-14, 16 and 17 are rejected as being unpatentable over Baer in view of Jeffers for the same reasons that were set forth for claim 2. These claims depend from claim 2. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. Applicants respectfully request the withdrawal of these rejections of claims 3-6, 11-14, 16 and 17 for at least the above reasons. The following additional distinctions are noted.

Claim 5 sets forth that each of the plurality of signals is received from an external transmitter station. There is no suggestion in either Baer or Jeffers of two media that are received in a plurality of signals each received from an external transmitter station.

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Claim 6 as amended sets forth that each of the plurality of signals is received from an intermediate transmitter station. Baer and Jeffers include no suggestion that the received video signal is received from an intermediate transmitter station.

Claim 37 is rejected over Baer in view of Jeffers for the same reasons that were set forth for claim 2. Claim 37 is an apparatus claim that is generally analogous to method claim 2. Claim 37 is amended to set forth a microcomputer that stores information from a first medium and coordinates a presentation using the information with a presentation of a received second medium. Baer in view of Jeffers fails to show this element for the reasons discussed above with respect to claim 2. There is simply no motivation or suggestion to combine Baer and Jeffers to arrive a microcomputer that stores information used to form a presentation and then coordinates a presentation using the information with a presentation of a received second medium.

Claims 38 and 39 are rejected as being unpatentable over Baer in view of Jeffers for the same reasons that were set forth for claim 2. These claims depend from claim 37. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. Applicants respectfully request the withdrawal of these rejections of claims 38 and 39 for at least the above reasons.

New claims 67-69 depending from claim 37 have been added. These claims are patentable over Baer in view of Jeffers for at least the reasons discussed above with regard to the corresponding method claims.

b. Independent Claim 20 And Related Claims

Claim 20 is rejected as being unpatentable over Baer in view of Jeffers for the same reasons as were set forth for claim 2. As the limitations of claim 20 were not addressed within the reasons set forth in the rejection of claim 2, the Office action fails to establish a *prima facie* case of obviousness against claim 20.

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Claim 20 as amended sets forth controlling a receiver station to enable a coordinated presentation, through execution of processor instructions, of a first medium and information based on a second medium. Claim 20 is further amended to set forth that the information based on the second medium is generated based on identifying content of the second medium. Baer and Jeffers, taken alone or in combination, fail to show or suggest at least these features of the method of claim 20.

Baer in view of Jeffers fails to show or suggest controlling a receiver station to enable a coordinated presentation, through execution of processor instructions, of a first medium and information based on a second medium. Baer and Jeffers fail to show such a first medium, information based on a second medium, and processor instructions.

Furthermore, claim 20 is amended to set forth that the information based on the second medium is generated based on identifying content of the second medium. Baer and Jeffers include no teaching related to generating information based on identifying content of a second medium.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 20 as unpatentable over Baer in view of Jeffers be withdrawn.

Claims 21-23 are rejected as being unpatentable aver Baer in view of Jeffers for the same reasons that were set forth for claim 2. These claims depend from claim 20. Applicants respectfully request the withdrawal of these rejections of claims 21-23 for at least the reasons set forth above with respect to claim 20.

Added are new claims 70-73, which are apparatus claims that are generally analogous to method claims 20-23. Claims 70-73 are patentable over Baer in view of Jeffers for reasons similar to those set forth above with respect to claims 20-23. Claim 70 sets forth a microcomputer for executing processor instructions to enable a coordinated presentation of a first medium and information based on a second medium, wherein said

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information based on the second medium is generated based on identifying content of the second medium. Baer and Jeffers fail to show such a microcomputer.

c. Independent Claim 24 And Related Claims

Claim 24 is rejected as being unpatentable over Baer in view of Jeffers for the same reasons as were set forth for claim 2. As the limitations of claim 24 were not addressed within the reasons set forth in the rejection of claim 2, the Office action fails to establish a *prima facie* case of obviousness against claim 24.

Claim 24 is amended to set forth outputting a television program at a first output device and a second medium at a second output device. Baer and Jeffers fail to show or suggest outputting a second medium at a second output device. Claim 24 is also amended to include a step of comparing first information stored at a receiver station to second information corresponding to content of a television program to determine whether to present a second medium based on third information received from a source different from that of said first medium. Baer and Jeffers fail to suggest such a comparison. Baer and Jeffers fail to suggest any determination of whether to make any presentation. Claim 24 is further amended to set forth a step of coordinating presentation of the television program with presentation of the second medium. Baer and Jeffers fail to suggest coordinating presentation of a television program with presentation of a second medium.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 24 as unpatentable over Baer in view of Jeffers be withdrawn.

Added is new claim 103, which depends from claim 24. Claim 103 sets forth that the television program and the third information are included in first and second channels, respectively, of a multichannel cable transmission. Baer and Jeffers fail to

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suggest a television program and information forming the basis for a second medium included in channels of a multichannel cable transmission.

Also added are claims 74, 75, and 104, which are apparatus claims that are generally analogous to method claims 24, 25, and 103. Claims 74, 75, and 104 are patentable over Baer in view of Jeffers for reasons similar to those set forth above with respect to claims 24, 25, and 103. Claim 74 sets forth a microcomputer for storing first information, comparing said first information to second information corresponding to content of a television program to determine whether to present a second medium based on third information received from a different source than that of a first medium including the television program, and coordinating presentation, based on the determination, of the television program with presentation of the second medium. Baer and Jeffers fail to show such a microcomputer. Claim 75 sets forth that the second output device comprises a printer. Baer and Jeffers suggest no printer. Claim 104 sets forth that the television program and the third information are included in first and second channels, respectively, of a multichannel cable transmission. Baer and Jeffers fail to suggest a television program and information forming the basis for a second medium included in channels of a multichannel cable transmission.

d. Independent Claim 26 And Related Claims

Claim 26 is rejected as being unpatentable over Baer in view of Jeffers for the same reasons as were set forth for claim 2. As the limitations of claim 26 were not addressed within the reasons set forth in the rejection of claim 2, the Office action fails to establish a *prima facie* case of obviousness against claim 26.

Claim 26 includes the step of receiving, at a receiver station, at least two media from different sources. The application of Baer and Jeffers to this limitation highlights the impropriety of the combination of these references. Baer describes transmitting an analog signal for use with one occurrence of a video game. Jeffers describes

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continuously transmitting an ensemble of programs from which a particular game program may be selected. There is no suggestion to combine these references to separately transmit the analog signal and game programs. This is because Baer contemplates that the receiver will include the circuitry required to run the game and Jeffers contemplates that no additional signals are required to execute the game. There is no suggestion regarding how to combine the continuous distribution of an ensemble of game programs of Jeffers with the transmission of the analog signal for use with a single game of Baer. Thus, there is no suggestion for separate transmissions from different sources.

Claim 26 also includes the step of identifying content of a first medium and content of a second medium and the step of outputting a multimedia presentation based on the step of identifying, wherein the multimedia presentation comprises a presentation of information included in the first medium and information based on the second medium. Again, as there is no suggestion in the art as to how to combine the applied references, there is no suggestion to combine Baer and Jeffers so that the analog signal and the game programming are provided in separate media such that that the content of each medium must be identified. There is no further suggestion to output a multimedia presentation of information included in a first medium and information included in a second medium based on identifying content of the media.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 26 as unpatentable over Baer in view of Jeffers be withdrawn.

Added are new claims 82-84, which depend from claim 26. Applicants respectfully submit that these claims are patentable over Baer in view of Jeffers for at least the reasons set forth above with respect to claim 26. In addition, claim 84 sets forth that a plurality of media including the two media is included in a multichannel cable

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transmission including a digital data channel including the second medium. Baer in view of Jeffers fails to suggest such a multichannel cable transmission.

Also added are claims 76-81, which are apparatus claims that are analogous in many respects to method claims 26-28, 82, and 83. Claims 76-81 are patentable over Baer in view of Jeffers for reasons similar to those set forth above with respect to claim 26. Claim 76 sets forth a first receiver for receiving a first medium and a second receiver for receiving a second medium. For reasons similar to those discussed above, there is no suggestion to combine Baer and Jeffers to arrive at an apparatus having a first receiver for receiving a first medium and a second receiver for receiving a second medium. Claim 77 sets forth that the microcomputer controls storage of information based on the second medium. Claim 78 sets forth that the microcomputer controls storage of the first medium. Baer and Jeffers fail to suggest a microcomputer controlling storage as set forth in claims 77 and 78. Applicants note that claims 27 and 28 setting forth method steps of storing are not rejected based on Baer in view of Jeffers. Claim 81 sets forth a multichannel cable transmission including the first medium and a digital data channel including the second medium. Baer in view of Jeffers fails to suggest such a multichannel cable transmission.

e. Independent Claim 29 And Related Claims

Claim 29 is rejected as being unpatentable over Baer in view of Jeffers for the same reasons as were set forth for claim 2. As the limitations of claim 29 were not addressed within the reasons set forth in the rejection of claim 2, the Office action fails to establish a *prima facie* case of obviousness against claim 29.

Claim 29 as amended includes the steps of processing a control signal at a receiver station that causes execution of processor instructions to create a series of discrete video images, causing a video image of the series of discrete images to be output, and combining the outputted video image into a multimedia presentation comprising a

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first medium. Baer and Jeffers fail to suggest any series of discrete video images and thus fail to suggest these steps related to a series of discrete video images. Baer and Jeffers fail to suggest any control signal related to the creation of a series of discrete video images.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 29 as unpatentable over Baer in view of Jeffers be withdrawn.

Claim 30 is rejected as being unpatentable over Baer in view of Jeffers for the same reasons that were set forth for claim 2. Claim 30 depends from claim 29. Applicants respectfully request the withdrawal of this rejection of claim 30 for at least the reasons set forth above with respect to claim 29.

Added are new claims 91-94, which depend from claim 29. Applicants respectfully submit that these claims are patentable over Baer in view of Jeffers for at least the reasons set forth above with respect to claim 29. In addition, claim 94 sets forth that a multichannel cable transmission includes the first medium including a television program and a digital data channel including the second medium. Baer in view of Jeffers fails to suggest such a multichannel cable transmission.

Also added are claims 85-90, which are apparatus claims that are generally analogous to method claims 29, 30, and 91-94. Claims 85-90 are patentable over Baer in view of Jeffers for reasons similar to those set forth above with respect to claim 29. Claim 85 sets forth a microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal, identifying content of a first medium, and then causing a video image of the series of discrete video images to be output. As discussed above, there is no suggestion in Baer or Jeffers of creating a series of discrete video images based on a control signal. Baer in view of Jeffers, thus, fails to suggest a microcomputer as set forth in claim 85. Claim 90 sets forth that a multichannel cable transmission includes the first medium including a television program

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and a digital data channel including the second medium. Baer in view of Jeffers fails to suggest such a multichannel cable transmission.

5. 35 U.S.C. § 103 (a) Rejection Based On Fukuzaki In View Of Robinson

Parts D and E of Section VIII of the Office action rejects claims 2, 3, 5-16, 20-24, 26, 29, 30, 37, 43 and 51-60 under 35 U.S.C. § 103(a) as being unpatentable over Japanese Unexamined Patent Application Publication 56-116385 of Kazuhiro Fukuzaki et al. (Fukuzaki)[9] in view of the article " 'Touch-Tone' Teletext A Combined Teletext-Viewdata System" by Gary Robinson and William Loveless (Robinson). The cancellation of claims 43 and 51-60 serves to render this rejection moot with respect to these claims.

Fukuzaki is directed to a device that stores successively transmitted character information in a character broadcast receiver. The Fukuzaki device stores multiple screens of character data. Fukuzaki operates in three selectable modes. In a first mode, character information of a selected program is displayed as it is received. In a second mode, character information in a memory is saved. In a third mode, the user may select a page of a desired program to be stored in memory.

Robinson proposes a teletext system in which a viewer can request a page over the telephone and receive that page over the air on a television set. Robinson reviews uses of teletext and mentions that programs on television could refer a viewer to a teletext page to get detail that is cut out of the television program due to time limitations.

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103 a showing must be made of some objective teaching in the prior art that would lead to one of ordinary skill in the art to combine the teachings of Fukuzaki and Robinson. In the

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[9] The Office action included the Japanese language published application and brief English abstract of the application. Attached, as Exhibit 3, is an English translation of Fukuzaki.

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Office action, however, there is merely the broad conclusory statement: "The examiner maintains that it would have been obvious to one of ordinary skill in the art for the TV receiver of Fukuzaki et al. to have received conventional analog TV programming of the type described in Robinson et al. and, in response to 'content determined' thereof, to have selected and displayed the referenced Teletext pages having a content related thereto."[10] Office action, p. 129. There is no objective teaching shown in the Office action to support this broad, conclusory statement. Accordingly, all rejections based on the combination of Fukuzaki and Robinson should be withdrawn.

a. Independent Claim 2 And Related Claims

Fukuzaki in view of Robinson fails to show or suggest the steps recited in claim 2 of determining content of a second medium, coordinating a presentation using stored information from a first medium with a presentation of a second medium, and outputting the multimedia presentation such that the presentation using the information has a predetermined relationship to content of the second medium.

Claim 2 sets forth determining content of a second medium. In the Office action, it is acknowledged that the primary reference to Fukuzaki fails to suggest this step. Office action, p. 129. It is asserted that the teaching of Robinson shows that it was well known in the art for broadcast TV programming to have included content which referred the viewer to specific program related teletext pages. Office action, p. 129. Robinson states: "News programs on television could refer a viewer to . . . pages to get the detail that is cut out due to time limitations." Such a reference does not result in determining the content of the television program. There is no determination of the content of a television program by merely adding content to the television program that refers to a teletext page that includes related information. In other words, just because content is added does not mean that the added content is *determined.* Robinson does not suggest determining the

[10] Moreover, it is not clear to applicants what is meant by this conclusion.

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content of the TV program as asserted in the Office action. Robinson thus cannot be used to supplement the acknowledged deficient showing of Fukuzaki to arrive at a method step of determining content of a second medium as set forth in claim 2.

Claim 2 is amended to set forth coordinating, at the receiver station under computer control, a presentation using stored information with a presentation of the second medium based on the step of determining. In the Office action, it is asserted that Fukuzaki shows circuitry in Figure 2 for coordinating a presentation of a selected one of the stored teletext pages with the presentation of an analog TV signal based on a page selection input provided by the user. Office action, at 128. There is no suggestion in Fukuzaki that the character reception circuit shown in Figure 2 coordinates a presentation of a selected teletext page with the presentation of an analog TV signal. However, as noted in the Office action, stored teletext pages may be redisplayed based on input by the user. Thus, the user coordinates the output of the stored teletext pages. There is no suggestion of any such coordination under computer control in either Fukuzaki or Robinson.

In claim 2, the output based on the step of coordinating results in the presentation using the stored information having a predetermined relationship to the content of the second medium. There is no suggestion in Fukuzaki that the display of teletext stored in memory would have any relationship at all with any television program display. There is no suggestion in either Fukuzaki or Robinson to store teletext pages for later coordination with television programming.

For at least the above reasons, applicants respectfully request that the 35 U.S.C. §103(a) rejection of amended claim 2 as unpatentable over Fukuzaki in view of Robinson be withdrawn.

Claims 3 and 5-16 are rejected as being unpatentable over Fukuzaki in view of Robinson for the same reasons that were set forth for claim 2. These claims depend from claim 2. Applicants respectfully request the withdrawal of these rejections of claims 3

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and 5-16 for at least the reasons set forth above with respect to claim 2. The following additional distinctions are noted.

Claim 9 sets forth that the step of determining causes a tuner at the receiver station to communicate audio that explains the content of the presentation using stored information to an audio output device. In the Office action, a statement in a television program referring to related teletext is relied upon to show content of a second medium that explains a significance of the presentation using stored information. Office action, p. 129. There is no step of determining suggested in the applied art that causes a tuner to communicate such a statement to an audio output device. The applied art fails to show a step of determining that causes a tuner to communicate audio to an audio output device.

Claim 11 sets forth that the plurality of signals includes a digital data channel. Claim 12 sets forth that the first medium is received in the digital data channel. The applied art does not suggest a digital data channel in a plurality of signals as set forth in these claims. There is no suggestion of coordinating the display of information received in a digital data channel with television programming.

Claim 13 sets forth that the step of determining comprises processing an identifier. Claim 14 sets forth that the identifier identifies content of the second medium. In the Office action, a statement in a television program referring to related teletext is relied upon to show a step of determining. Office action, p. 129. There is no suggestion in the applied art that an identifier is processed. There is also no suggestion that the statement would include an identifier that identifies the television program.

Claim 37 is rejected over Fukuzaki in view of Robinson for the same reasons that were set forth for claim 2. Claim 37 is an apparatus claim that is generally analogous to method claim 2. Claim 37 is amended to set forth a microcomputer that stores information from a first medium and coordinates a presentation using the information with a presentation of a received second medium based on determining content of the second medium. Fukuzaki in view of Robinson fails to show this element for the reasons

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discussed above with respect to claim 2. It is acknowledged in the Office action that Fukuzaki fails to suggest determining content of the second medium. Office action, p. 129. With regard to claim 2, it is asserted that the teaching of Robinson that a statement in a television program could refer a viewer to teletext pages shows determining content. This showing is insufficient to show the limitation of claim 37, not only because the statement does not result in determining content of the television program, but also because there is no microcomputer suggested in the applied art that could determine the content of the television program based on this statement. There is also no suggestion in the applied art of a microcomputer that coordinates presentation of stored information with a second medium.

New claims 67-69 depending from claim 37 have been added. These claims are patentable over Fukuzaki in view of Robinson for at least the reasons discussed above with regard to the corresponding method claims. In addition, claim 68 sets forth that the microcomputer receives the first medium in a digital data channel. Claim 69 sets forth that the microcomputer receives the first medium in a digital data channel of a multichannel cable transmission including the second medium. Fukuzaki and Robinson fail to suggest such a digital data channel or multi-channel cable transmission.

b. Independent Claim 20 And Related Claims

Claim 20 is rejected as being unpatentable over Fukuzaki in view of Robinson for the same reasons as were set forth for claim 2. As the limitations of claim 20 were not addressed within the reasons set forth in the rejection of claim 2, the Office action fails to establish a *prima facie* case of obviousness against claim 20.

Claim 20 sets forth processing a first signal to provide a first medium and an identifier. The applied art fails to suggest processing a signal to provide a first medium and an identifier.

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Claim 20 sets forth identifying content of the first medium based on the identifier. The applied art fails to suggest identifying content of a first medium based on such an identifier.

Claim 20 is amended to set forth controlling a receiver station, based on the step of identifying, to enable a coordinated presentation of the first medium and information based on a second medium, wherein the information based on the second medium is generated based on identifying content of the second medium. There is no suggestion in the applied art to control a receiver station, based on identifying a content of a first medium, to enable a coordinated presentation of the first medium and information based on a second medium generated based on identifying content of the second medium. Moreover, the claimed coordinated presentation is enabled through execution of processor instructions. This is also not suggested by Fukuzaki and Robinson.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 20 as unpatentable over Fukuzaki in view of Robinson be withdrawn.

Claims 21-23 are rejected as being unpatentable aver Fukuzaki in view of Robinson for the same reasons that were set forth for claim 2. These claims depend from claim 20. Applicants respectfully request the withdrawal of these rejections of claims 21-23 for at least the reasons set forth above with respect to claim 20. In addition, claim 22 sets forth receiving the second medium in a digital data channel. Claim 23 sets forth that the plurality of signals is included in a multichannel cable transmission and includes a digital data channel including the second medium. Fukuzaki and Robinson fail to suggest such a digital data channel or multichannel cable transmission.

Added are new claims 70-73, which are apparatus claims that are generally analogous to method claims 20-23. Claims 70-73 are patentable over Fukuzaki in view of Robinson for reasons similar to those set forth above with respect to claims 20-23. Claim 70 sets forth a microcomputer for executing processor instructions to enable a

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coordinated presentation of a first medium and information based on a second medium, wherein the information based on the second medium is generated based on identifying content of the second medium. Fukuzaki and Robinson fail to show such a microcomputer. Claim 72 sets forth that the microcomputer receives the second medium in a digital data channel. Claim 73 sets forth that that a plurality of signals, including the first and second medium, is included in a multichannel cable transmission that includes a digital data channel including a second medium. Fukuzaki and Robinson fail to suggest such a digital data channel or multichannel cable transmission.

c. Independent Claim 24 And Related Claims

Claim 24 is rejected as being unpatentable over Fukuzaki and Robinson for the same reasons as were set forth for claim 2. As the limitations of claim 24 were not addressed within the reasons set forth in the rejection of claim 2, the Office action fails to establish a *prima facie* case of obviousness against claim 24.

Claim 24 is amended to set forth outputting a television program at a first output device and a second medium at a second output device. Fukuzaki and Robinson fail to show or suggest outputting a second medium at a second output device. Claim 24 also is amended to include a step of comparing first information stored at a receiver station to second information corresponding to content of a television program to determine whether to present a second medium based on third information received from a source different from that of said first medium. Fukuzaki and Robinson fail to suggest such a comparison. Claim 24 is further amended to set forth a step of coordinating presentation of the television program with presentation of the second medium. Fukuzaki and Robinson fail to suggest coordinating presentation of a television program with presentation of a second medium.

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Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 24 as unpatentable over Fukuzaki and Robinson be withdrawn.

Added is new claim 103, which depends from claim 24. Claim 103 sets forth that the television program and the third information are included in first and second channels, respectively, of a multichannel cable transmission. Fukuzaki and Robinson fail to suggest a television program and information forming the basis for a second medium included in channels of a multichannel cable transmission.

Also added are claims 74, 75, and 104, which are apparatus claims that are generally analogous to method claims 24, 25, and 103. Claims 74, 75, and 104 are patentable over Fukuzaki and Robinson for reasons similar to those set forth above with respect to claims 24, 25, and 103. Claim 74 sets forth a microcomputer for storing first information, comparing said first information to second information corresponding to content of a television program to determine whether to present a second medium based on third information received from a different source than that of a first medium including the television program, and coordinating presentation, based on the determination, of the television program with presentation of the second medium. Fukuzaki and Robinson fail to show such a microcomputer. Claim 75 sets forth that the second output device comprises a printer. Fukuzaki and Robinson suggest no printer. Claim 104 sets forth that the television program and the third information are included in first and second channels, respectively, of a multichannel cable transmission. Fukuzaki and Robinson fail to suggest a television program and information forming the basis for a second medium included in channels of a multichannel cable transmission.

d. Independent Claim 26 And Related Claims

Claim 26 is rejected as being unpatentable over Fukuzaki in view of Robinson for the same reasons as were set forth for claim 2. As the limitations of claim 26 were not

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addressed within the reasons set forth in the rejection of claim 2, the Office action fails to establish a *prima facie* case of obviousness against claim 26.

Claim 26 includes the step of receiving, at a receiver station, at least two media from different sources. Neither Fukuzaki nor Robinson suggests that two media used in a multimedia presentation are received from different sources.

Claim 26 sets forth identifying content of first and second media. There is no suggestion in Fukuzaki or Robinson to identify content of two media.

Claim 26 sets forth outputting a multimedia presentation based on the step of identifying, the multimedia presentation comprising a presentation of information included in the first medium and information based on the second medium. There is no suggestion of such a multimedia presentation in Fukuzaki or Robinson.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 26 as unpatentable over Fukuzaki in view of Robinson be withdrawn.

Added are new claims 82-84, which depend from claim 26. Applicants respectfully submit that these claims are patentable over Fukuzaki in view of Robinson for at least the reasons set forth above with respect to claim 26. In addition, claim 83 sets forth that the second media is received in a digital data channel. Claim 84 sets forth that a plurality of media including the two media is included in a multichannel cable transmission including a digital data channel including the second medium. Fukuzaki in view of Robinson fails to suggest such a digital data channel or multichannel cable transmission.

Also added are claims 76-81, which are apparatus claims that are analogous in many respects to method claims 26-28, 82, and 83. Claims 76-81 are patentable over Fukuzaki and Robinson for reasons similar to those set forth above with respect to claim 26. Claim 76 sets forth a first receiver for receiving a first medium and a second receiver for receiving a second medium. Fukuzaki and Robinson fail to suggest an apparatus with

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two receivers. Claim 76 also sets forth a microcomputer for identifying content of the first medium and identifying content of a second medium. Fukuzaki and Robinson fail to suggest a microcomputer that identifies content of two media. The microcomputer of claim 76 also is for controlling a multimedia presentation comprising information included in said first medium and information based on the second medium. Fukuzaki and Robinson fail to suggest a microcomputer controlling such a multimedia presentation. Claim 77 sets forth that the microcomputer controls storage of information based on the second medium. Claim 78 sets forth that the microcomputer controls storage of the first medium. Fukuzaki and Robinson fail to suggest a microcomputer controlling storage of first and second media. Claim 80 sets forth that the second receiver receives the second medium in a digital data channel. Claim 81 sets forth that a multichannel cable transmission includes the first medium and a digital data channel including a second medium. Fukuzaki and Robinson fail to suggest such a digital data channel or such a multichannel cable transmission.

e. Independent Claim 29 And Related Claims

Claim 29 is rejected as being unpatentable over Fukuzaki in view of Robinson for the same reasons as were set forth for claim 2. As the limitations of claim 29 were not addressed within the reasons set forth in the rejection of claim 2, the Office action fails to establish a *prima facie* case of obviousness against claim 29.

Claim 29 as amended includes the steps of processing a control signal at a receiver station that causes execution of processor instructions to create a series of discrete video images, causing a video image of the series of discrete images to be output, and combining the outputted video image into a multimedia presentation comprising a first medium. Fukuzaki and Robinson fail to suggest the creation of a series of discrete video images using processor instructions and thus fail to suggest these steps related to a

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series of discrete video images. Fukuzaki and Robinson fail to suggest any control signal related to the creation of a series of video images.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 29 as unpatentable over Fukuzaki and Robinson be withdrawn.

Claim 30 is rejected as being unpatentable over Fukuzaki and Robinson for the same reasons that were set forth for claim 2. Claim 30 depends from claim 29. Applicants respectfully request the withdrawal of this rejection of claim 30 for at least the reasons set forth above with respect to claim 29. In addition, claim 30 sets forth that a step of identifying content of a first medium comprises processing an identifier. Fukuzaki and Robinson fail to suggest processing an identifier to identify the content of a first medium as set forth by claim 30.

Added are new claims 91-94, which depend from claim 29. Applicants respectfully submit that these claims are patentable over Fukuzaki in view of Robinson for at least the reasons set forth above with respect to claim 29. In addition, claim 93 sets forth that the second medium is received in a digital data channel. Claim 94 sets forth that a multichannel cable transmission includes the first medium including a television program and a digital data channel including the second medium. Fukuzaki and Robinson fail to suggest such a digital data channel or such a multichannel cable transmission.

Also added are claims 85-90, which are apparatus claims that are generally analogous to method claims 29, 30 and 91-94. Claims 85-90 are patentable over Fukuzaki in view of Robinson for reasons similar to those set forth above with respect to claim 29. Claim 85 sets forth a microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal, identifying content of a first medium, and then causing a video image of the series of discrete video images to be output. As discussed above, there is no suggestion in

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Fukuzaki or Robinson of creating a series of discrete video images based on a control signal or executing processor instructions. Fukuzaki in view of Robinson, thus, fails to suggest a microcomputer as set forth in claim 85. Claim 86 sets forth that the microcomputer processes an identifier to identify content of the first medium. Fukuzaki and Robinson fail to suggest processing an identifier to identify a first medium as set forth in claim 86. Claim 89 sets forth that the second medium is received in a digital data channel. Claim 90 sets forth that a multichannel cable transmission includes the first medium including a television program and a digital data channel including the second medium. Fukuzaki and Robinson fail to suggest such a digital data channel or such a multichannel cable transmission.

6. 35 U.S.C. § 103 (a) Rejection Based On Nakazawa, Reiter, and Weinblatt

Parts F-H of Section VIII of the Office action reject claims 2, 3, 5-6, 11-18, 26-28, 33, and 37-49 under 35 U.S.C. § 103(a) as being unpatentable over Japanese Unexamined Patent Application Publication 62-60378 directed to the invention by Eiji Nakazawa and Akihiro Tsukamoto (Nakazawa)[11]. Section VIII (I) of the Office action rejects claim 33 under 35 U.S.C. 103(a) as being unpatentable over Nakazawa in view of U.S. Patent 4,751,578 to Eli Reiter et al. (Reiter). Section VIII (J) rejects claims 33-36 as being unpatentable over so called "conventional audience metering devices/system" as exemplified by U.S. Patent 4,695,879 to Lee S. Weinblatt (Weinblatt) and Nakazawa. The cancellation of claims 43-49 renders the rejections of these claims moot.

Nakazawa was published March 17, 1987. Reiter issued June 14, 1988 from an application filed May 28, 1985. Weinblatt issued September 22, 1987 from an application filed February 7, 1986. The rejected claims are entitled to the benefit of the

[11] The Office action included the Japanese language published application and brief English abstract of the application. Attached, as Exhibit 4, is an English translation of Nakazawa.

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November 3, 1981 filing date of applicants' patent application no. 317,510 for the reasons discussed above. Accordingly, Nakazawa, Reiter, and Weinblatt are not available as prior art against the rejected claims. Applicants respectfully request that these rejections be withdrawn for at least this reason. However, applicants expressly reserve the right to show how certain elements of the rejected claims are not taught or suggested by these references in the event applicants' priority claim is denied (despite the considerable evidence and case law supporting applicants' position).

Section VIII (J) of the Office action rejects claims 33-36 as being unpatentable over so called "conventional audience metering devices/system" as exemplified by Weinblatt and Nakazawa. This is not a proper rejection. *See* response to Section VII of the Office action above. As an initial matter, it is not understood what is referred to by "conventional audience metering devices/system as exemplified by Weinblatt and Nakazawa et al." as recited in the Office action. Nakazawa is not related to audience metering devices. It is unclear whether or not this rejection is simply in view of the Nakazawa and Weinblatt references. If the Examiner is referring to some greater operation or knowledge of audience metering than is described in Weinblatt, then the rejection lacks any showing that such unspecified metering teaching is prior art to the instant claims.

The Examiner takes Official notice that the need to have monitored the TV viewing habits of individuals and individual households was notoriously well known. It is not clear of what the Examiner takes Official notice. Weinblatt is directed to a television viewer meter. It is not clear what the Official notice adds that is not found in Weinblatt. Applicants respectfully traverse the Official notice to the extent that it seeks to establish anything not disclosed in Weinblatt, and request that the Examiner provide references justifying any such Official notice as required by M.P.E.P. § 2144.03.

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7. 35 U.S.C. § 103 (a) Rejection Based On Zaboklicki and Haefner

Parts K and L of Section VIII of the Office action rejects claims 2-16, 20-26, 29, 30, 33-40 43-46, 48, 49, and 51-60 under 35 U.S.C. § 103(a) as being unpatentable over German laid open Patent Application No. 2904981 of Edward Zaboklicki (Zaboklicki). Part M of Section VIII of the Office action rejects claims 17, 18, 27, 28, 41, 42 and 47 under 35 U.S.C. § 103(a) as being unpatentable over Zaboklicki in view of German laid open Patent Application No. 2550624 of Haefner et al. (Haefner). The cancellation of claim 43-49, and 51-60 serves to render this rejection moot with respect to these claims.

The teaching of Zaboklicki is obscure. The Examiner thus summarizes the alleged showing of Zaboklicki, in Section VII (K) (II), and then attempts to apply this broad summary against claims 24 and 25 in Section VII (K) (III). Applicants note that there are no actual citations to the text of Zaboklicki in the Examiner's broad summary and that the summary departs from the language used in either translation of Zaboklicki of record. Applicants submit that the actual unclear text of Zaboklicki, not a broad summary, must show or suggest each element of the pending claims to support these rejections under 35 U.S.C. § 103(a). That Zaboklicki fails to teach every element of the rejected claims is acknowledged in the Office action because the rejection is under Section 103. In order to support a Section 103 rejection based on a single reference, the Examiner must provide specific evidence to show why one of ordinary skill would be motivated to modify the reference in such a way to incorporate all of the claimed elements. The Office action includes no such showing. The Examiner's summary cannot substitute for such a showing in a proper rejection under 35 U.S.C. § 103. Accordingly, the Examiner's unsupported summary and its application to the pending claims is improper. In the discussion below, applicants identify the limitations that are absent from the actual Zaboklicki reference (as opposed to the summary).

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Haefner is directed to a communications system that provides for interactive-type television programs to be distributed somewhat upon demand. The Haefner system uses dedicated channels to distribute requested interactive-type programming for copying at the receiver. In the Office action, it is asserted that in view of the Haefner showing, it would have been obvious to have modified the receiver station structure disclosed in Zaboklicki with local storage devices into which the entire "pool" of program segments/fragments could be downloaded and selectively retrieved under computer control.[12] Office action, p. 136. The Examiner fails to point to any objective teaching whatsoever to support his assertion that these references could be combined, as required by the controlling authorities. *See* Section II.E.1 above. Accordingly, all rejections based on this combination should be withdrawn. Moreover, the incompatibility of Zaboklicki and Haefner counsels against any such combination. Specifically, Haefner fails to suggest copying anything other than a single requested interactive-type program at one time. Haefner allows for a subscriber to be offered a variety of programs for individual selection through the option of reproduction on request at storage facilities on the subscriber side. Accordingly, the program is stored because it is individually selected. It is acknowledged in the Office action that Zaboklicki does not suggest storing selected TV and/or audio/radio programming. Zaboklicki, in direct contrast to Haefner, appears to be directed to systems that permit mass reception of interactive broadcasts. In other words, any interactive programs of Zaboklicki are transmitted to many television viewers concurrently. Modification to use storage features of the Haefner system for individual access would be entirely inconsistent with Zaboklicki's approach. Accordingly, one of ordinary skill would not find any motivation to combine the showings of Zaboklicki and Haefner in the manner suggested in the Office action.

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[12] The term "pool" is not used in either Zaboklicki or Haefner. It appears only in the Examiner's summary and represents, in applicants' view, merely one example of inaccurate characterizations of Zaboklicki found in the summary.

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a. Independent Claim 24 And Related Claims

Claim 24 is amended to set forth outputting a television program of a multimedia presentation at a first output device and a second medium at a second output device. Zaboklicki fails to suggest a second output device at which a second medium of a multimedia presentation is output. In the Office action, it is asserted that the receivers of Zaboklicki include a printer and at least obviously a speaker ("needed to display the audio/radio output selected by element 43"). Office action, p. 135. Zaboklicki also mentions earphones (64). It is not clear whether the earphones are the speaker to which the Examiner refers. Notwithstanding, the element 43 is a circuit for adding or operating an additional audio channel of a television receiver. Accordingly, any speaker appears to output a part of a television program. Zaboklicki includes no teaching whatsoever regarding what may be output at printer 37. Claim 24 as amended sets forth a first medium including a television program and a second medium based on information received from a source different from that of the first medium. Zaboklicki includes no suggestion of a second output device at which such a second medium is output. There is no suggestion that any speaker outputs anything other than the audio channel of the television programming. There is no suggestion of what the printer may output. And regardless of whether the Examiner considers audio or an undefined printout to be the second medium, there is no teaching or suggestion in Zaboklicki of the added step of comparing first information stored at the receiver station to second information corresponding to content of the television program to determine whether to present a second medium based on third information received from a source different from that of the first medium. Zaboklicki also fails to suggest the recited combination of receiving, comparing, coordinating and outputting steps required by claim 24 as amended.

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Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 24 as unpatentable over Zaboklicki be withdrawn.

Claim 25 depends from claim 24. Accordingly, claim 25 is patentable over Zaboklicki for at least the reasons discussed above with respect to claim 24. Claim 25 as amended sets forth that the second output device comprises a printer. As discussed above, Zaboklicki includes no suggestion that a second medium of a multimedia presentation, as claimed, is output at printer (37). Zaboklicki fails to say anything about what may be output at printer (37).

Added is new claim 103, which depends from claim 24. Claim 103 sets forth that the television program and the third information are included in first and second channels, respectively, of a multichannel cable transmission. Zaboklicki fails to suggest such a multichannel cable transmission.

Also added are claims 74, 75, and 104, which are apparatus claims that are generally analogous to method claims 24, 25, and 103. Claims 74, 75, and 104 are patentable over Zaboklicki for reasons similar to those set forth above with respect to claims 24, 25, and 103. Claim 74 sets forth a microcomputer for coordinating a television program with a presentation of a second medium, a first output device for outputting the television program, and a second output device for outputting the second medium. Zaboklicki fails to show a second output device for outputting a second medium for the reasons discussed above with respect to claim 24. Claim 75 sets forth that the second output device comprises a printer. As discussed above, Zaboklicki fails to suggest outputting the claimed second medium at the printer. Claim 104 sets forth that the television program and the third information are included in first and second channels, respectively, of a multichannel cable transmission. Zaboklicki fails to suggest such a multichannel cable transmission.

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b. Independent Claim 2 And Related Claims

Claim 2 is rejected as being unpatentable over Zaboklicki for the same reasons as were set forth for claims 24 and 25. As the limitations of claim 2 were not addressed within the reasons set forth in the rejection of claim 24 and 25, the Office action fails to establish a *prima facie* case of obviousness against claim 2.

Claim 2 sets forth determining content of a second medium. Zaboklicki fails to teach or suggest a step of determining content of a second medium. For at least these reasons, applicants respectfully request that the 35 U.S.C. §103(a) rejection of amended claim 2 as unpatentable over Zaboklicki be withdrawn.

Claims 3-16 are rejected as being unpatentable over Zaboklicki for the same reasons that were set forth for claim 24-25. These claims depend from claim 2. Applicants respectfully request the withdrawal of these rejections of claims 3-16 for at least the above reasons. Claim 4 sets forth that a computer performs the step of determining. Zaboklicki suggests no such computer. Claim 6 sets forth that a plurality of signals is received from an intermediate transmitter station. Zaboklicki suggests no such intermediate transmitter station. Claim 7 as amended sets forth that the content of the second medium explains a significance of a presentation using stored information. Zaboklicki fails to suggest such a second medium. Claim 8 as amended sets forth that the content of the second medium explains the significance in audio. Zaboklicki also fails to suggest this further limitation. Claim 11 sets forth that the plurality of signals includes a digital data channel. Zaboklicki fails to suggest such a digital data channel. Claim 12 as amended sets forth that the receiver station receives the first medium in the digital data channel. Zaboklicki does not suggest receiving a first medium in a digital data channel. Claim 13 sets forth that the step of determining comprises processing an identifier. Zaboklicki fails to suggest processing any identifier to determine the content of a second medium. Claim 14 further sets forth that the identifier identifies content of the second medium. Zaboklicki fails to suggest such an identifier.

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Claims 17 and 18 are rejected as being unpatentable over Zaboklicki in view of Haefner. As discussed above, Zaboklicki and Haefner are improperly combined in the Office action. Claim 17 sets forth storing the second medium at the receiver station. Haefner is directed to providing programming somewhat on demand that is then stored at a receiver. There is no suggestion that the television programming of Zaboklicki could be provided on demand and stored for the reasons set forth above. Claim 18 as amended sets forth that the first medium is received in a digital data channel of a multichannel cable transmission including a second medium. Neither Zaboklicki nor Haefner suggests such a multichannel cable transmission with first and second media used in a coordinated presentation.

Claim 37 is rejected over Zaboklicki for the same reasons that were set forth for claims 24 and 25. Claim 37 is an apparatus claim that is generally analogous to method claim 2. Claim 37 is amended to set forth a microcomputer that stores information from a first medium and coordinates a presentation using the information with a presentation of a received second medium based on determining content of the second medium. Zaboklicki fails to show such a microcomputer for the reasons discussed above with respect to claim 2. Zaboklicki fails to suggest any processor for determining content of the second medium.

Claims 38 and 39 are rejected as being unpatentable over Zaboklicki for the same reasons that were set forth for claims 24 and 25. These claims depend from claim 37. Applicants respectfully request the withdrawal of these rejections of claims 38 and 39 for at least the reasons set forth above with respect to claim 37. Claim 38 sets forth that the microcomputer determines content of the second medium by processing an identifier and sets forth a detector for detecting the identifier. Zaboklicki fails to suggest determining content based on an identifier and fails to suggest such a detector.

New claims 67-69 depending from claim 37 are added. These claims are patentable over Zaboklicki for at least the reasons discussed above with regard to claim

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37. In addition, claim 68 sets forth that the microcomputer receives the first medium in a digital data channel. Claim 69 sets forth that the microcomputer receives the first medium in a digital data channel of a multichannel cable transmission including the second medium. Zaboklicki fails to suggest receiving such a digital data channel or multichannel cable transmission.

c. Independent Claim 20 And Related Claims

Claim 20 is rejected as being unpatentable over Zaboklicki for the same reasons as were set forth for claims 24 and 25. As the limitations of claim 20 were not addressed within the reasons set forth in the rejection of claims 24 and 25, the Office action fails to establish a *prima facie* case of obviousness against claim 20.

Claim 20 as amended sets forth controlling a receiver station to enable a coordinated presentation, through execution of processor instructions, of a first medium and information based on a second medium, wherein the information based on the second medium is generated based on identifying content of the second medium. Zaboklicki fails to show or suggest at least this step of controlling a receiver station as set forth in claim 20.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 20 as unpatentable over Zaboklicki be withdrawn.

Claims 21-23 are rejected as being unpatentable over Zaboklicki for the same reasons that were set forth for claims 24 and 25. These claims depend from claim 20. Applicants respectfully request the withdrawal of these rejections of claims 21-23 for at least the reasons set forth above with respect to claim 20. In addition, claim 22 sets forth receiving the second medium in a digital data channel. Claim 23 as amended sets forth that the plurality of signals is included in a multichannel cable transmission and includes

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a digital data channel including the second medium. Zaboklicki fails to suggest such a digital data channel or such a multichannel cable transmission.

Added are new claims 70-73, which are apparatus claims that are generally analogous to method claims 20-23. Claims 70-73 are patentable over Zaboklicki for reasons similar to those set forth above with respect to claims 20-23. Claim 70 sets forth a microcomputer for executing processor instructions to enable a coordinated presentation of a first medium and information based on a second medium, wherein said information based on the second medium is generated based on identifying content of the second medium. Zaboklicki fails to show or suggest such a microcomputer. Claim 72 sets forth that the microcomputer receives the second medium in a digital data channel. Claim 73 sets forth that that a plurality of signals, including the first and second medium, is included in a multichannel cable transmission and includes a digital data channel including the second medium. Zaboklicki fails to show such a digital data channel or such a multichannel cable transmission.

d. Independent Claim 26 And Related Claims

Claim 26 is rejected as being unpatentable over Zaboklicki for the same reasons as were set forth for claims 24 and 25. As the limitations of claim 26 were not addressed within the reasons set forth in the rejection of claims 24 and 25, the Office action fails to establish a *prima facie* case of obviousness against claim 26.

Claim 26 as amended includes the step of receiving, at a receiver station, at least two media from different sources. Zaboklicki does not suggest receiving at least two media from different sources. Claim 26 sets forth identifying content of a first and content of a second of the at least two media. Zaboklicki does not suggest identifying the content of both first and second media. Claim 26 further sets forth outputting a multimedia presentation comprising a presentation of information included in the first

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medium and information based on the second medium. Zaboklicki suggests outputting no such multimedia presentation.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 26 as unpatentable over Zaboklicki be withdrawn.

Claims 27 and 28 are rejected as being unpatentable over Zaboklicki in view of Haefner. As discussed above, Zaboklicki and Haefner are improperly combined in the Office action. Claim 27 sets forth storing the information based on the second medium at the receiver station. Haefner is directed to providing programming somewhat on demand that is then stored at a receiver. Zaboklicki and Haefner fail to suggest storing information based on a second medium as set forth by amended claim 27. Claim 28 as amended sets forth storing the first medium at the receiver station. There is no suggestion that the television programming of Zaboklicki could be provided on demand and stored for the reasons set forth above.

Added are new claims 82-84, which depend from claim 26. Applicants respectfully submit that these claims are patentable over Zaboklicki for at least the reasons set forth above with respect to claim 26. In addition, claim 83 sets forth that the second medium is received in a digital data channel. Claim 84 sets forth that a plurality of media including the two media is included in a multichannel cable transmission including a digital data channel including the second medium. Zaboklicki fails to suggest such a digital data channel or such a multichannel cable transmission.

Also added are claims 76-81, which are apparatus claims that are analogous in many respects to method claims 26-28, 82, and 83. Claims 76-81 are patentable over Zaboklicki for at least reasons similar to those set forth above with respect to claim 26. Claim 76 sets forth a microcomputer for identifying content of the first medium and identifying content of the second medium and controlling, based on identifying the content, a multimedia presentation comprising information included in the first medium

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and information based on the second medium. Zaboklicki fails to suggest such a microcomputer. Claim 77 sets forth that the microcomputer controls storage of information based on the second medium. Claim 78 sets forth that the microcomputer controls storage of the first medium. Zaboklicki and Haefner fail to suggest a microcomputer controlling storage as set forth in claims 77 and 78. Claim 80 sets forth that a second receiver receives the second medium in a digital data channel. Claim 81 sets forth that a multichannel cable transmission includes the first medium and a digital data channel including a second medium. Zaboklicki fails to suggest such a digital data channel or such a multichannel cable transmission.

e. Independent Claim 29 And Related Claims

Claim 29 is rejected as being unpatentable over Zaboklicki for the same reasons as were set forth for claims 24 and 25. As the limitations of claim 29 were not addressed within the reasons set forth in the rejection of claims 24 and 25, the Office action fails to establish a *prima facie* case of obviousness against claim 29.

Claim 29 as amended includes the steps of processing a control signal at a receiver station that causes execution of processor instructions to create a series of discrete video images, causing a video image of the series of discrete images to be output, and combining the outputted video image into a multimedia presentation comprising a first medium. Zaboklicki fails to suggest any series of discrete video images and thus fails to suggest these steps related to a series of discrete video images. Zaboklicki fails to suggest any control signal related to the creation of a series of video images.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 29 as unpatentable over Zaboklicki be withdrawn.

Claim 30 is rejected as being unpatentable over Zaboklicki for the same reasons that were set forth for claim 24 and 25. Claim 30 depends from claim 29. Applicants

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respectfully request the withdrawal of this rejection of claim 30 for at least the reasons set forth above with respect to claim 29.

Added are new claims 91-94, which depend from claim 29. Applicants respectfully submit that these claims are patentable over Zaboklicki for at least the reasons set forth above with respect to claim 29. In addition, claim 93 sets forth that the second medium is received in a digital data channel. Claim 94 sets forth that a multichannel cable transmission includes the first medium including a television program and a digital data channel including the second medium. Zaboklicki fails to suggest such a digital data channel and such a multichannel cable transmission.

Also added are claims 85-90, which are apparatus claims that are generally analogous to method claims 29, 30 and 91-94. Claims 85-90 are patentable over Zaboklicki for reasons similar to those set forth above with respect to claim 29. Claim 85 sets forth a microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal, identifying content of a first medium, and then causing a video image of the series of discrete video images to be output. As discussed above, there is no suggestion in Zaboklicki of creating a series of discrete video images based on a control signal. Zaboklicki, thus, fails to suggest a microcomputer as set forth in claim 85. Claim 89 sets forth that the second medium is received in a digital data channel. Claim 90 sets forth that a multichannel cable transmission includes the first medium including a television program and a digital data channel including the second medium. Zaboklicki fails to suggest such digital data channel or such a multichannel cable transmission.

f. Independent Claim 33 And Related Claims

Claim 33 is rejected as being unpatentable over Zaboklicki for the same reasons as were set forth for claims 24 and 25. As the limitations of claim 33 were not addressed

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within the reasons set forth in the rejection of claims 24 and 25, the Office action fails to establish a *prima facie* case of obviousness against claim 33.

Claim 33 as amended includes the step of receiving a user response based on a step of outputting a first signal, comparing the user response to information corresponding to content of the first signal, and tuning the receiver station to receive a second signal based on the step of comparing. Zaboklicki does not include sufficient details to suggest comparing a user response to information corresponding to content of a first signal. Zaboklicki also fails to include any showing or suggestion of tuning the receiver station to receive a second signal based on the step of comparing.

Applicants respectfully request that for at least the above reasons the 35 U.S.C. §103(a) rejection of amended independent claim 33 as unpatentable over Zaboklicki be withdrawn.

Claims 34-36 are rejected as being unpatentable over Zaboklicki for the same reasons that were set forth for claims 24 and 25. Claims 34-36 depend from claim 33. Applicants respectfully request the withdrawal of these rejections of claims 34-36 for at least the reasons set forth above with respect to claim 30. In addition, claim 35 as amended sets forth that information included in the second signal is output to a printer. Zaboklicki fails to suggest such output at a printer.

Added are new claims 101-102, which depend from claim 33. Applicants respectfully submit that these claims are patentable over Zaboklicki for at least the reasons set forth above with respect to claim 33. In addition, claim 102 sets forth that the first and second signals are received in a multichannel cable transmission. Zaboklicki fails to suggest such a multichannel cable transmission.

Also added are claims 95-100, which are apparatus claims that are generally analogous to method claims 33-36, 101, and 102. Claims 95-100 are patentable over Zaboklicki for at least reasons similar to those set forth above with respect to claim 33. Claim 95 sets forth a microcomputer for receiving a user response based on outputting a

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first signal, comparing the user response to information corresponding to content of the first signal, and based on the comparison tuning the second receiver to receive a second signal. Zaboklicki fails suggest such a microcomputer. Claim 77 sets forth that the microcomputer controls storage of information based on the second medium. Claim 100 sets forth that the first and second signals are received in a multichannel cable transmission. Zaboklicki fails to suggest such a multichannel cable transmission.

III. CONCLUSION

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims are patentably distinguishable over the prior art of record, taken in any proper combination. Reconsideration and allowance of the instant application are respectfully requested.

Respectfully submitted,

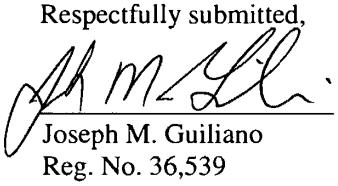

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Exhibit 1

Marked-Up Claim Language

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2. (Seven Times Amended) A method of outputting a multimedia presentation at a receiver station adapted to receive a plurality of signals, said method comprising the steps of:

receiving said plurality of signals, at least a portion of said plurality of signals being received from a source external to said receiver station, said plurality of signals including at least two media;

storing information from a first of said at least two media [a first medium included in said at least a portion of said plurality of signals to provide a first portion of said multimedia presentation];

determining content of a second medium received in said plurality of signals;

coordinating, at said receiver station under computer control, a presentation [of said first portion of said multimedia presentation] using said information with a presentation of said second medium based on said step of determining; and

outputting said multimedia presentation to a [viewer or listener] user at said receiver station based on said step of coordinating such that [content of said first portion] said presentation using said information has a predetermined relationship to said content of said second medium.

3. (Five Times Amended) The method of claim 2, wherein said information from a first of said at least two media [first medium] is stored in said computer.

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6. (Five Times Amended) The method of claim 5, wherein said external transmitter station is an intermediate transmitter station[, said method further comprising the step of programming said receiver station to process signals originated by said external transmitter station].

7. (Five Times Amended) The method of claim 2, wherein said content of said second medium explains a significance of said [content of said first portion of said multimedia] presentation using said information.

8. (Three Times Amended) The method of claim 7, wherein said content of said second medium explains said significance in audio [and said receiver station includes a first selective transfer device, said method further comprising the step of causing said first selective transfer device to communicate said audio to an audio output device].

9. (Five Times Amended) The method of claim 8, wherein said determining step causes a tuner at said receiver station to communicate said audio to an audio output device [said second medium comprises further information for output at said receiver station in addition to said audio and said receiver station includes a plurality of selective transfer devices, said method further comprising the step of causing a second of said plurality of selective transfer devices to communicate said further information for output to an additional output device separate from said audio output device].

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10. (Five Times Amended) The method of claim 9, wherein said second medium comprises television, including video and said audio[, wherein said further information for output includes said video, and wherein said additional output device separate from said audio output device includes a video output device].

12. (Four Times Amended) The method of claim 11, wherein said receiver station receives said first [medium] of said at least two media in said digital data channel.

18. (Five Times Amended) The method of claim 17, wherein said second medium [is stored based on said step of determining] comprises television including video and audio and wherein said first medium is received in a digital data channel of a multichannel cable transmission including said second medium.

20. (Five Times Amended) A method of outputting a multimedia presentation at a receiver station adapted to process a plurality of signals, said plurality of signals including first and second media of said multimedia presentation, said method comprising the steps of:

receiving a first of said plurality of signals from a source external to said receiver station, said first of said plurality of signals including an identifier;

processing said first of said plurality of signals to provide said first medium of said multimedia presentation and said identifier;

identifying content of said first medium based on said identifier;

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controlling said receiver station, based on said step of identifying, to [respond to a processor instruction which is separately received from said identifier;

responding to said processor instruction to coordinate] enable a coordinated presentation, through execution of processor instructions, of said first medium and information based on said second [media] medium, wherein, said information based on said second medium is generated based on identifying content of said second medium; and

outputting said multimedia presentation based on said step of [responding] controlling.

21. (Three Times Amended) The method of claim 20, wherein said first medium comprises a television program including video and audio [said receiver station includes a first selective transfer device and said outputting step comprises the step of controlling said first selective transfer device to transfer one of said first and second media to an output device].

22. (Three Times Amended) The method of claim [21, wherein said step of controlling comprises originating said second medium of said first and second media] 20, further including the step of receiving said second medium in a digital data channel.

23. (Three Times Amended) The method of claim [21, wherein said receiver station includes a plurality of selective transfer devices, said method further comprising the step of causing a second of said plurality of selective transfer devices to

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store said first medium of said first and second media] 20, wherein said first medium comprises a television program including video and audio and wherein said plurality of signals is included in a multichannel cable transmission and includes a digital data channel including said second medium.

24. (Three Times Amended) A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:

receiving[, at said receiver station, first and second media of said multimedia presentation from at least two different sources, only one of said first and second media containing television programming, said television programming including audio and video] a first medium including a television program;

[receiving, from a remote transmitter station, a control signal at said receiver station;

identifying content, at said receiver station, of said first medium of said multimedia presentation based on said control signal;]

comparing first information stored at said receiver station to second information corresponding to content of said television program to determine whether to present a second medium based on third information received from a source different from that of said first medium;

coordinating presentation, based on said [step of identifying] determination, of said [first medium] television program of said multimedia presentation with presentation of said second medium of said multimedia presentation; and

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outputting said [first medium] television program of said multimedia presentation at a first output device at said receiver station, and said second medium at a second output device at said receiver station.

25. (Three Times Amended) The method of claim 24, [wherein said at least two different sources include a plurality of different local sources, and] wherein said [first and said] second output device [devices comprise a speaker and] comprises a printer.

26. (Three Times Amended) A method of outputting a multimedia presentation at a receiver station adapted to receive a plurality of media [and process at least one of said plurality of media], said method comprising the steps of:

receiving, at said receiver station, at least two of said plurality of media from different sources, at least one of said different sources being a remote transmitter station;

processing said at least two of said plurality of media in order to output said multimedia presentation;

identifying content of a first and content of a second of said at least two of said plurality of media based on said step of processing; and

outputting said multimedia presentation based on said step of identifying, said multimedia presentation comprising [one of] a [sequential and a simultaneous] presentation of information [based on] included in said first of said at least two of said plurality of media and information based on said second of said at least two of said plurality of media.

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27. (Three Times Amended) The method of claim 26, [wherein said receiver station includes a storage device,] said method further comprising the step of storing said [at least two of said plurality of media] information based on said second of said at least two of said plurality of media at said receiver station.

28. (Three Times Amended) The method of claim 27, further comprising the step of [originating a portion of said multimedia presentation at said receiver station based on said step of] storing said first of said at least two of said plurality of media at said receiver station.

29. (Three Times Amended) A method of outputting a multimedia presentation at a receiver station having an output device, said method comprising the steps of:

processing a control signal at said receiver station that causes execution of processor instructions [programs a processor] to create a series of discrete video images;

identifying content of a first medium, said first medium to be output in said multimedia presentation;

causing a video image of said series of discrete video images to be output [based on] subsequent to said step of identifying; and

combining said outputted video image into said multimedia presentation at said output device based on said step of causing to be output, said multimedia presentation

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comprising said first medium and said outputted video image of said series of discrete video images.

33. (Three Times Amended) A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:

receiving a first signal from a remote transmitter station;

outputting said first signal at said receiver station;

receiving a user response based on said step of outputting;

[identifying content of said first signal;]

comparing[, based on] said user response[,said] to information corresponding to content [to data stored] of said first signal at said receiver station;

tuning said receiver station to receive a second signal based on said step of comparing; and

outputting information included in said second signal;

wherein said multimedia presentation comprises [at said receiver station, said multimedia presentation comprising] information included in said first signal and said information included in said second signal.

35. (Three Times Amended) The method of claim [34] 33, wherein said information [transmitted from said receiver station includes at least a portion of said user response] included in said second signal is output to a printer.

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37. (Three Times Amended) A multimedia presentation apparatus comprising:

at least one receiver for receiving a plurality of signals[, wherein at least a portion of said plurality of signals is received] from a source external to said multimedia presentation apparatus, said plurality of signals including at least two media;

a [storage device for storing] microcomputer that stores information from a first of said at least two media and [a first medium included in said at least a portion of said plurality of signals to provide a first portion of a multimedia presentation;

at least one processor operatively connected to said at least one receiver and said storage device for providing said first portion of said multimedia presentation, wherein said at least one processor] coordinates a presentation using said information [of said first portion of said multimedia presentation] with a presentation of a received second medium of said at least two media based on determining content of said second medium; and

at least one output device operatively connected to said at least one receiver and [at least one of said at least one processor and said storage device] said microcomputer for outputting [said] a multimedia presentation to a [viewer or listener] user at said multimedia presentation apparatus based on said coordinating such that [content of said first portion] said presentation using said information has a predetermined relationship to said content of said second medium.

38. (Three Times Amended) The apparatus of claim 37, wherein said [at least one processor] microcomputer determines said content of said second medium by processing an identifier transmitted from said source external to said multimedia

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presentation apparatus, said multimedia presentation apparatus further comprising a detector operatively connected to said [at least one processor] microcomputer for detecting said identifier.

40. (Three Times Amended) The apparatus of claim 39, further comprising a first controlled device operatively connected to said [at least one processor] microcomputer for causing said converter to select said second medium.

41. (Three Times Amended) The apparatus of claim 40, further comprising a [second] storage device operatively connected to said converter for storing said second medium.

42. (Three Times Amended) The apparatus of claim 41 further comprising a second controlled device operatively connected to said [at least one processor] microcomputer for causing said [second] storage device to store said second medium.

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Exhibit 2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT APPLICATION NUMBER 08/487,526

DECLARATION OF DR. GEORGE T. LIGLER

I, George T. Ligler, declare as follows:

I. INTRODUCTION

1. This declaration is submitted to address several technical and fact issues that have arisen in the prosecution within the United States Patent and Trademark Office (USPTO) of patent application 08/487,526.

2. I have been asked to consider the following topics:

(1) Whether or not the specifications of U.S. patent application Ser. No. 06/317,510 filed November 3, 1981 ("the 1981 specification") and U.S. patent application Ser. No. 07/096,096 filed September 11, 1987 ("the 1987 specification") each include a written description of the subject matter claimed in the set of amended claims for patent application 08/487,526 attached as Tab A to this Declaration ("the amended claims");

(2) Several issues raised by the Examiner in Sections I through VI of the July 30, 2002 Office Action in this matter ("the July 2002 Office Action"), specifically:

(a) several aspects of the definition of the term "programming" as used in the 1981 and 1987 specifications, and the extent to which the term "programming" bears on the issue of whether or not the amended claims are adequately supported by both specifications;

(b) the extent to which any differences in the signaling method and terminology described in the 1981 and 1987 specifications would bear on the issue of whether or not the amended claims are adequately supported by both specifications; and

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(c) the extent to which any differences in the description of the Wall Street Week example in the 1981 and 1987 specifications would bear on the issue of whether or not the amended claims are adequately supported by both specifications.

3. I understand that this Declaration is being submitted in conjunction with Applicant's Response to the July 2002 Office Action.

II. QUALIFICATIONS

4. As set forth in my resume (attached at Tab B), I am self-employed by GTL Associates as a consultant for clients in the fields of telecommunications, computer systems engineering, and product management. My work involves the design, specification, and consideration of computer and microprocessor-based systems, including use of those systems within a telecommunications context, with respect to both hardware and software.

5. I earned a Bachelor's degree in Mathematics (*summa cum laude*) from Furman University in 1971, and Master of Science (M.Sc.) and Doctorate (D.Phil.) degrees in Computer Science from Oxford University in 1973 and 1975, respectively. My studies at Oxford were supported by a Rhodes Scholarship.

6. I have more than twenty-five years of professional experience in the management of projects involving computer-based systems and in the fields of computer hardware, software, and systems design. Projects for which I have been responsible have ranged in size from the development of software products by small teams of programmers to the design and implementation, under a contract initially valued at $282M, of a nationwide communications network for the U.S. Treasury Department.

7. Of particular relevance to the present matter is my software and computer systems engineering experience between 1978 and 1987.

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8. Beginning in 1978, I was responsible until April 1980 for a computer systems engineering branch within the Advanced Software Technology Department at Texas Instruments. The work of the branch focused on topics including the development of both software (including embedded operating systems) and hardware for application-specific microprocessor-based computer systems, including bus interface units used to support digital communications. I additionally chaired a corporate-wide task force that developed a high-level-language-oriented microprocessor architecture.

9. In 1980-1982 I was Deputy Manager of Great Valley Laboratories and subsequently Deputy General Manager and Director of Engineering of the Special Systems Division of the Burroughs Corporation. In the latter capacity, I was responsible for programs including research and development in distributed processing, the use of display technology, and telecommunications. My organization included approximately 450 engineering and support personnel.

10. From 1982 to 1984 I was President of the Aydin Controls Division of the Aydin Corporation. Aydin Controls designed, manufactured, and marketed high resolution color graphic display generators and color monitors for over 300 Original Equipment Manufacturers and end users.

11. From 1984 to 1987 I was a Division Vice President at Computer Sciences Corporation, and had program responsibility in several business areas involving telecommunications and computer systems technology.

12. I have authored or co-authored twenty technical publications in several fields, including articles relating to computer programming languages and their implementation, computer software development methodologies, and computer/computer system architecture. Tab C is a list of these publications, as well as information on indicative abstracts and standards group working papers which I have authored or co-authored.

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13. I have taught graduate and undergraduate level courses at the University of Texas at San Antonio in computer science, given numerous invited lectures in several technology areas, served on doctoral dissertation committees, and served, *pro bono*, on advisory committees formed by the National Research Council and other bodies.

14. I have been engaged by the Hunton & Williams law firm as a consultant in connection with this matter. I have been compensated at my normal consulting rate, plus expenses. I will receive no other compensation for my work in this matter.

15. Attached at Tab D is a list of materials cited and/or reviewed in preparing this Declaration. In particular, I have reviewed Sections 201.11 and 2163 of the Manual of Patent Examining Procedures (MPEP) (8th Ed. 2001) in conjunction with 35 U.S.C. §§ 112 and 120 and I have applied the standards set forth in those documents to perform my analysis of the written description issue raised in (1) in Paragraph 2 above.

III. SUMMARY OF OPINIONS

16. I have formed the following opinions based principally upon (1) my direct experience between 1978 and 1987 summarized above; (2) trial testimony which I have read and about which I have previously opined concerning the level of ordinary skill prior to 1985 in the art of the 1981 and 1987 specifications; and (3) my review of the 1981 specification, the 1987 specification, the amended claims, MPEP materials cited above, and the July 2002 Office Action:

A. A person of ordinary skill in the art of the 1981 and 1987 specifications in 1981 would be a skilled individual in the computer arts and in television and/or cable systems. This individual might be degreed or alternatively might have extended experience after either a high school education or a high school education plus a few years of college. A person of ordinary skill in the art of the 1981 and 1987 specifications in 1987 would have the same level of skill but would be more likely to have a college degree and

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would also be aware of advances in the art that had occurred between 1981 and 1987.

B. From the vantage point of such a person of ordinary skill in 1981, the claimed subject matter of the amended claims is sufficiently described in the 1981 specification. From the vantage point of such a person of ordinary skill in 1987, the same claimed subject matter of the amended claims is sufficiently described in the 1987 specification.

C. Differences between the 1981 and 1987 specifications concerning the topics enumerated in Paragraph 2(2) above would not impact the ability of such persons of ordinary skill in the art to conclude that the subject matter claimed in the amended claims is sufficiently described in both specifications.

IV. BASES FOR OPINIONS

17. References herein to the 1981 specification are made with regard to the presentation of that specification in U.S. Patent 4,694,490.

A. Person of Ordinary Skill in the Art of the 1981 and 1987 Specifications

18. While the 1981 specification does not expressly list the fields involved therein, the commonality with the express recitations in the 1987 specification is clear (1987 specification at page 1, lines 10-17). The 1981 specification clearly discusses (following the 1987 specification's enumeration):

(a) computer processing: e.g., at col. 4, l. 68 to col. 5, l. 7; col. 19, ll. 48-53.
(b) computer communications: e.g., at col. 5, ll. 11-14; col. 19, ll. 35-41.
(c) television: e.g., at col. 3, ll. 32-37.
(d) radio: e.g., at col. 3, ll. 51-56.
(e) other electronic communications: e.g., at col. 3, ll. 51-56.

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(f) automating the handling, recording, and retransmitting of television, radio, computer, and other electronically transmitted programming: at, e.g., col. 3, ll. 51-56; col. 10, ll. 14-23; col. 11, ll. 38-44.

(g) regulating, metering, and monitoring the availability, use, and usage of such programming: at, e.g., col. 3, ll. 41-47; col. 3, l. 66 to col. 4, l. 4; col. 5, ll. 11-14.

19. As discussed in Section II above, I was directly involved in the research, development, and management of microcomputer-based systems including display and telecommunications technology in the period 1978-1987. My duties included supervision of many engineering and technical personnel in these fields. Additionally, I have reviewed trial testimony specifically regarding the level of experience of practitioners in the fields of the computer arts as they relate to the provision of information over cable television systems in this time frame such as John Kerklo, Charles Clupper, and Michael Axford (please see Tab E). I therefore conclude

Opinion A: A person of ordinary skill in the art of the 1981 and 1987 specifications in 1981 would be a skilled individual in the computer arts and in television and/or cable systems. This individual might be degreed or alternatively might have extended experience after either a high school education or a high school education plus a few years of college. A person of ordinary skill in the art of the 1981 and 1987 specifications in 1987 would have the same level of skill but would be more likely to have a college degree and would also be aware of advances in the art that had occurred between 1981 and 1987.

B. The 1981 and 1987 Specifications and the Written Description Requirement with Regard to the Amended Claims

20. I have carefully reviewed the amended claims in view of both the 1981 specification as understood by a person of ordinary skill in the art in 1981 and the 1987 specification as understood by a person of ordinary skill in the art in 1987. I will discuss at this point how both the 1981 and 1987 specifications so understood support the

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claimed subject matter of independent amended claims 2, 20, 24, 26, 29, and 33. Tab F is a Supplemental Support Chart which provides the basis of support for amended claims other than independent amended claims 2, 20, 24, 26, 29, and 33. Although I have provided the bases for my opinion for claims other than amended claims 2, 20, 24, 26, 29, and 33 in chart form for purposes of brevity, I conducted the same detailed analysis for those claims as I have done for amended claims 2, 20, 24, 26, 29, and 33.

(1) Amended Claim 2

21. Amended claim 2 recites the following, with annotations providing exemplary support from the 1981 and 1987 specifications:

> 2. A method for outputting a multimedia presentation at a receiver station adapted to receive a plurality of signals, said method comprising the steps of:
>
> receiving said plurality of signals, at least a portion of said plurality of signals being received from a source external to said receiver station, said plurality of signals including at least two media (1981 specification at, e.g., col. 19, ll. 5-8 and ll. 35-41; 1987 specification at, e.g., p. 20, ll. 20-29; and p. 449, ll. 13-20 and ll. 26-35);
>
> storing information from a first of said at least two media (1981 specification at, e.g., col. 19, ll. 39-41; 1987 specification at, e.g., p. 449, ll. 13-35);
>
> determining content of a second medium received in said plurality of signals (1981 specification at, e.g., col. 19, ll. 12-23; 1987 specification at, e.g., p. 435, l. 23 to p. 436, l. 1);
>
> coordinating, at said receiver station under computer control, a presentation using said information with a presentation of said second medium based on said step of determining (microcomputer 205; 1981 specification at, e.g.,

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col. 19, ll. 30-34; and col. 19, l. 54 to col. 20, l. 2; 1987 specification at, e.g., p. 12, ll. 3-9; p. 24, l. 22 to p. 25, l. 8; and p. 25, l. 33 to p. 26, l. 11); and

outputting said multimedia presentation to a user at said receiver station based on said step of coordinating such that said presentation using said information has a predetermined relationship to said content of said second medium (1981 specification at, e.g., col. 19, l. 67 to col. 20, l. 2; 1987 specification at, e.g., p. 26, ll. 4-11).

22. In both the 1981 and 1987 specifications, an exemplary "plurality of signals including at least two media" is a first medium containing stock quote information and a second medium being the Wall Street Week television program with embedded instruction and information signals (1981 specification at, e.g., col. 19, ll. 5-8 and ll. 35-41; 1987 specification at, e.g., p. 20, ll. 21-26; and p. 449, ll. 13-20 and ll. 26-35). Both of these media are expressly described as being received by the exemplary user's receiver station from one or more sources external to that receiver station (1981 specification at, e.g., col. 19, ll. 5-8 and ll. 35-41; 1987 specification at, e.g., p. 20, ll. 20-29; and p. 449, ll. 13-20 and ll. 26-35).

23. In both the 1981 and 1987 specifications, stock quote information pertinent to a user's stored stock portfolio is stored at the exemplary receiver station (1981 specification at, e.g., col. 19, ll. 39-41; 1987 specification at, e.g., p. 449, ll. 13-35). While the 1987 specification discloses that the exemplary portfolio information is stored on a floppy disk at the receiver station (1987 specification at, e.g., p. 21, ll. 5-14), this particular method of storing is not recited in amended claim 2.

24. In both the 1981 and 1987 specifications, a program identifier received in advance of the exemplary Wall Street Week broadcast is used to determine content of the

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Wall Street Week television program (1981 specification at, e.g., col. 19, ll. 12-23; 1987 specification at, e.g., p. 435, l. 23 to p. 436, l. 1). As with the instruction signals discussed in Paragraphs 39 and 40 below, the 1987 specification describes a more detailed signaling protocol for the program identification signals than is described in the 1981 specification. However, none of these details are recited in amended claim 2.

25. In both the 1981 and 1987 specifications, the exemplary receiver station prepares, under control of at least exemplary microcomputer 205, a presentation using the stored stock quote information pertinent to the stored stock portfolio of a user of the receiver station. This presentation is a graphic overlay of the user's own stocks' performance to be shown in conjunction with a television-studio-generated graphic of performance of the Dow Jones Industrials (and, in the 1981 specification, of the NASDAQ index as well) within the Wall Street Week television program (1981 specification at, e.g., col. 19, l. 54 to col. 20, l. 2; 1987 specification at, e.g., p. 24, l. 22 to p. 25, l. 8). Both the 1981 and 1987 specifications disclose the preparation of the combined display as involving coordination in time (1981 specification at, e.g., col. 19, ll. 30-34; 1987 specification at, e.g., p. 12, ll. 3-9; and p. 25, l. 33 to p. 26, l. 11). The coordination is based upon the receipt of the Wall Street Week program identifier because receipt of that identifier enables the entire process of generation, coordination, and display of the overlay of the user's own stocks' performance.

26. Finally, both the 1981 and 1987 specifications disclose that, based upon the step of coordinating discussed in Paragraph 25 above, the exemplary overlay of the user's own stocks' performance and the studio-generated graphic of stock index performance received in a transmission of the Wall Street Week television program are simultaneously (a predetermined relationship based on time and content) displayed (1981

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specification at, e.g., col. 19, l. 67 to col. 20, l. 2; 1987 specification at, e.g., p. 26, ll. 4-11).

27. The above evidence clearly indicates, in my opinion, that the claimed subject matter of amended claim 2 is disclosed in sufficient detail, in both the 1981 and 1987 specifications, that a person of ordinary skill in the relevant time frames would reasonably understand that the inventor possessed the subject matter of amended claim 2 at the time of the filing of those specifications.

(2) Amended Claim 33

28. Amended claim 33 recites the following, with annotations providing exemplary support from the 1981 and 1987 specifications:

> 33. A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:
>
> receiving a first signal from a remote transmitter station (1981 specification at, e.g., col. 20, ll. 16-19; 1987 specification at, e.g., p. 470, ll. 9-17);
>
> outputting said first signal at said receiver station (1981 specification at, e.g., col. 20, ll. 16-19; 1987 specification at, e.g., p. 470, ll. 9-17; and p. 471, ll. 6-13);
>
> receiving a user response based on said step of outputting (1981 specification at, e.g., col. 20, ll. 19-28; 1987 specification at, e.g., p. 471, ll. 6-24);
>
> comparing said user response to information corresponding to content of said first signal at said receiver station (1981 specification at, e.g., col. 20, ll. 28-38; 1987 specification at, e.g., p. 472, ll. 13-17);

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tuning said receiver station to receive a second signal based on said step of comparing (1981 specification at, e.g., col. 20, ll. 32-37; 1987 specification at, e.g., p. 471, l. 8; and p. 477, ll. 8-13); and

outputting information included in said second signal (1981 specification at, e.g., col. 20, ll. 47-50; 1987 specification at, e.g., p. 474, ll. 2-35);

wherein said multimedia presentation comprises information included in said first signal and said information included in said second signal (1981 specification at, e.g., col. 20, ll. 16-19 and ll. 47-50; 1987 specification at, e.g., p. 470, ll. 9-17; p. 471, ll. 6-13; and p. 474, ll. 2-8).

29. In both the 1981 and 1987 specifications, a cooking television program with its embedded instruction and information signals is the exemplary first signal (1981 specification at, e.g., col. 20, ll. 16-19 ("The French Chef"); 1987 specification at, e.g., p. 470, ll. 9-17 ("Exotic Meals of India")). This first signal is received by the exemplary user's receiver station from a remote transmitter station (1981 specification at, e.g., Figure 6D; 1987 specification at, e.g., Figure 7F).

30. In both the 1981 and 1987 specifications, the cooking program is disclosed to be output at the receiver station (1981 specification at, e.g., col. 20, ll. 16-19; 1987 specification at, e.g., p. 470, ll. 9-17; and p. 471, ll. 6-13).

31. In both the 1981 and 1987 specifications, an exemplary user response of "567" may be received by the receiver station if the user is interested in obtaining a recipe for a particular dish (1981 specification at, e.g., col. 20, ll. 19-28; 1987 specification at, e.g., p. 471, ll. 6-24). This user response is disclosed as being based upon hearing an audio statement within the cooking program broadcast (1981 specification at, e.g., col. 20, ll. 19-24; 1987 specification at, e.g., p. 471, ll. 6-13).

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32. In both the 1981 and 1987 specifications, the exemplary user response is (at least) inherently compared, upon receiving an instruction signal embedded within the broadcast of the cooking television program (see Paragraphs 39 and 40 below), against information (e.g., "567") corresponding to the audio statement made within the cooking program broadcast to determine whether the user wishes to obtain the recipe (1981 specification at, e.g., col. 20, ll. 28-38; 1987 specification at, e.g., p. 472, ll. 13-17).

33. In both the 1981 and 1987 specifications, if the comparison indicates that the user wishes to obtain the recipe, tuning at the exemplary receiver station is disclosed (this is an alternate embodiment within the 1987 specification) in order to receive a second signal which contains recipe information (1981 specification at, e.g., col. 20, ll. 32-37; 1987 specification at, e.g., p. 471, l. 8; p. 473, ll. 3-13; p. 474, ll. 8-35; and p. 477, ll. 8-13).

34. In both the 1981 and 1987 specifications, the recipe, if ordered, is output at the user receiver station (1981 specification at, e.g., col. 20, ll. 47-50; 1987 specification at, e.g., p. 474, ll. 2-8). The exemplary multimedia presentation in both specifications includes both the cooking television program and a printed recipe (1981 specification at, e.g., col. 20, ll. 16-19 and ll. 47-50; 1987 specification at, e.g., p. 470, ll. 9-17; p. 471, ll. 6-13; and p. 474, ll. 2-8).

35. The above evidence clearly indicates, in my opinion, that the claimed subject matter of amended claim 33 is disclosed in sufficient detail, in both the 1981 and 1987 specifications, that a person of ordinary skill in the relevant time frames would reasonably understand that the inventor possessed the subject matter of amended claim 33 at the time of the filing of those specifications.

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(3) Amended Claims 20, 24, 26, and 29

36. Amended claim 20 has recitations similar in many respects to those of amended claim 2 (see Paragraphs 21 through 27 above), with the first medium of amended claim 20 exemplified by the Wall Street Week television program and its embedded instruction and information signals and the second medium of amended claim 20 being exemplified by stock quote information. Both the 1981 and 1987 specifications disclose that content of the stock quote information is identified (1981 specification at, e.g., col. 19, ll. 35-41; 1987 specification at, e.g., p. 449, ll. 13-35) and that processor instructions are executed in order to prepare the coordinated presentation of the overlay of the user's own stocks' performance and the studio-generated graphic discussed, for example, in Paragraphs 25 and 26 above (1981 specification at, e.g., col. 19, ll. 48-53; 1987 specification at, e.g., p. 24, l. 22 to p. 25, l. 6). Both the 1981 and 1987 specifications also disclose that generation of the overlay of the user's own stocks' performance is based on identifying content of the stock quote information (1981 specification at, e.g., col. 19, ll. 35-41 and ll. 48-53; and col. 19, ll. 67 to col. 20, l. 2; 1987 specification at, e.g., p. 24, l. 22 to p. 25, l. 8; and p. 449, ll. 13-35).

37. Amended claim 24 has recitations similar in many respects to those of amended claim 33 (see Paragraphs 28 through 35 above), with the exemplary television program being the cooking television program of Paragraph 29 above and the exemplary first and second output devices being a television and printer, respectively (1981 specification at, e.g., Figure 6D, elements 202 and 221; and col. 20, ll. 11-14, ll. 16-18, and ll. 47-50; 1987 specification at, e.g., Figure 7F, elements 202M and 221; and p. 469, ll. 3-9). The exemplary "information stored at said receiver station" is the user response of "567" discussed in Paragraph 31 above. The exemplary "second information corresponding to content of said television program" is as discussed in Paragraph 32 above. Both the 1981 and 1987 specifications disclose two exemplary media, providing the cooking television program with its embedded instruction and information signals and the recipe, which are received from different sources (e.g., different channels: see

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Paragraph 33 above; 1981 specification at, e.g., col. 15, ll. 52-56; 1987 specification at, e.g., p. 317, ll. 2-6).

38. Amended claim 26 has recitations similar in many respects to those of amended claim 2 (see Paragraphs 21 through 27 above). The two media of amended claim 26 being received from different sources is exemplified by receiving stock quote information from either a remote data service or a digital information channel while receiving the Wall Street Week broadcast originating in a remote television studio through a multichannel cable television system (1981 specification at, e.g., col. 15, ll. 52-56; col. 19, ll. 5-8, ll. 37-39, and ll. 60-62; and Figure 6C; 1987 specification at, e.g., p. 20, ll. 21-29; p. 317, ll. 2-6; p. 449, ll. 26-35; and Figure 7C). Identifying content of the media is supported as discussed in Paragraphs 24 and 36 above. Both the 1981 and 1987 specifications disclose outputting the multimedia presentation based upon identifying content of the media (1981 specification at, e.g., col. 19, ll. 20-29, ll. 35-41 and ll. 48-53; and col. 19, ll. 67 to col. 20, l. 2; 1987 specification at, e.g., p. 24, l. 22 to p. 25, l. 8; p. 25, l. 23 to p. 26, l. 11; p. 435, l. 23 to p. 436, l. 1; and p. 449, ll. 13-35).

39. Amended claim 29 also has recitations similar in many respects to those of amended claim 2 (see Paragraphs 21 through 27 above), with a specific recitation of a control signal "that causes execution of processor instructions to create a series of discrete video images." In both the 1981 and 1987 specifications, this control signal is disclosed as being an exemplary instruction signal, a signal which is transmitted within, for example, the signals for a television program, and which instructs microcomputers at subscriber stations to perform particular operations (at least inherently using processor instructions) (1981 specification at, e.g., col. 10, ll. 14-61; and col. 19, ll. 42-44, ll. 48-53, and ll. 60-62; 1987 specification at, e.g., p. 12, ll. 18-25; p. 25, l. 33 to p. 26, l. 12; and p.451, ll. 6-11). The detailed data signaling protocol for instruction signals presented in the 1987 specification and not presented in the 1981 specification is simply not recited in amended claim 29. The Wall Street Week television program is given as a specific

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example of transmitted video in both specifications (1981 specification at, e.g., col. 19, ll. 5-9; 1987 specification at, e.g., p. 20, ll. 21-26). Moreover, both specifications expressly disclose examples of instruction signals (see Paragraph 40 below) broadcast by a remote transmitter which cause a microcomputer at a subscriber's receiver station to either generate or output the same exemplary locally generated portion of the Wall Street Week video presentation (i.e., an overlay of the user's own stocks' performance, see Paragraph 25 above).

40. The specific exemplary signals disclosed to cause the generation of the exemplary overlay are discussed in a much more detailed fashion in the 1987 specification than in the 1981 specification (see, e.g., the End of File Signal (EOFS) in the 1987 specification at Figure 2I; p. 24, ll. 16-21; p. 62, ll. 26-28; and p. 105, l. 9 to p. 106, l. 3; 1981 specification at, e.g., col. 19, ll. 45-53). However, none of these details are recited in amended claim 29. Similarly, the specific exemplary signals disclosed to cause the outputting of the overlay of the user's own stocks' performance onto the studio-generated graphic within the Wall Street Week television broadcast are more detailed in the 1987 specification than in the 1981 specification (see, e.g., the 1987 specification at p. 25, l. 34 to p. 26, l. 11; the 1981 specification at, e.g., col. 19, ll. 60-66). However, such signals for causing outputting are not recited in amended claim 29.

41. The above evidence clearly indicates, in my opinion, that the claimed subject matter of amended claims 20, 24, 26, and 29 is disclosed in sufficient detail, in both the 1981 and 1987 specifications, that a person of ordinary skill in the relevant time frames would reasonably understand that the inventor possessed the subject matter of amended claims 20, 24, 26, and 29 at the time of the filing of those specifications.

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42. As mentioned above, Tab F is a Supplemental Support Chart which provides the basis of support for amended claims other than independent claims 2, 20, 24, 26, 29, and 33. On the basis of the discussion in Paragraphs 18-41 above and Tab F, I therefore conclude:

> **Opinion B:** From the vantage point of such a person of ordinary skill in 1981, the claimed subject matter of the amended claims is sufficiently described in the 1981 specification. From the vantage point of such a person of ordinary skill in 1987, the same claimed subject matter of the amended claims is sufficiently described in the 1987 specification.

C. Impact of Differences between the 1981 and 1987 Specifications

43. The emphasis in Opinion B above on the word "claimed" when modifying the term "subject matter" is key to the analysis presented in Paragraphs 17-42, as there are clearly many differences between the 1981 and 1987 specifications, particularly (though not only) in the level of detail of presentation. In this context, I have been asked to consider several issues raised by the Examiner in Sections I through VI of the July 2002 Office Action and to determine any impact of those issues on the question of whether or not the amended claims are adequately supported by the 1981 and 1987 specifications.

(1) "Programming"

44. In the July 2002 Office Action, the Examiner states that a change was made to the definition of the word "programming" in the 1987 specification as compared to the 1981 specification (July 2002 Office Action, at, e.g., pp. 22-23). In developing his argument, however, the Examiner takes, as I understand the argument, an overly narrow interpretation of the 1981 specification's definition of the term:

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"everything that is transmitted over television or radio intended for communication of entertainment or to instruct or inform"
(1981 specification at Abstract).

45. In my opinion, the above definition of the term "programming" expressly includes the instruction and information signals referred to numerous times in the 1981 specification (and, as seen above, in the 1987 specification). Indeed, the specification passages cited by the Examiner on pp. 25-27 of the July 2002 Office Action confirm this view. For example, the repeated discussion in these passages of identifier signals, instruction signals, and information signals being "in" programming simply confirms the express definition provided in the Abstract of the 1981 specification, as does discussion of adding such signals to programming.

46. The 1987 specification's definition of the term "programming" is as follows:

"everything that is transmitted electronically to entertain, instruct, or inform including television, radio, broadcast print, computer programming, as well as combined medium programming" (1987 specification at p. 11, ll. 6-10).

47. Given that the instruction and information signals disclosed in the 1981 and 1987 specifications are expressly in this definition as well, the issue raised by the Examiner of the definition of the term "programming" in the 1981 and 1987 specifications does not, in my view, bear on the issue of whether or not the amended claims are supported by both specifications. Moreover, the term "programming" is not used in the amended claims (see Tab A).

(2) Signaling Method and Terminology

48. In the July 2002 Office Action, the Examiner further asserts that several differences between the 1981 and 1987 specifications involving signaling methods and

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terminology are pertinent to the claimed subject matter in the claims under examination. I will discuss several of these assertions with regard to the amended claims.

49. First, the Examiner maintains that "the 'instruct signals' of applicant's 1987 specification comprised computer software/programming whereas the 'instruct signals' of applicant's 1981 specification did not comprise computer software/programming" (July 2002 Office Action, p. 37). In my view, the accuracy or inaccuracy of this assertion does not bear on the issue of whether or not the amended claims are supported by both specifications. For example, as discussed in Paragraphs 39 and 40 above, both the 1981 and 1987 specifications disclose instruction signals that are not computer software/programming and that serve the claimed functions of amended claim 29. Other instruction signal recitations in the amended claims are similarly supported.

50. Second, the Examiner maintains that "the term 'signal word' represents but just one example of the more subtle inconsistencies that exist between the 1981 and the 1987 disclosures" (July 2002 Office Action, p. 38). As noted in the July 2002 Office Action (July 2002 Office Action, pp. 38-39), this term is given the identical express definition (including the relationship of a "signal word" to a "signal unit") in both the 1981 and 1987 specifications. It is this express definition, and the clear (to a person of ordinary skill in the art in the relevant time frame) applicability of this definition to the transmission of signals in the Wall Street Week example in both the 1981 and 1987 specifications, which I have applied in the analysis of the amended claims, and I find the subject matter of the amended claims supported by both the 1981 and 1987 specifications using this definition (see, for example, the 1981 specification at, e.g., col. 2, l. 64 to col. 3, l. 12; and col. 7, ll. 36-39; 1987 specification at, e.g., p. 14, l. 22 to p. 15, l. 6; p. 30, ll. 7-9; p. 69, ll. 10-12; and p. 74, ll. 10-13). I further note that none of the amended claims recite either the term "signal word" or the organization of signal words into signal units such as an instruction signal.

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51. Third, the Examiner maintains that the 1987 specification discloses a Signal Processing Apparatus and Methods (SPAM) environment in which "it was this SPAM packeting which carried an expanded range of 'signal unit'-*like* information" (July 2002 Office Action at p. 41, italics in original). Again, whether or not this assertion has merit with regard to new matter ("expanded range") being present in the 1987 specification, the signals claimed in the amended claims, as discussed in Paragraphs 24 and 39-40 above, are supported in both the 1981 and 1987 specifications.

52. Finally, the Examiner appears to assert that unlike the receiver station of the 1981 specification, the receiver station of the 1987 specification could be reprogrammed "on the fly (i.e., without a visit from a service technician being necessary)" (July 2002 Office Action, p. 48). As discussed in Paragraph 47 above, any differences between the 1981 and 1987 specifications in this regard do not bear on the issue of whether or not the amended claims are supported by both specifications. However, I observe that the Examiner, in making this statement, is overlooking the clear disclosure in the 1981 specification that describes reprogramming of a receiver station without a visit from a service technician being necessary (1981 specification at, e.g., col. 9, ll. 21-22; and col. 10, ll. 10-13).

53. In summary, while the disclosure of signaling protocols is much more detailed in the 1987 specification and that disclosure in a number of cases uses terminology not used in the 1981 specification, the details of the protocols are not recited in the amended claims and the differences in terminology do not bear on the issue of whether or not the amended claims are supported by both specifications.

(3) The Description of the Wall Street Week Example in the 1981 and 1987 Specifications

54. The Examiner asserts that there are inconsistencies between the 1981 and 1987 specifications with regard to the description of the Wall Street Week example of coordinating multimedia presentations in time. I have been asked to determine whether

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any such inconsistencies bear on the issue of whether or not the amended claims are supported by both specifications.

55. One primary argument of the Examiner in this regard is that the method used to overlay graphic images in the Wall Street Week example involves downloading software in the 1987 specification but involves the "cuing" of the receiver station to execute preexisting software instructions in the 1981 specification (July 2002 Office Action, at, e.g., p. 45). As indicated in Paragraph 52 above, the 1981 specification expressly discloses an ability to reprogram the receiver station in question. In any event, however, none of the amended claims recites the downloading of software instructions and/or reprogramming of the microcomputer 205 of embodiments of the receiver station (see also Paragraph 47 above). I thus conclude that this argument of the Examiner does not bear on the issue of whether or not the amended claims are supported by both specifications.

56. The second primary argument of the Examiner is that "all of the recitations that are directed to the signals/instructions/data that are conveyed as ancillary signaling within Radio and TV Programming transmissions, derive their Required Section 112 support from the SPAM signaling that was first introduced by applicant's "1987" instant disclosure." (July 2002 Office Action, p. 46). As discussed in, for example, Paragraphs 24 and 39-40 above, the 1981 and 1987 specifications both support the claimed signals, and the amended claims do not recite the details of the SPAM signaling method, those details indeed in many instances being first introduced in the 1987 specification.

57. I therefore conclude

Opinion C: Differences between the 1981 and 1987 specifications concerning the topics enumerated in Paragraph 2(2) above would not impact the ability of one of ordinary skill in the art to conclude that the subject matter claimed in the amended claims is sufficiently described in both specifications.

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I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of patent application 08/487,526 or any patent that issues thereon.

Executed this 23rd day of January, 2003, at Potomac, Maryland.

George T. Ligler

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A

2. A method of outputting a multimedia presentation at a receiver station adapted to receive a plurality of signals, said method comprising the steps of:

receiving said plurality of signals, at least a portion of said plurality of signals being received from a source external to said receiver station, said plurality of signals including at least two media;

storing information from a first of said at least two media;

determining content of a second medium received in said plurality of signals;

coordinating, at said receiver station under computer control, a presentation using said information with a presentation of said second medium based on said step of determining; and

outputting said multimedia presentation to a user at said receiver station based on said step of coordinating such that said presentation using said information has a predetermined relationship to said content of said second medium.

3. The method of claim 2, wherein said information from a first of said at least two media is stored in said computer.

4. The method of claim 3, wherein said computer performs said step of determining.

5. The method of claim 2, wherein each of said plurality of signals is received from an external transmitter station.

6. The method of claim 5, wherein said external transmitter station is an intermediate transmitter station.

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7. The method of claim 2, wherein said content of said second medium explains a significance of said presentation using said information.

8. The method of claim 7, wherein said content of said second medium explains said significance in audio.

9. The method of claim 8, wherein said determining step causes a tuner at said receiver station to communicate said audio to an audio output device.

10. The method of claim 9, wherein said second medium comprises television, including video and said audio.

11. The method of claim 2, wherein said plurality of signals includes a digital data channel.

12. The method of claim 11, wherein said receiver station receives said first of said at least two media in said digital data channel.

13. The method of claim 2, wherein said step of determining comprises processing an identifier.

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14. The method of claim 13, wherein said identifier identifies said content of said second medium.

15. The method of claim 14, wherein said content of said second medium includes audio.

16. The method of claim 14, wherein said content of said second medium includes video.

17. The method of claim 2, further comprising the step of storing said second medium at said receiver station.

18. The method of claim 17, wherein said second medium comprises television including video and audio and wherein said first medium is received in a digital data channel of a multichannel cable transmission including said second medium.

20. A method of outputting a multimedia presentation at a receiver station adapted to process a plurality of signals, said plurality of signals including first and second media of said multimedia presentation, said method comprising the steps of:

receiving a first of said plurality of signals from a source external to said receiver station, said first of said plurality of signals including an identifier;

processing said first of said plurality of signals to provide said first medium of said multimedia presentation and said identifier;

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identifying content of said first medium based on said identifier;

controlling said receiver station, based on said step of identifying, to enable a coordinated presentation, through execution of processor instructions, of said first medium and information based on said second medium, wherein, said information based on said second medium is generated based on identifying content of said second medium; and

outputting said multimedia presentation based on said step of controlling.

21. The method of claim 20, wherein said first medium comprises a television program including video and audio.

22. The method of claim 20, further including the step of receiving said second medium in a digital data channel.

23. The method of claim 20, wherein said first medium comprises a television program including video and audio and wherein said plurality of signals is included in a multichannel cable transmission and includes a digital data channel including said second medium.

24. A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:

receiving a first medium including a television program;

comparing first information stored at said receiver station to second information corresponding to content of said television program to determine whether to present a second

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medium based on third information received from a source different from that of said first medium;

coordinating presentation, based on said determination, of said television program of said multimedia presentation with presentation of said second medium of said multimedia presentation; and

outputting said television program of said multimedia presentation at a first output device at said receiver station, and said second medium at a second output device at said receiver station.

25. The method of claim 24, wherein said second output device comprises a printer.

26. A method of outputting a multimedia presentation at a receiver station adapted to receive a plurality of media, said method comprising the steps of:

receiving, at said receiver station, at least two of said plurality of media from different sources, at least one of said different sources being a remote transmitter station;

processing said at least two of said plurality of media in order to output said multimedia presentation;

identifying content of a first and content of a second of said at least two of said plurality of media based on said step of processing; and

outputting said multimedia presentation based on said step of identifying, said multimedia presentation comprising a presentation of information included in said first of said at least two of said plurality of media and information based on said second of said at least two of said plurality of media.

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27. The method of claim 26, said method further comprising the step of storing said information based on said second of said at least two of said plurality of media at said receiver station.

28. The method of claim 27, further comprising the step of storing said first of said at least two of said plurality of media at said receiver station.

29. A method of outputting a multimedia presentation at a receiver station having an output device, said method comprising the steps of:

processing a control signal at said receiver station that causes execution of processor instructions to create a series of discrete video images;

identifying content of a first medium, said first medium to be output in said multimedia presentation;

causing a video image of said series of discrete video images to be output subsequent to said step of identifying; and

combining said outputted video image into said multimedia presentation at said output device based on said step of causing to be output, said multimedia presentation comprising said first medium and said outputted video image of said series of discrete video images.

30. The method of claim 29, wherein said step of identifying comprises processing an identifier, said method further comprising the step of receiving said identifier from a remote transmitter station.

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33. A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:

receiving a first signal from a remote transmitter station;

outputting said first signal at said receiver station;

receiving a user response based on said step of outputting;

comparing said user response to information corresponding to content of said first signal at said receiver station;

tuning said receiver station to receive a second signal based on said step of comparing; and

outputting information included in said second signal;

wherein said multimedia presentation comprises information included in said first signal and said information included in said second signal.

34. The method of claim 33, further comprising the step of transmitting information from said receiver station based on said step of receiving said user response.

35. The method of claim 33, wherein said information included in said second signal is output to a printer.

36. The method of claim 34, wherein said transmitted information is transmitted by telephone.

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37. A multimedia presentation apparatus comprising:

at least one receiver for receiving a plurality of signals from a source external to said multimedia presentation apparatus, said plurality of signals including at least two media;

a microcomputer that stores information from a first of said at least two media and coordinates a presentation using said information with a presentation of a received second medium of said at least two media based on determining content of said second medium; and

at least one output device operatively connected to said at least one receiver and said microcomputer for outputting a multimedia presentation to a user at said multimedia presentation apparatus based on said coordinating such that said presentation using said information has a predetermined relationship to said content of said second medium.

38. The apparatus of claim 37, wherein said microcomputer determines said content of said second medium by processing an identifier transmitted from said source external to said multimedia presentation apparatus, said multimedia presentation apparatus further comprising a detector operatively connected to said microcomputer for detecting said identifier.

39. The apparatus of claim 38, wherein said multimedia presentation apparatus receives a multichannel signal, said multimedia presentation apparatus further comprising a converter operatively connected to said at least one receiver for communicating a portion of said multichannel signal.

40. The apparatus of claim 39, further comprising a first controlled device operatively connected to said microcomputer for causing said converter to select said second medium.

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41. The apparatus of claim 40, further comprising a storage device operatively connected to said converter for storing said second medium.

42. The apparatus of claim 41 further comprising a second controlled device operatively connected to said microcomputer for causing said storage device to store said second medium.

67. The apparatus of claim 37, wherein said second medium comprises a television program including video and audio.

68. The apparatus of claim 37, wherein said microcomputer receives said first medium in a digital data channel.

69. The apparatus of claim 37, wherein said second medium comprises a television program including video and audio and wherein said microcomputer receives said first medium in a digital data channel of a multichannel cable transmission including said second medium.

70. A multimedia presentation apparatus comprising:

a receiver for receiving a first of a plurality of signals from an external source, said first of said plurality of signals including an identifier, said plurality of signals including a first medium and a second medium of a multimedia presentation;

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a microcomputer for identifying content of said first medium based on said identifier, and for executing processor instructions to enable a coordinated presentation of said first medium and information based on said second medium, wherein, said information based on said second medium is generated based on identifying content of said second medium; and

an output device for outputting said coordinated presentation of said first medium and information from said second medium.

71. The apparatus of claim 70, wherein said first medium comprises a television program including video and audio.

72. The apparatus of claim 70, wherein said microcomputer receives said second medium in a digital data channel.

73. The apparatus of claim 70, wherein said first medium comprises a television program including video and audio and wherein said plurality of signals is included in a multichannel cable transmission and includes a digital data channel including said second medium.

74. A multimedia presentation apparatus comprising:

a receiver for receiving a first medium including a television program;

a microcomputer for storing first information, comparing said first information to second information corresponding to content of said television program to determine whether to present a second medium based on third information received from a different source than that of said

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first medium, and coordinating presentation, based on said determination, of said television program with presentation of said second medium;

a first output device for outputting said television program; and

a second output device for outputting said second medium.

75. The apparatus of claim 74, wherein said second output device comprises a printer.

76. A multimedia presentation apparatus comprising:

a first receiver for receiving a first medium;

a second receiver for receiving a second medium;

a microcomputer for identifying content of said first medium and identifying content of said second medium and controlling, based on said identifying content, a multimedia presentation comprising information included in said first medium and information based on said second medium; and

an output device for outputting said multimedia presentation.

77. The apparatus of claim 76, wherein said microcomputer controls storage of said information based on said second medium.

78. The apparatus of claim 77, wherein said microcomputer controls storage of said first medium.

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79. The apparatus of claim 76, wherein said first medium comprises a television program including video and audio.

80. The apparatus of claim 76, wherein said second receiver receives said second medium in a digital data channel.

81. The apparatus of claim 76, wherein said first medium comprises a television program including video and audio and wherein a multichannel cable transmission includes said first medium and a digital data channel including said second medium.

82. The method of claim 26, wherein said first of said at least two of said plurality of media comprises a television program including video and audio.

83. The method of claim 26, wherein said second of said at least two of said plurality of media is received in a digital data channel.

84. The method of claim 26, wherein said first of said at least two of said plurality of media comprises a television program including video and audio and wherein said plurality of media is included in a multichannel cable transmission including a digital data channel including said second of said at least two of said plurality of media.

85. A multimedia presentation apparatus comprising:

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a microcomputer for creating a series of discrete video images by executing processor instructions based on processing a control signal, identifying content of a first medium, and then causing a video image of said series of discrete video images to be output;

an output device at which said video image is combined into said multimedia presentation, said multimedia presentation comprising said first medium and said video image.

86. The apparatus of claim 85, wherein said microcomputer processes an identifier from a remote transmitter station to identify content of said first medium.

87. The apparatus of claim 85, wherein said first medium comprises a television program including video and audio.

88. The apparatus of claim 85, wherein said microcomputer processes data received in a second medium to create said series of discrete video images.

89. The apparatus of claim 88, wherein said second medium is received in a digital data channel.

90. The apparatus of claim 88, wherein said first medium comprises a television program including video and audio and wherein a multichannel cable transmission includes said first medium and a digital data channel including said second medium.

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91. The method of claim 29, wherein said first medium comprises a television program including video and audio.

92. The method claim 29, wherein said execution of processor instructions to create a series of discrete video images includes processing data received in a second medium.

93. The method of claim 92, wherein said second medium is received in a digital data channel.

94. The method of claim 92, wherein said first medium comprises a television program including video and audio and wherein a multichannel cable transmission includes said first medium and a digital data channel including said second medium.

95. A multimedia presentation apparatus comprising:

a first receiver for receiving a first signal from a remote transmitter station;

a second receiver for receiving a second signal;

a microcomputer for receiving a user response based on outputting said first signal, comparing said user response to information corresponding to content of said first signal, and based on said comparison tuning said second receiver to receive said second signal;

wherein said apparatus presents a multimedia presentation comprising information included in said first signal output at a first output device and information included in said second signal output at a second output device.

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96. The apparatus of claim 95, further comprising a transmitter for transmitting information from said microcomputer based on said user response.

97. The apparatus of claim 96, wherein said transmitter transmits by telephone connection.

98. The apparatus of claim 95, wherein said second output device comprises a printer.

99. The apparatus of claim 95, wherein said first signal includes a television program including video and audio.

100. The apparatus of claim 99, wherein said first signal and said second signal are received in a multichannel cable transmission.

101. The method of claim 33, wherein said first signal includes a television program including video and audio.

102. The method of claim 101, wherein said first signal and said second signal are received in a multichannel cable transmission.

103. The method of claim 24, wherein said television program and said third information are included in first and second channels, respectively, of a multichannel cable transmission.

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104. The apparatus of claim 74, wherein said television program and said third information are included in first and second channels, respectively, of a multichannel cable transmission.

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Tab B

Resume

George T. Ligler

GTL ASSOCIATES
12400 BEALL MOUNTAIN ROAD
POTOMAC, MARYLAND 20854
(301) 983-4388

Education

Oxford University, Oxford, England
M.Sc., Computer Science, 1973
D. Phil., Computer Science, 1975
(Rhodes Scholarship)

Furman University, Greenville, South Carolina
B.S., Mathematics, 1971
Summa Cum Laude

Experience

December 1988 - Present: GTL ASSOCIATES
Potomac, Maryland

Proprietor

Established consulting firm in telecommunications, computer system engineering, and information management. Systems integration/engineering and product management services provided to thirty-two clients in the United States and Europe. Assignments have included telecommunications network design, product and service definition and management, consulting on major program management and the systems integration process, applications systems engineering, business process improvement, competitive analysis, red teaming of major proposals, representation of clients in international fora, support of patent licensing discussions, participation in litigation as an expert witness, and new business venture planning.

January 2003

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Experience

December 1984 - December 1988: COMPUTER SCIENCES CORPORATION, Falls Church, Virginia

Vice President, Systems Group, November 1987 - December 1988

Assignments on major program acquisition efforts within Systems Group, CSC's $750M/year Government business. Areas of involvement included pre-award project team preparation, proposal review and assistance, subcontractor selection and management, competitive analysis, and business acquisition process review.

Vice President & Executive Director, Consolidated Data Network, Systems Division, October 1986 - November 1987

Program Office responsibility for a $282 million, 8-year effort to provide, operate, and maintain packet-switched data network for the U.S. Treasury Department, with AT&T and BBN as major subcontractors. Put in place a network design and implementation infrastructure that achieved peak cutover rates of over 20 network locations per working day, enabling customer to transition to new expanded enforcement data system without major delay. Reduced CSC cost per site cutover by over 20%. Established material planning methodology (MRPII) to improve inventory management. Laid the groundwork for resolution of several important contractual issues. Recruited and developed successor program manager.

Vice President, Communications and Controls Products, Systems Division, December 1984 - October 1986

Responsible for a $12M/year business area engaged in the supply of Energy Management and Control Systems (EMCS) and communications subsystems for urban rapid transit systems. Expanded EMCS business from Tri-Service applications to commercial arena and made that business profitable. Responsible for the development of selected communication security products as value-added options for CSC's systems integration thrust.

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Experience

March 1982 - December 1984. AYDIN CORPORATION. Fort Washington, Pennsylvania

President, Aydin Controls Division, March 1982 - December 1984.

Vice President, Aydin Corporation, February 1983 - December 1984.

General management responsibility for a 375-person, fully-integrated Division with annual sales of $27M of computer graphics equipment. Product lines in color raster scan display generators, high resolution monitors, and turnkey CAD/CAM systems. Market areas included process control, utilities, defense, and petrochemical resource exploration. Division growth 1981-1984 of approximately 45%, outperforming most graphics terminal competitors. Significant operational improvements boosted margins for investment in sales, marketing, and product development.

April 1980 - March 1982. BURROUGHS CORPORATION. Paoli, Pennsylvania.

Deputy Manager, Great Valley Labs, April 1980 - January 1981.

Deputy General Manager and Director of Engineering, Special Systems Division, Federal and Special Systems Group, January 1981 to March 1982

Chief technical executive for Special Systems Division precursor. Later responsible for 400 research and engineering personnel engaged in the development of primarily command/control/communications and secure systems. Research component of organization executing projects in diverse areas of computer science and engineering, including distributed processing, local area networks, software tools/engineering, VLSIC design, and machine intelligence. Remaining activities matrixed into Division programs for customers including NATO, NSA, Navy, Army, and FAA. Assist with general management of a $50M marketing, engineering, and manufacturing operation.

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Experience

September 1976 - April 1980. TEXAS INSTRUMENTS, Dallas, Texas.

Project Manager, Research Manager.

Developed software products (e.g., compilers, programming tools) which became sources of TI revenue. Built an applied research and development activity of 15-20 persons with diverse program elements in computer systems and software engineering. Chaired a 25-member corporate-wide technical working group on advanced computer architectures; member of corporate computer science thrust team.

September 1975 - September 1976. UNIVERSITY OF TEXAS AT SAN ANTONIO, San Antonio, Texas.

Assistant Professor of Computer Science

Taught graduate/undergraduate courses in programming languages and analysis of algorithms. Research and publication in software engineering and programming language design. Chairman, Division Faculty Recruiting Committee.

Professional Activities

Author or co-author of twenty technical papers in the areas of software engineering, telecommunications, computer and computer systems architecture, navigation and information systems for aviation, and computer graphics.

Member, Association of American Rhodes Scholars, ACM, ION. Senior Member, IEEE.

Director, American Trust for Wolfson College, Oxford.

Numerous invited lectures, panels, and program committee memberships.

Adjunct faculty member (two dissertation committees), Union Institute, 1989-1993.

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Professional Activities

Recipient of Furman University's highest alumni award, 1979.

Member of National Research Council's Committee on Review of the Information Systems Modernization of the Internal Revenue Service, 1990-1995.

Member of Technical Review Committee for Georgia Institute of Technology's Futurenet, which formed the backbone for telecommunications within the 1996 Olympic Village, 1994-1996.

Member, Program Management Committee, RTCA (Aviation Standards Federal Advisory Committee), August 2000 to present.

Member of National Research Council's Panel on Research on Future Census Methods, December 2000 to present.

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Tab C

PUBLICATION LIST
GEORGE T. LIGLER (January 2003)

1. "A Mathematical Approach to Language Design", *Proceedings of the 2nd ACM SIGPLAN/SIGACT Symposium on Principles of Programming Languages*, Palo Alto, January 1975, 41-53.

2. Proof Rules, Mathematical Semantics, and Programming Language Design, Doctoral Thesis, Oxford University, 184 pp., 1975.

3. "Surface Properties of Programming Language Constructs", *Proceedings of the International Symposium on Proving and Improving Programs*, Arc-et-Senans, France, July 1975, IRIA, 299-323.

4. "On the Use of Mathematically Testable Criteria in the Design of Programming Languages for Reliable Software", *1976 ACM Computer Science Conference*, Anaheim, February 1976.

5. "The Assignment Axiom and Programming Language Design", *Proceedings of the 1976 ACM National Conference*, ACM, New York, 2-6.

6. "TI Pascal Language Reference Manual" (with G.J. Hansen), Texas Instruments Technical Report, October 1977.

7. "The TI Pascal System: Run-Time Support" (with E.E. Ferguson), *Proceedings of the Eleventh Hawaii International Conference On System Sciences, Volume III: Selected Papers in Mini and Micro Computer Systems*, Honolulu, January 1978, 69-84.

8. "A Software Development Methodology: Issues, Techniques, and Tools" (with R.R. Bate), *Proceedings of the Eleventh Hawaii International Conference on System Sciences*, Honolulu, January 1978, 40-44.

9. "An Approach to Software Testing" (with R.R. Bate), *Proceedings of the Second IEEE International Computer Software and Applications Conference*, Chicago, November 1978, 476-480.

10. "The TI Microprocessor Pascal System" (with L.D. Kroeker, W. Merritt, and L. Spry), *MIDCON 78*, Dallas, December 1978.

Google Exhibit 1002, Page 3747 of 6435

11. "Concurrency Constructs for Programming Languages: Issues and Prognosis" (with D.J. Frailey and G.J. Hansen), 1979 Louisiana Microcomputer Conference.

12. "High Order Language Architectures for DoD Tactical Systems", *Proceedings of the 1979 National Aerospace and Electronics Conference, Volume II*, IEEE, New York, 691-694.

13. "Display Technology for Industrial Process Control" (with D.J. Winward), *Professional Program Session Record 19, MIDCON 83*, Chicago, September 1983.

14. "Toward an ATN Framework for Automated Reporting of Meteorological Data by Aircraft" (with A. Snively, D.J. Trombley, and R.D. Londot), *Proceedings of the Third Annual International Aeronautical Telecommunications Symposium on Data Link Integration*, McLean, Virginia, May 1991, 51-54.

15. "The Meteorological Data Collection and Reporting System: Status and Future Directions" (with D.L. Taylor and R.D. Londot), *Proceedings of the Fourth International Conference on Aviation Weather Systems*, Paris, France, June 1991, 144-146.

16. "The Meteorological Data Collection and Reporting System (MDCRS): System Overview and Benefits" (with R. Petersen, C. Dey, R. Martin, and R.D. Londot), *Proceedings of the National Weather Service Aviation Workshop*, Kansas City, December 1991, 251-255.

17. "Development of Minimum Aviation System Performance Standards for DGNSS Instruments Approach Systems (DIAS)" (with K.D. McDonald), *Proceedings of the 49th Annual Meeting of the Institute of Navigation*, Cambridge, Mass., June 21-23, 1993, 119-120.

18. "The RTCA Category II/III DGNSS Instrument Approach System Standards Development" (with K.D. McDonald), *Proceedings of the International Symposium on Precision Approach and Automatic Landing*, Braunschweig, Germany, February 1995, 67-73.

19. "Standards Development for Category II/III Precision Approach and Landing Using Differential GNSS; RTCA Activities and Status" (with K.D. McDonald), *Proceedings of the 51st Annual Meeting of the Institute of Navigation*, Colorado Springs, June 1995, 361-367.

20. "Electronic Data Distribution Service: Rationale and Benefits", *Workshop on Electronic Document Distribution*,

Google Exhibit 1002, Page 3748 of 6435

Newport Beach, California, February 27-28, 1996.

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NOTES:

1. THE ABOVE DOES NOT INCLUDE TWO PUBLISHED Institute of Navigation (ION) ABSTRACTS AS FOLLOWS:

"A Status Report on the Development of Minimum Aviation System Performance Standards (MASPS) for a GNSS-based Special Category I (SCAT-I) Precision Approach System", (with K.D. McDonald), *Proceedings of the 1993 National Technical Meeting of the Institute of Navigation*, San Francisco, California, January 20-22, 1993, p.425 (Abstract Only).

"The RTCA Special Category I Differential GPS Instrument Approach System Standards and Future Development of DGNSS-aided Category II and III Precision Approach Standards" (with Keith D. McDonald), *Proceedings of the ION GPS-93 Meeting*, Salt Lake City, Utah, September 22-24, 1993, p.851 (Abstract Only).

2. THE ABOVE LIST ALSO DOES NOT INCLUDE A NUMBER OF RTCA AND International Civil Aviation Organization (ICAO) WORKING AND INFORMATION PAPERS, E.G.:

Additionally, Dr. Ligler has drafted numerous working papers for ICAO and RTCA meetings. Exemplary working papers include:

ICAO Aeronautical Mobile Communications Panel (AMCP) Working Group C, October 2002

Requirements and Desirable Features for the Universal Access Transceiver (UAT) System

ICAO AMCP Working Group of the Whole, May 2002

1. Status of Universal Access Transceiver (UAT) MOPS
2. Candidate ADS-B Radio Frequency Links: Findings of the Technical Link Assessment Team (TLAT) and Post TLAT Developments

RTCA Global Navigation Satellite System (GNSS) Task Force (in addition to Task Force editorial committee and terminal area (technical) drafting group assignments)

1. GNSS Accuracy, Availability, and Integrity (Washington, July 9-10, 1992: Technical Working Group Meeting).
3. Communications to Support Applications of GNSS in the Terminal Area (Dallas-Fort Worth, April 27-28, 1992: Terminal Area Subgroup Meeting).

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February 1992 London Meeting of the ICAO FANS GNSS Technical Subgroup:

1. Differential GNSS (co-authored)
2. Costs of a Worldwide GNSS Integrity Monitoring Network (co-authored by Aeronautical Radio, Inc. and France)
3. GNSS Definitions (co-authored with U.S., IATA, and French delegations).

December 1991 Montreal Meeting of the ICAO World Area Forecast System Study Group:

Automated Aircraft Meteorological Reports: 1995 projections (co-authored).

1990 ICAO Communications/Meteorology/Operations Division Meeting

{Upper Air Forecast Grid Paper}

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Tab D

LIST OF MATERIALS CITED AND/OR REVIEWED
Declaration of Dr. George T. Ligler

1. The 1981 specification (i.e., the specification of Application No. 06/317,510 filed November 3, 1981), as contained in U.S. Patent No. 4,694,490.

2. The 1987 specification (i.e., the specification of Application No. 07/096,096 filed September 11, 1987).

3. The Office Action dated 7/30/02 from Application No. 08/487,526, Sections I-VI.

4. Amended Claims which I understand will be submitted with Applicant's Response to the Office Action at #3 above (Tab A to this Declaration).

5. The amended claims filed in applicants' 2/04/02 Amendment/Response in Application No. 08/487,526 (matter number 52090.000355, "MULT").

6. Applicants' support chart submitted to the PTO identifying written description support for the then pending claims in Application No. 08/487,526 (i.e., Appendix C to applicants' 2/04/02 Amendment/Response filed in Application No. 08/487,526).

7. P. 436 from Initial Determinations (Public Version), addressing the level of ordinary skill and expertise in the art, in *In re Certain Digital Satellite Sys. (DSS) Receivers & Components Thereof*, No. 337-TA-392 1997 WL 696255 (Int'l Trade Comm. Oct. 20, 1997).

8. M.P.E.P. §§ 201.11 and 2163 (2163.01-2163.07), 8th Edition (2001).

9. 35 U.S.C. 112, Section 1 and 35 U.S.C. 120.

10. *Prevue Interactive and United Video Satellite v. Starsight Telecast*, N.D. Oklahoma, Civil Action No. 93-CV-934-H: Excerpts from Trial Trancript (Tab E to this Declaration).

TAB E

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA

PREVUE INTERACTIVE, INC., a Delaware corporation,

and

UNITED VIDEO SATELLITE GROUP, INC., a Delaware corporation,

Plaintiffs,

V.

No. 93-C-934-H

STARSIGHT TELECAST, Inc., a California corporation,

Defendant.

STARSIGHT TELECAST, Inc., a California corporation,

Counterclaimant,

V.

UNITED VIDEO SATELLITE GROUP, INC., a Delaware corporation,

PREVUE INTERACTIVE, INC., a Delaware corporation,

and

PREVUE NETWORKS, INC., a Delaware corporation,

Counterdefendants.

REPORTER'S TRANSCRIPT OF PROCEEDINGS
HAD ON MAY 15, 1996
NONJURY TRIAL - VOLUME V

BEFORE THE HONORABLE SVEN ERIK HOLMES, Judge

Glen R. Dorrough
UNITED STATES COURT REPORTER

Google Exhibit 1002, Page 3753 of 6435

APPEARANCES:

For the Plaintiffs and Counterdefendants:
Mr. John E. Dowdell
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Tulsa, Oklahoma 74103

Mr. Robert C. Morgan
Mr. Laurence S. Rogers
Mr. Joseph M. Guiliano
Ms. Elaine A. Drager
Fish & Neave
1251 Avenue of the Americas
New York, New York 10020-1104

For the Defendant and Counterclaimant:
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Mr. A. James Isbester
Mr. William L. Anthony
Ms. Susan M. Spaeth
Mr. K. T. Sunny Cherian
Townsend and Townsend and Crew
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San Francisco, California 94105-1492

Mr. William L. Anthony, Jr.
Brobeck, Phleger & Harrison
Two Embarcadero Place
2200 Geng Road
Palo Alto, California 94303-0913

Mr. John W. Girvin, Jr.
Cooley, Godward, Castro, Huddleston & Tatum
Five Palo Alto Square
4th Floor
Palo Alto, California 94306-2155

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Go ahead, Mr. Rogers. Thank you.

Q. (By Mr. Rogers) Dr. Ligler, with respect to the level of ordinary skill in the art, you testified your opinion is based upon obviousness and view to a person of ordinary skill in the art. In your opinion what was the level of ordinary skill in the art of electronic computer program guides and computer systems in 1985? Who was a person, in your opinion, of ordinary skill in the art?

A. A person of ordinary skill in the art in that time frame would be a skilled individual in the computer arts and in television and/or cable systems, cable television systems. This individual might be degreed, might have extended experience after a high school education, perhaps a high school education plus a few years of college, but they would be skilled.

Q. And what's the basis of your holding this opinion? What are you looking to that forms your opinion?

A. Well, I reviewed the -- I heard the testimony of Mr. Kerklo. I certainly have had an opportunity to assess Messrs. Clupper and Axford, and I think we've heard a good bit about Mr. Young's qualifications as well.

Q. All right. Let's talk about invalidity now in light of your opinion of obviousness. I would like to focus first on claim 66, and I believe you have an exhibit, that's Exhibit 536.

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA

PREVUE INTERACTIVE, INC., a Delaware corporation,

and

UNITED VIDEO SATELLITE GROUP, INC., a Delaware corporation,

Plaintiffs,

V.

No. 93-C-934-H

STARSIGHT TELECAST, Inc., a California corporation,

Defendant.

STARSIGHT TELECAST, Inc., a California corporation,

Counterclaimant,

V.

UNITED VIDEO SATELLITE GROUP, INC., a Delaware corporation,

PREVUE INTERACTIVE, INC., a Delaware corporation,

and

PREVUE NETWORKS, INC., a Delaware corporation,

Counterdefendants.

REPORTER'S TRANSCRIPT OF PROCEEDINGS
HAD ON MAY 8, 1996
NONJURY TRIAL - VOLUME I

BEFORE THE HONORABLE SVEN ERIK HOLMES, Judge

Glen R. Dorrough
UNITED STATES COURT REPORTER

Google Exhibit 1002, Page 3756 of 6435

APPEARANCES:

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Tulsa, Oklahoma 74103

Mr. Robert C. Morgan
Mr. Laurence S. Rogers
Mr. Joseph M. Guiliano
Ms. Elaine A. Drager
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1251 Avenue of the Americas
New York, New York 10020-1104

For the Defendant and Counterclaimant:
Mr. Fred Rahal, Jr.
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Mr. A. James Isbester
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Mr. John W. Girvin, Jr.
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Palo Alto, California 94306-2155

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MR. ROGERS: Your Honor, Larry Rogers. Plaintiffs call Mr. Charles Clupper to the stand.

Your Honor, we have a book of exhibits that we expect to be using with this witness. May I have my associate approach the bench and the witness to deliver that book?

THE COURT: All right. I say so with trepidation.

CHARLES CLUPPER

Called as a witness on behalf of the plaintiffs, being first duly sworn, testified as follows:.

DIRECT EXAMINATION

BY MR. ROGERS:

Q. Good morning.

A. Good morning.

Q. Would you please state your name for the record?

A. Charles Clupper.

Q. And what is your current residence address?

A. Current residence is El Dorado Hills, California.

Q. And by whom are you presently employed?

A. International Billing Services.

Q. Are they a subsidiary of any company or a division?

A. Yes, we are a wholly-owned subsidiary of U.S. Computer Services.

Q. And your present employment is also in California?

A. Correct.

Q. And what is your present title at International Billing

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Services?
A. Vice President of Engineering Systems.
Q. And your responsibilities in that capacity?
A. My responsibilities include overseeing maintenance, facilities design and various other engineering types of design at that company.
Q. How long have you been with International Billing Services or another arm of U.S. Computer Services?
A. Almost 18 years.
Q. And what is the nature of -- give the Court a brief overview of the nature of the business of your organization.
A. The nature of the business of International Billing Services or U.S. Computer Services?
Q. Why don't we start at the top with U.S. Computer Services?
A. U.S. Computer Services is in the -- on the CableData side, which is also a wholly-owned subsidiary, it provides services and software to the cable television and telephony industries, and the International Billing Services subsidiary is in the business of providing statements a lot of which are billing statements to cable television, telecommunications, financial and other industries.
Q. Would you please relate briefly for the Court what your positions and experiences have been with U.S. Computer Services, an affiliated division, over the 17 years you have been with the company eye-level?

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A. Sure. I was, first, engineer with the company in 1978, and from there moved to positions in various engineering disciplines and then into engineering management with U.S. Computer Services which did business as CableData at that time.
Q. What time period are you talking about now?
A. That time period starts in 1978 and continues until 1990 when I moved to International Billing Service.
Q. You were involved in engineering activities in connection with the design of products in the early days?
A. Yes, I was.
Q. Are you appearing here today voluntarily?
A. Yes, I am.
Q. At whose request?
A. I was subpoenaed for the --
Q. For the deposition?
A. Yes, I was.
Q. You are appearing here today voluntarily at the request of the plaintiffs in this case?
A. Yes, I am.
Q. Beyond having your direct expenses being paid for, are you in any way being compensated in the nature of a consulting fee or otherwise for your appearance here today?
A. No, I am not.
Q. Do you or to your knowledge do you know that U.S. Computer Services or any company division of that organization has any

Google Exhibit 1002, Page 3760 of 6435

financial or other interest whatsoever in the outcome of this litigation?

A. Not to the best of my knowledge, no.

Q. Do you own any stock in any of the parties to this litigation?

A. No, I do not.

Q. Is U.S. Computer Services affiliated in a corporate sense in any way with the parties to this litigation?

A. No, I'm not, or they are not.

Q. And is U.S. Computer Services involved in any way with providing services or goods to any of the parties to this litigation to your knowledge?

A. Not to the best of my knowledge, no.

Q. Is U.S. Computer Services or any part of that organization involved in providing television schedule data or interactive television program guide services?

A. No.

Q. All right. Would you please describe your educational background since high school?

A. Yes. I studied engineering, had a couple of years of engineering classes and then went into the industry and never completed my degree.

Q. Did you attend any college?

A. Several along the way, yes.

Q. Okay. And what did you study in college?

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A. Electrical engineering and some mechanical engineering also.
Q. And did you join the military at some point?
A. Yes.
Q. And when was that?
A. I joined the Air Force in 1966.
Q. And in connection with that did you work in electronics?
A. Yes, I did.
Q. Would you please describe for the Court the nature of your electronics hands-on education as it were and work experience starting from your time in the military on up through when you joined U.S. Computer Services?
A. Yes. The experience in the military, education in the military, was general electronics background including radar and photo-imaging and computer systems. Then I was -- when I was stationed in Germany I actually worked on mapping radars and other types of computer systems and electronically-controlled photo-mapping devices.
Q. Were you involved in the design of electronic componentry, the circuits themselves, transistors and things of that nature?
A. Not in the military, no.
Q. Okay. After the military, I presume that ended at some point in time --
A. Yes.
Q. -- and you entered industry. Could you describe for the

Google Exhibit 1002, Page 3762 of 6435

Court where you began, and continue on up to the time you joined U.S. Computer Services?
A. Surely. I started working for a company called Voice of Music, which is now defunct. There I was an engineering technician responsible for designing circuits and that type of thing for the stereo component industry.
Q. And what year was that if you recall?
A. That was 1970.
Q. Okay. Then what?
A. After Voice of Music I went to work for Honeywell Information Systems who provided equipment and services mainly in the mainframe computer area, and I worked for them until 1978 under several capacities, some of them being in maintenance, some of those being in management, and I also did some design for them.
Q. And then in '78 you joined U.S. Computer Services; correct?
A. That's correct.
Q. You continued working in an engineering capacity there?
A. Correct.
Q. Do you have any patents issued in your name?
A. Yes, I do.
Q. How many?
A. Four.
Q. In front of you in the exhibit book if you will turn,

Google Exhibit 1002, Page 3763 of 6435

please, to Exhibits 285 and 286 there are a couple of patents there. I would like you to identify those as being yours if in fact they are?

A. The one marked Exhibit 285 is mine, and the one marked Exhibit 286 is also mine.

Q. All right. Certainly without going into these, generally what do these relate to?

A. They both relate to either a descrambling apparatus that was designed for the cable television set-top converter market and a data transmission method designed for the same market.

Q. Did these patents have anything to do with the system that I've been calling a CableData system, which was a system in the nature of an interactive addressable cable television set-top box?

A. Yes, they did.

Q. Could you please describe for the Court what role you played in connection with that system, CableData system, that these patents relate to?

A. My role was to architect the hardware system that was present in the home, in other words the set-top converter, and also what's typically called the headend computer that actually transmitted the data to that set-top converter.

Q. The CableData system was something that was developed by U.S. Computing Services?

A. Yes, it was.

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA

PREVUE INTERACTIVE, INC., a Delaware corporation, and UNITED VIDEO SATELLITE GROUP, INC., a Delaware corporation, Plaintiffs,	)	
V.	)	No. 93-C-934-H
STARSIGHT TELECAST, Inc., a California corporation, Defendant.	)	
STARSIGHT TELECAST, Inc., a California corporation, Counterclaimant,	)	
V.	)	
UNITED VIDEO SATELLITE GROUP, INC., a Delaware corporation, PREVUE INTERACTIVE, INC., a Delaware corporation, and PREVUE NETWORKS, INC., a Delaware corporation, Counterdefendants.	)	

REPORTER'S TRANSCRIPT OF PROCEEDINGS
HAD ON MAY 9, 1996
NONJURY TRIAL - VOLUME II

BEFORE THE HONORABLE SVEN ERIK HOLMES, Judge

Glen R. Dorrough
UNITED STATES COURT REPORTER

Google Exhibit 1002, Page 3765 of 6435

APPEARANCES:

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Mr. Robert C. Morgan
Mr. Laurence S. Rogers
Mr. Joseph M. Guiliano
Ms. Elaine A. Drager
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little bit more time next week, but I do prefer to move them in all together. One additional point is simply that I find that counsel for the other side is always more cooperative when they still have exhibits of their own to be moved in. It's a practice that has served well, so I don't see any reason to change it now.

All right and this is the 583?

MR. ROGERS: Right. That is the small copy of the large chart of the complicated circuit diagram.

THE COURT: All right.

MR. ROGERS: And then lastly, may Mr. Clupper be excused from attendance at the trial at this point?

THE COURT: Any objection, Mr. Anthony?

MR. ANTHONY: No objection, Your Honor.

THE COURT: All right. He may be excused.

MR. ROGERS: Thank you, Your Honor. May I proceed?

THE COURT: Yes. Go ahead.

Q. (By Mr. Rogers) Good morning, Mr. Axford. Would you state your full name for the record, please?

A. Michael Floyd Axford.

Q. And your current residence address and your current employment, please?

A. It's Ranchero Cordova. I work for CableData.

Q. What is the relationship between CableData and the company for whom Mr. Clupper works, International Billing Services?

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A. Both companies are wholly-owned subsidiaries of U.S. Computer Services.
Q. And your current title at CableData?
A. Manager, system architecture.
Q. Is Mr. Clupper your supervisor today in any respect?
A. In no way.
Q. What are your current responsibilities at CableData?
A. My responsibilities are to investigate new technologies and determine how to apply them to the products that we're building, and to infuse those technologies into the teams that are building the products.
Q. And what sort of products are we talking about, what sort of technologies?
A. They're primarily software products for subscriber management and billing within the cable and telephone industries.
Q. Would you please describe for the Court your educational and professional background?
A. I have a high school education, very much self-driven, self-learner, and as far as professional experience, my first real technical position was with the Watch Tower Society doing maintenance on elevators and other bindery equipment and finally doing computer maintenance for them and designed small circuits.
Q. What years was that?

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A. That was in '77 to '81.
Q. Okay.
A. And then from there I came back to California and worked for Gene Medical Systems in a digital fluoroscopy system primarily testing large print and circuit boards that process digital video, as well as I wrote some software for them for testing purposes.
Q. That was 1981?
A. That was '81 into '82.
Q. Okay.
A. And then I joined CableData in July of '82.
Q. And in what capacity did you join CableData?
A. I was hired as an electronic technician and worked as such for about six months and was promoted to an engineer.
Q. And have you been with CableData ever since?
A. No. I left the company for a couple of years in 1986 to go back to New Jersey with some friends in a small business where we designed bit slice engines for high speed letter graphics as well as bit slice software primarily in the printing industry.
Q. What do you mean by bit slice?
A. Bit slice, to get very high performance, separates the components of traditional microprocessor into separate pieces and uses very wide instruction orders as for the normal 8, 16, 32 bit systems we see today.

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Q. Did you return at some point in time, I take it, to CableData?
A. Yes, I did, 1988.
Q. In what capacity?
A. As a hardware/software engineer.
Q. Did you remain in that capacity until the present time?
A. Yes, although my focus has clearly shifted to the software over the last five years.
Q. Have you received any professional honors over the course of your career?
A. Within the company I have received a number of different certificates and awards, but 1992 I received Fellowship of the Flame award, which is our company's highest award for lifelong career achievement and recognition of expertise in my field.
Q. And what is the field in which your expertise was recognized?
A. It would be computer technology both hardware and software.
Q. Have you published in the field of computer technology hardware and software?
A. I have published in several journals, Computer Language, International Tandem Users Journal as well as I've written a large number of tutorial and instructive articles in in-house publications.
Q. Do you have any financial interest in the outcome of this

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA

PREVUE INTERACTIVE, INC., a Delaware corporation,

and

UNITED VIDEO SATELLITE GROUP, INC., a Delaware corporation,

Plaintiffs,

V.

No. 93-C-934-H

STARSIGHT TELECAST, Inc., a California corporation,

Defendant.

STARSIGHT TELECAST, Inc., a California corporation,

Counterclaimant,

V.

UNITED VIDEO SATELLITE GROUP, INC., a Delaware corporation,

PREVUE INTERACTIVE, INC., a Delaware corporation,

and

PREVUE NETWORKS, INC., a Delaware corporation,

Counterdefendants.

REPORTER'S TRANSCRIPT OF PROCEEDINGS
HAD ON MAY 13, 1996
NONJURY TRIAL - VOLUME III

BEFORE THE HONORABLE SVEN ERIK HOLMES, Judge

Glen R. Dorrough
UNITED STATES COURT REPORTER

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MR. MORGAN: Prevue calls Mr. John Kerklo.

THE COURT: All right Mr. Kerklo, please come forward and be sworn.

JOHN KERKLO

Called as a witness on behalf of the plaintiffs, being first duly sworn, testified as follows:

MR. ROGERS: Your Honor, may I approach the equipment and try to lower the volume in case we have to use it again?

THE COURT: All right, go ahead.

MR. MORGAN: I'm sorry, did the Court get a set of exhibits? Let me hand these up to you. And may I approach the witness, Your Honor?

THE COURT: Yes, go ahead.

MR. MORGAN: Let me hand you this one. This is Mr. Marshall's.

THE COURT: Go ahead, please.

MR. MORGAN: Thank you, Your Honor

DIRECT EXAMINATION

BY MR. MORGAN:

Q. What is your name?

A. My name is John Kerklo.

Q. What is your employment?

A. I am a partner in Media Management Services, Incorporated.

Q. What is the business of Media Management Services,

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Incorporated?
A. We are consultants to the media and telecommunications industries, particularly the cable television industry.
Q. Have you been retained as an expert on behalf of Prevue in this action?
A. I have.
Q. Is that at your normal consulting rate?
A. Yes.
Q. When did you graduate high school, Mr. Kerklo?
A. In 1962.
Q. Mr. Kerklo you might want to move a little bit closer to the microphone so we can hear you more clearly. Did you have any particular interests in high school?
A. Among my interest were computers.
Q. There weren't a whole lot of computers available were there?
A. In actuality I had never seen one.
Q. So what did you do with your interest in computers?
A. One of my science projects for high school was something I called a computer.
Q. What did you do?
A. I implemented a binary adder using pinball machinery relays.
Q. That's what you had available to you as a high school student?

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A. Yes.
Q. Did you go to college?
A. I did.
Q. Where and when, please?
A. I went to Pennsylvania State University from 1962 to 1965 and Ohio University from 1965 to 1970.
Q. What was your focus at Penn State?
A. I entered as an electrical engineer and I continued that curricula but during my studies I discovered the computations center. And my focus became the computation center.
Q. That's where the computers were at Penn State?
A. Indeed.
Q. Did you work while you were at Penn State?
A. Starting in 1963 I worked part-time for researchers at Penn State who were -- who needed computer programming assistance. Among --
Q. I'm sorry, go ahead?
A. Among them was the Ionospheric Research Laboratory.
Q. Why did you switch to Ohio University in 1965?
A. My mentor at Penn State, Dr. George Gorsline accepted a position at Ohio University as their director of their computer center. And he took me along as senior systems programmer.
Q. And you were at what level college then?
A. Approximately a junior.
Q. Now as a senior systems programmer at Ohio State, what

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were your responsibilities?
A. That was Ohio University.
Q. I'm sorry, Ohio University. The football guys would be unhappy with me.
A. The first responsibility was to choose a mainframe computer facility for the university. And then to choose and adapt operating systems for that computer and later to develop an operating system that was specific to the university's needs.
Q. What happened to your studies when you took your job at Ohio University?
A. I shifted from a full-time student and part-time employment to full-time employment and part-time student.
Q. Now while you were at Ohio University, did you teach any classes?
A. Yes, I did.
Q. How did that come about, you weren't a professor, I assume?
A. No, I was staff.
Q. Okay. How did it come about that you taught some classes?
A. The university at that time was teaching some basic computer skill classes and wanted to expand their program. Being a state university they had difficulty in a sort of a chicken-and-egg thing there. So they drafted the computer center staff to help them get started with some of those, --

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those courses.
Q. You were one of those people?
A. I was one of those.
Q. Do you ever finally get your degree or piece of paper out of Ohio?
A. I did not.
Q. What did you do instead?
A. I founded a company called Comp-Acct, Incorporated.
Q. That's not the Compact Computer Company, is it?
A. No, this was C-O-M-P hyphen A-C-C-T, or Computer Accountings.
Q. Now you left the university for that in 1970?
A. I did.
Q. What was the business of Comp-Acct?
A. Comp-Acct conceived, and developed, and took to market the first computerized point-of-sale cash register system. We sold them to places like McDonald's.
Q. What did that system do?
A. It was not only a cash register function but a complete accounting system for a fast food restaurant. It would do all of the computations for inventory and payroll. And it would project payroll and produce similar reports for store management.
Q. What happened to Comp-Acct?
A. It was sold to General Telephone and Electronics in 1974.

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Q. What did you do then?
A. I continued with what became GTE Comp-Acct.
Q. What areas did you work on there?
A. There I continued with the cash register development but also expanded my role as a development engineer and a manager of development engineers to other areas for GTE among those included investigation of Teletext in about the 1977 time frame.
Q. And after '77 what did you do?
A. The investigation for Teletext introduced me to the cable television industry in that context as a possible delivery mechanism for Teletext. I was interested in it. GTE had a manufacturer of cable television equipment as a division and I worked with them a bit and then later accepted a position with GTE Sylvania C-A-T-V, in El Paso, Texas.
Q. At the cable TV system there?
A. Yes, excuse me -- it's a vendor for equipment.
Q. I'm sorry. It sells equipment for cable systems?
A. Yes.
Q. Now were you the only member of the engineering staff at GTE Sylvania with computer skills?
A. I joined them in 1980. When I got there there were already a number of engineers that were using microprocessors to develop converter products and addressable converter products and remote controls. I was not the only one when I

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got there.
Q. Now when you talk about converter products, what is a converter?
A. To cable television people a converter is the special tuner that it provides in some cable systems and some subscribers to tune the channels that are carried on the cable. In other destinations the converter might also include a descrambling function which is used to decode secure channels.
Q. That's part of a set-top box?
A. Set-top box is a fairly recent term for that same thing.
Q. When did you leave GTE?
A. I left GTE in 1982, joining American Television and Communications in early 1983.
Q. What was ATC's business at that time?
A. In 1983, ATC was a large cable television multiple system operator.
Q. What was your position, please?
A. Director of Research and Development.
Q. By about the 1985 time period, how many people were on your staff?
A. I had 12 research professionals and a few technicians.
Q. What technical backgrounds did these people have?
A. They were all in the computer field, hardware, development, software development or both.

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Supplemental Support Chart
For Amended Claims of Application 08/487, 526

Claim (Tab A)	Exemplary Citations to 1981 Specification	Exemplary Citations to 1987 Specification
3	col. 19, ll. 35-41	p. 449, ll. 13-20 and ll. 26-35
4	col. 19, ll. 20-23	p. 436, l. 23 to p. 437 l. 3 in view of p. 450, ll. 7-25
5	col. 19, ll. 20-23 and ll. 35-37	p. 449, ll. 13-20; p. 450, ll. 7-25
6	col. 19, ll. 5-8 in view of col. 10, ll. 15-28;	p. 450, ll. 7-25
7	col. 19, ll. 59-60; col. 19, l. 67 to col. 20, l. 1	p. 25, ll. 33-34; p. 26, ll. 8-11
8	see support for claim 7	see support for claim 7
9	col. 19, ll. 20-29	p. 445, l. 24 to p. 446, l. 1 in view of p. 450 ll. 7-25
10	see support for claim 7	see support for claim 7
11	col. 19, ll. 35-37; Fig. 6C	p. 449, ll. 13-20; Fig. 7C
12	see support for claim 11	see support for claim 11
13	col. 19, ll. 20-23	p. 249, ll. 25-33 and p. 252, l. 31 - p. 253, l. 2 in view of p. 435, ll. 23 -p. 436, l. 1
14	col. 19, ll. 12-23	p. 249, ll. 25-33 and p. 252, l. 31 - p. 253, l. 2 in view of p. 435, ll. 23 -p. 436, l. 1
15	see support for claim 7	see support for claim 7
16	see support for claim 10	see support for claim 10
17	col. 19, ll. 23-27	p. 445, ll. 23-29; p. 446, ll. 17-23
18	col. 19, ll. 53-56; col. 19, ll. 35-41; Fig. 6C	p. 25, ll. 26-31; p. 449, ll. 13-26 in view of p. 421, ll. 18-22; Fig. 7C
21	col. 19, ll. 53-56	p. 25, ll. 26-31
22	col. 19, ll. 35-41	p. 449, ll. 13-26 in view of p. 421, ll. 18-22
23	see support for claim 18	see support for claim 18
25	col. 20, ll. 47-50; Fig. 6C (221)	p. 475, ll. 1-2; Fig. 7C (221)
27	col. 19, ll. 48-51; col. 19, l. 64 to col. 20, l. 2	p. 24, l. 22 - p. 25, l. 6
28	col. 19, ll. 20-27	p. 445, ll. 23-29; p. 446, ll. 17-23
30	see support for claims 5 and 13	see support for claims 5 and 13
34	col. 20, ll. 55-59	p. 472, ll. 23-27 in view of p. 32, ll. 16-20; p. 50, ll. 14-17; p. 271, l. 33 to p. 272, l. 1; and p. 272, l. 26 to p. 273, l. 3

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Supplemental Support Chart
For Amended Claims of Application 08/487, 526

Claim (Tab A)	Exemplary Citations to 1981 Specification	Exemplary Citations to 1987 Specification
35	see support for claim 25	see support for claim 25
36	see support for claim 34	see support for claim 34
37	Claim 37 is an apparatus claim that is generally analogous to method claim 2. Claim 37 is supported by e.g., Fig. 1 (20, 22); Fig. 6C (200, 201/222, 205, 202) and the support provided for claim 2.	Claim 37 is supported by e.g., Fig. 2 (20, 22); Fig. 7C (200, 201/222, 205, 202M) and the support provided for claim 2.
38	see support for claim 13; col. 6, ll. 54-61; Fig. 2A	see support for claim 13; p. 35, ll. 4-16; Fig. 2A
39	see support for claim 18; col. 19, ll. 24-25	see support for claim 18; p. 435, ll. 9-15
40	col. 19, ll. 24-25; Fig. 6C (214)	p. 295, ll. 6-8; p. 439, ll. 6-15; Fig. 7C (214)
41	see support for claim 17; Fig. 6C (217)	see support for claim 17; Fig. 7C (217)
42	see support for claim 41; Fig. 6C (220)	see support for claim 41; Fig. 7C (220)
67	see support for claim 10	see support for claim 10
68	see support for claim 12	see support for claim 12
69	see support for claim 18	see support for claim 18
70	Claim 70 is an apparatus claim that is generally analogous to method claim 20. Claim 70 is supported by e.g., Fig. 6C (200, 201, 205, 202) and the support provided for claim 20.	Claim 70 is supported by e.g., Fig. 7C (200, 201, 205, 202M) and the support provided for claim 20.
71	see support for claim 21	see support for claim 21
72	see support for claim 22; Fig. 6C (222)	see support for claim 22; Fig. 7C (222)
73	see support for claim 23	see support for claim 23
74	Claim 74 is an apparatus claim that is generally analogous to method claim 24. Claim 74 is supported by e.g., Fig. 1 (22); Fig. 6D (200, 201, 222, 205, 225) and the support provided for claim 24.	Claim 74 is supported by e.g., Fig. 2 (22); Fig. 7F (200, 201, 222, 205, 225) and the support provided for claim 24.
75	see support for claim 25	see support for claim 25
76	Claim 76 is an apparatus claim that is analogous in many respects to method claim 26. Claim 76 is supported by e.g., Fig. 1 (22); Fig. 6C (200, 201, 222, 205, 202) and the support provided for claim 26.	Claim 76 is supported by e.g., Fig. 2 (22); Fig. 7C (200, 201, 222, 205, 202M) and the support provided for claim 26.
77	see support for claim 27	see support for claim 27

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Supplemental Support Chart
For Amended Claims of Application 08/487, 526

Claim (Tab A)	Exemplary Citations to 1981 Specification	Exemplary Citations to 1987 Specification
78	see support for claim 23	see support for claim 23
79	see support for claim 82	see support for claim 82
80	see support for claim 83	see support for claim 83
81	see support for claim 84	see support for claim 84
82	see support for claim 21	see support for claim 21
83	see support for claim 22	see support for claim 22
84	see support for claim 18	see support for claim 18
85	Claim 85 is an apparatus claim that is generally analogous to method claim 29. Claim 85 is supported by e.g., Fig. 6C (205, 201, 202M) and the support provided for claim 29.	Claim 85 is supported by e.g., Fig. 7C (e.g., 205, 201, 202M) and the support provided for claim 29.
86	see support for claim 30; Fig. 6C (200)	see support for claim 30; Fig. 7C (200)
87	see support for claim 91	see support for claim 91
88	see support for claim 92; Fig. 1 (22); Fig. 6C (222)	see support for claim 92; Fig. 2 (22); Fig. 7C (222)
89	see support for claim 93; Fig. 6C (222)	see support for claim 93; Fig. 7C (222)
90	see support for claim 94	see support for claim 94
91	see support for claim 21	see support for claim 21
92	col. 19, ll. 48-51; col. 19, l. 64 to col. 20, l. 2	p. 24, ll. 22-32; p. 451, ll. 6-11
93	see support for claim 22	see support for claim 22
94	see support for claim 18	see support for claim 18
95	Claim 95 is an apparatus claim that is generally analogous to method claim 33. Claim 95 is supported by e.g., Fig. 6D (201, 202, 222, 221, 205, 225, 223) and the support provided for claim 33.	Claim 95 is supported by e.g., Fig. 7F (201, 202M, 222, 221, 205, 225, 223) and the support provided for claim 33.
96	see support for claim 34	see support for claim 34
97	see support for claim 36	see support for claim 36
98	see support for claim 35	see support for claim 35
99	see support for claim 101	see support for claim 101
100	see support for claim 102	see support for claim 102
101	col. 20, ll. 16-24	p. 469, l. 35 to p. 470, l. 3, p. 471, ll. 6-13
102	col. 20, ll. 32-38	p. 477, l. 8-23
103	see support for claim 102	see support for claim 102
104	see support for claim 103	see support for claim 103

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Exhibit 3

(19) Japan Patent Office (JP)

(11) Unexamined Patent Application Publication

(12) Japanese Unexamined Patent Application Publication (A) S56-116385

(51) Int. Cl.[3] H04N 7/08 | Identification symbols | Internal file number 6427-5C | (43) Published 12 September 1981

Number of inventions: 1
Request for examination: not filed

(10 pages total)

(54) Character broadcast receiver

(21) Japanese Patent Application S55-19946

(22) Filed 19 February 1980

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Specifications

1. Title of the Invention
   Character broadcast receiver
2. Scope of Patent Claims
   1. A character broadcast receiver that receives character signals of characters, graphical shapes, etc., multiplexed and transmitted in a television signal's vertical blanking interval, stores these character signals in memory, reads them therefrom and displays them, distinguished in that:

      it is provided with memory capable of storing multiple screens' worth of character pattern information and color information of the character signals (referred to as character information);

      it comprises an input means that, in accordance with the user's selection, fixes character information stored in memory such that it will not be updated by newly received character information, and inputs this newly received character information so as to control it such that such that it will be stored in the next memory; and an input means for reading this fixed character information from memory and inputting it so as to control in order to display it;

      the user can select arbitrary received character information and fix it in memory through input of the input means, or read out and display this fixed character information as required through input of the input means.
3. Detailed Description of the Invention

The present invention relates to the memory function device that stores successively transmitted incoming character information in a character broadcast receiver that receives character signals of characters, symbols, graphical shapes, etc. that are time division multiplexed and transmitted in unused regions of a television signal's vertical retrace interval or the like, stores them in memory, and then reads them from said memory and overlays them onto a portion of the video signal of said television signal or displays them alone on the television screen separately from the video signal.

Character broadcasts use a system whereby one screen's worth of character broadcast is transmitted by dividing the character information into an appropriate number of portions, so to display the character information on the television screen on the reception side, it is necessary to store this information for a time in memory in accordance with the control signals among the character signals.

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Therefore, the character and graphical shape data (hereinafter referred to as character data) and the color data (hereinafter referred to as color data) relating to a program selected by the viewer is selected from the incoming character signals at the character broadcast receiver and stored in character memory and color memory respectively, after which the character data and color data are successively read out in the display interval and displayed on the television screen.

In conventional character broadcast receivers, the character memory and color memory each hold only one screen's worth, so the viewer had to wait a substantial amount of time until the desired program arrived. Furthermore, even if there was character information that one wanted to save and view later, when a new program or page is received (in character broadcasts, a program may span across multiple pages), the earlier character information would be deleted, so it was not possible to save character information for later. Moreover, comparison with other programs or character information, comparison with character information of another broadcast station or the like was not immediately possible.

In this connection, in view of the above points, the present invention has the objective of providing a character broadcast receiver that reduces the psychological burden in the time spent waiting until a desired program arrives, allows the user to store character information that he wishes to save for later, and makes it possible to immediately display character information of other programs and character information of other stations, and is distinguished in that it comprises multiple screens of character memory and color memory that store character information.

Below, as an example of embodiment of the character broadcast receiver of the present invention, an example is described that in particular has three screens' worth of character memory and color memory.

Figure 1 shows a block diagram of the essential points of an example of embodiment; Figure 2 shows a detailed block diagram of the character reception circuit unit of the same; and Figure 3 shows a detailed block diagram of the character memory and color memory of the same, and their peripheral circuits.

In Figure 1, a television signal containing a character signal inputted from an antenna 1 enters and is tuned by a tuner 2, and is further guided to an intermediate frequency/detection circuit 3 to undergo intermediate frequency amplification and vide detection, and is then inputted into a TV reception circuit 4 and a character reception circuit 8.

The TV reception circuit 4 combines all the circuits that perform common TV functions. A portion of the audio circuits is not illustrated.

The character reception circuit 8, as described later, extracts the character signal, discriminates and processes the control signals in this character signal to extract the character pattern data and color data and stores them in the respective memories, after which they are read out and composited and outputted as R (red), G (green) and B (blue) signals and fed to a mixing circuit 5.

At this mixing circuit 5, these R, G and B signals are overlaid onto the television video signal from the TV reception circuit 4 or are displayed alone as character information on the CRT 6.

The character broadcast receiver comprises, separately from the TV tuning buttons, character broadcast control buttons 9, signals from which are also inputted into the character reception circuit 8. A tuner voltage control circuit 7 is added for implementing TV channel tuning via signals from the character reception circuit 8.

This character reception circuit 8 is described next while referring to Figure 2.

The television video signal inputted from the intermediate frequency/detection circuit 3 is inputted into the character signal extraction circuit 10, where character signals are extracted and written into buffer memory 10. Extracted character signals are passed into a clock generating circuit 12, where clock signals necessary for writing character signals into buffer memory 10 and the like are generated in accordance with the sync signals in these character signals.

Moreover, the television video signal is also inputted into a sync separation circuit 13, where the sync signals are separated and further inputted into a control circuit 14. In this control circuit 14, the various types of necessary signals are generated.

Character signals written into buffer memory 11 are sent to a microcomputer (hereinafter referred to as CPU) 28 via a data bus 22, and the CPU 28 transfers character data from the character signals to

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the character memory A15 and color memory A16 only when the character broadcast program inputted by means of control buttons 9 and the program code in the character signals match.

Here, in character broadcast receivers proposed in the prior art, there was only one screen's worth of character memory and color memory (A15 and A'16 only), while the present invention, in addition to this one screen A (A15, A'16), comprises character memory B17, color memory B'18, character memory C19, color memory C'20, etc., as shown by the dashed line in Figure 2, which allows memory operations and preset operations as described below, which were not possible with devices proposed in the prior art.

Character information written into character memory and color memory is assigned a read address by the control circuit 14, and is read out in a set display interval and sent to a character and color mixing circuit 21. The clock signals for this reading are obtained from the clock generating circuit 12'.

At the character and color mixing circuit 21, the character data and color data are mixed and outputted as R (red), G (green) and B (blue) signals.

The operation of the CPU 3 is controlled by commands provided from a control ROM 27. For example, when character data is to be written into character memory A15, the address of character memory A15 is specified by the CPU 28 via address bus 24. The control circuit 14 receives signals from this address bus 24, interprets those signals as designating the character memory A15, and outputs a memory select signal SA. Character memory A15 is thereby selected, and character data is transferred by the CPU 28 from the control RAM 26 via a data bus to the character memory A15. Thus, character data from the buffer memory 11 is stored temporarily in control RAM 26, and transferred to the character memory. Transfer of color data to the color memory is performed in the same manner as the above transfer of character data, via the data bus 22. Of course, when writing to the character memory and color memory, the character memory and color memory are set to a write state by means of a read/write signal (R/W signal) via a control bus 23.

Furthermore, to perform reading of character data and color data from the character memory and color memory, the address of the character memory and color memory is designated via the address bus 22, the character memory and color memory are designated by memory select signals from the control circuit, and the R/W signal is put into a read state.

Furthermore, when the character memory and color memory need to be erased, for instance when there is a clear memory input as described below, this input is interpreted by the CPU to order the control circuit 14 to output an erase signal SE. Since the erase signal SE is low level, gates 31, 32, 33 and 34 block the character data and R/W signal and color data and R/W signal as shown in Figure 3. As a result, the output SMW and SIW of the gate 32 and gate 34 goes to low level and the character memory and color memory enter a write state, while the output (zero) of gates 31 and 33 is inputted, and thus the character memory and color memory in question are erased. When no erase signal SE is provided, the gates 31, 32, 33 and 34 remain open, so character data and R/W signal and color data and R/W signal pass as-is through the gates 31, 32, 33 and 34 and are fed to the character memory and color memory as SMD, SMW, SID and SIW.

When character data is written into buffer memory 12, it is converted to 8-bit parallel bits. This is because the data bus 22 is made up of eight bits, and this is favorable for parallel data processing. Thus, after the buffer memory 11, all character data is transferred as 8-bit parallel data. On the other hand, color data is made up of 4-bit color codes, so it is likewise transmitted as parallel data using 4 bits of the data bus. These character data and color data are mixed at aforementioned character and color mixing circuit 21 and turned into R, G, B signals, at which time the parallel data is turned back into the original serial data.

Signals from the control buttons 9 are sent via I/O 25 and data bus 22 to the CPU 28, where commands such as program selection from the viewer are interpreted and processing is performed based on those commands.

Figure 4 shows an explanatory drawing of the control panel where the control buttons 9 are mounted.

K_1 is a key group consisting of numeric keys and a # key, which has been provided in character broadcast receivers proposed in the prior art. In addition to this key group, the present invention comprises keys K_2 through K_{10}, K_A through K_C, etc. for memory operations, preset operations and the

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like.

Keys K_2, K_3 and K_4 are memory operation designation, recall memory (RM), and clear memory (CM) keys. Keys K_5 and K_6 are preset operation designation and preset cancellation keys; keys K_7, K_8 and K_9 are for designating the type of preset and are used to designated page, program and broadcast station. The character signal multiplexed in 20H/283H of the television video signal consists of control codes and page control codes, and color code data or character pattern data. In cases where a signal to indicate pages of a program is included in this character signal, a key K_7 is provided to enable designation of pages in preset operation, but when no such signal to indicate pages is included, the K_7 key and associated functions can of course be omitted.

Keys K_A, K_B and K_C designate memories A and A', B and B', and C and C', and are used for displaying the content thereof on the TV screen.

Key K_{10} is for resetting the operation, and D is for displaying the program number.

In the above example of embodiment, the following three types of operation are executed in accordance with the viewer's selection: (I) normal operation, (II) memory operation, (III) preset operation. Figure 5 shows a flow chart that explains these operations. In this drawing, SX corresponds to one of memory select signals SA, SB and SC, so X can be any one of A, B or C, while R/W corresponds to the memory write signal and SE to the memory erase signal.

When power is switched on, SX is set equal to SA, and memories A and A' are initially selected (hereinafter, both memories are referred to together as memory A).

Next, the operation selected by the viewer is executed.

When the memory key K_2, recall memory key K_3, clear memory key K_4 or preset key K_5 is selected, the corresponding operation is executed; otherwise, normal operation is assumed to be selected. The determination of whether normal operation is on can be carried out by raising a flag in response to a key scan of K_2, K_3, K_4 and K_5 and then checking this flag.

When this determination is Yes, the operation is as follows.

(I) Normal operation

The program selected by the viewer using the ten-key (K_1) is read in, and when the number of the received character signal matches this read in program, the character data and color data are read into the character signal in character memory A and color memory A' (hereinafter, both memories are together referred to as A) by reading them into memory X (currently, X = A). At this time, of the memory select signals SA, SB and SC, only SA is active. Thus, memories other than memory A, i.e. memory B and memory C, do not operate.

The content of this memory X (currently, X = A) is read out in the display interval and displayed.

Then it is checked by key scan if the memory, RM, CM or preset key K_2, K_3, K_4 or K_5 has been selected, and if any of them has been selected, a flag is raised and it is determined that operation other than normal operation has been selected.

When an erase signal SE is inputted, the content of character memory and color memory is all erased. That is, when the erase signal SE goes to low level, the AND gates 31 and 33 cause the character data and color data to become low level, "0" is inputted to the data input terminals of character memory and color memory, and the AND gates 32 and 34 cause the read/write signal (hereinafter referred to as R/W signal) SMW and SI of character memory and color memory to go to low level, putting them into write mode. In the above state, the content of the memory address signal SADR is successively incremented, and thus the content of the character memory and color memory is erased.

In this normal operation, every time a character signal program matching the selected program is received, the character information in the newly received character signal is read in to replace the previous character information, so it is constantly updated, and is then displayed.

When there is character information that the viewer wants to save for later, a memory operation is executed by pressing the memory key K_2, saving the character information displayed at the time for later and allowing it to be redisplayed whenever desired.

(II) Memory operation

When the memory key K_2 is activated, the "Memory?" decision becomes Yes, and memory X protect is executed. That is, when the memory key K_2 is depressed, in order to preserve the content of

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memory X, e.g. memory A, the writing of data into memory A is blocked. That is, the character memory R/W signal and color memory R/W signal are constantly held in read mode so long as memory A is involved. In read mode, the character memory R/W signal and color memory R/W signal are at a high level.

Next, memory type increment X = X + 1 is executed, thus setting it to B when memory A is write-protected as described above. Similarly, when memory B or C is write-protected, it would be set to memory C or A.

If the memory set in this manner is memory B, normal operation will be executed using memory B.

When one wishes to redisplay character information stored in this memory A, by pressing the recall memory key K_3 followed by the memory select key K_A, the content of memory A will be immediately read out and displayed on the television screen. That is, when key K_3 is depressed, memory X, that is the currently operating memory X, e.g. memory B, is saved. Then it is examined by means of key scan (A, B, C) whether the depressed key was K_A, K_B or K_C and the result is read in (memory type read). Then display of memory content corresponding to the depressed key is executed. For example, if the key K_A was depressed, the content of memory A is read out and displayed on the television screen.

The return from this operation to normal operation is executed by depressing the return key K_{10}, whereby the decision of "Return key input?" becomes Yes. Here, a "memory X save call" is performed, the content of memory A is retained, and normal operation is conducted by calling and using memory X, i.e. memory B.

Furthermore, when there is new character information that one wishes to save for later, by depressing the memory key K_2 again, that character information will be retained, this time in memory B. The operation here is the same as in the case of memory A as described above. Next, if key K_3 is depressed followed by key K_B, the content of memory B will be immediately displayed on the television screen.

In this way, using the memories A, B and C, it becomes possible to hold three screens' worth of character information at once, the content of which can be immediately displayed on the television screen when desired by operating the key K_3 and key K_A, K_B or K_C. Here, the memory select signal SA, SB or SC becomes active (enters operating mode) when one operates key K_A, K_B or K_C respectively.

Next, when one wishes to erase stored character information, by depressing the clear memory key K_4 followed by key K_A, the character information held in memory A will be erased. Here, the erase signal SE and memory select signal SA become active at the same time, erasing the content of memory A. The same operation is performed for memory B and memory C. Here, according to the "memory X save call", memory X that was in operation when key K_4 was pressed is called, and normal operation is performed using this memory X.

Next, the viewer can save programs that he wants to view in the respective memories; by using the keys K_A, K_B and K_C, the saved program's character information is immediately displayed on the television screen.

(III) Preset operation

A preset of a program one wants to see is designated in page units, program units and broadcast station units.

When one wants to make a present in page units, the desired program is selected with the ten-key K_1, and then the preset key K_5 is pressed first, followed by the page key K_7, to specify that this is a page unit preset. In this case, first the program selected with the ten-key K_1 will be received under normal operation, and then, since the preset key K_5 is not one of the memory key K_2, recall memory key K_3 or clear memory key K_4, preset operation is entered, and the subsequent page key K_7 specifies by key scan (page, program, broadcast station) that this is a page unit preset. Of course, if the program key K_8 or broadcast station key K_9 is pressed instead of the page key K_7, that would specify that the preset is in program units or broadcast station units.

Thereafter, following the K_A key, one enters the page number one wishes to preset using the ten-key K_1, e.g. "2##" for the second page. At this time, "2" will be displayed on the display D. Of course, the character information of the second page of the selected program will be stored in memory A and displayed on the television screen.

Next, when one wishes to store the third page of the same program in memory B, it suffices to

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sequentially press the preset key K_5, the page key K_7 and the key K_B, and then enter "3##" using the ten-key K_1. The above operation will store the character information of the second page in memory A and the character information of the third page in memory B. Here, when the character information of the second page arrives, the SA signal becomes active, and character information is written into memory A. Then when the character information of the third page arrives, the SB signal becomes active and character information is written into memory B. When one wishes to display this character information, by pressing key K_A or key K_B, the second or third page of character information will be displayed on the television screen. Here, the channel number of the selected program is displayed on the LED display D. If the return key K_{10} is pressed following the above operation, normal operation will be performed using memory C while continuing preset operation in memory A and memory B. By pressing the preset cancel key K_6, preset operation is stopped and normal operation is again performed using memory A.

To make a preset in program units, one presses the preset key K_5 followed by the program key K_8 to specify that the preset is in program units. Then one presses the key K_A and then enters the preset program using the ten-key K_1, e.g. "10##" if it is channel 10 (pressing the # key twice to enter ## signifies completion of preset-related input). As a result, the character information of channel 10 will be stored in memory A and displayed on the television screen. Different programs can be preset in the same manner in memory B and memory C, and by pressing key K_A, key K_B or key K_C, the memory select signal SA, SB or SC will become active and character information read out from the corresponding memory will be displayed. When making a preset, if the page number is entered following the channel number, one can specify not only the program but also the page. For example, if one presses "10#2##", the second page of channel 10 will be preset. If only "10##" is entered, the character information of all pages relating to that program would be displayed one after another as they arrived. The operation upon pressing the return key K_{10} and the preset cancel key K_6 is the same as in the page unit case discussed above.

In broadcast station unit preset operation, the viewer can set character broadcast programs of different broadcast stations into respective memories. For example, when one wishes to preset programs of NHK (Ch 2) and Asahi Hoso (Ch 6), one presses the preset key K_6 followed by the broadcast station key K_9, specifying that this is a preset in broadcast station units. Subsequently, one presses the key K_A and enters "2#10##" using the ten-key K_1 to specify the NHK channel 10. Then one presses the key K_B and enters "6#20##" using the ten-key K_1 to specify channel 20 of Asahi Hoso. By doing this, the NHK character broadcast channel 10 will be stored in memory A and the Asahi Hoso character broadcast channel 20 will be stored in memory B. Here, the character broadcast receiver controls the tuner voltage and first receives the radio wave of NHK, receiving the character signal of character broadcast channel 10 therein and storing its content in memory A; then it changes the tuner voltage to receive the radio wave of Asahi Hoso, receiving the character broadcast channel 20 and storing its content in memory B, and then again receives the radio wave of NHK, repeating the operation. When one wishes to display the preset character information, by pressing the key K_A or K_B, the content of memory A or memory B will be immediately displayed on the television screen 8. When making the preset, if one enters the broadcast station channel and program channel followed by the page number, the page of the program can also be specified. Or if one inputs just the broadcast station channel, the character information of all programs and all pages of that broadcast station will be successively received and displayed.

It is also possible to perform memory operation and preset operation simultaneously; for example, one can use memory A for memory operation and the remaining memory B and memory C for preset operation. In this case, the memory operation is prioritized. This is in order to protect character information retained by the memory operation.

Moreover, in memory operation and preset operation, it is possible to display not just the content of one memory at a time, but to display all three simultaneously. Figure 6 shows a display example thereof. Here, the memory read clock signal frequency is made threefold to display the character information of memories A, B and C in sequence from the left of the screen. The memory select signals SA, SB and SC respectively become active in the A, B and C intervals shown in Figure 7.

While the above was an example of embodiment for the case where the character broadcast

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transmission system uses pattern transmission, the invention can also be applied in the case of code transmission. In that case, character data is stored as code, so memory capacity can be greatly reduced.

With the character broadcast receiver according to the present invention, while using a given memory for conventional reception operation as proposed in the prior art, the other memories can be used for purposes other than conventional reception operation, such as for storing desired character information or for storage required for desired preset operation or the like, thus allowing the receiver to be used for memory operation and preset operation, which makes it possible to display the content of another memory while waiting for a desired program to arrive, which should be noted for its practical effects, such as being useful in reducing the psychological burden of nervously waiting and wondering when one's desired program will finally arrive.

4. Brief Description of the Drawings

Figure 1 shows a block diagram of the essential points of an example of embodiment of the character broadcast receiver of the present invention. Figure 2 shows a specific block diagram thereof. Figure 3 shows a block diagram of the essential parts thereof. Figure 4 shows a front view of the front panel of the same. Figure 5 shows a flow chart explaining the operation thereof. Figure 6 and Figure 7 show drawings that explain the television screen and horizontal scanning interval in another example of the operation thereof.

8: character receiver circuit; 9: control button; 10: character signal extraction circuit; 11: buffer memory; 15, 17 and 19: character memory; 16, 18 and 20: color memory; 28: microcomputer; 21: character and color mixing circuit.

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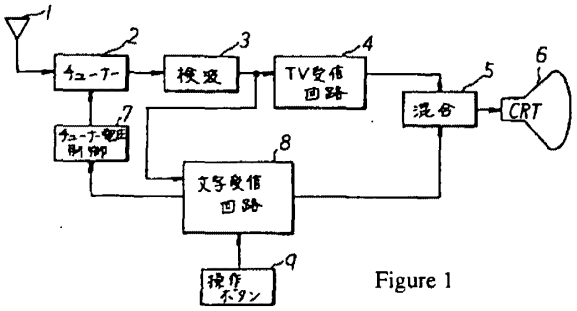

Figure 1

[captions]
2: Tuner
3: Detection
4: TV reception circuit
5: Mixing
7: Tuner voltage control
8: Character reception circuit
9: Control buttons

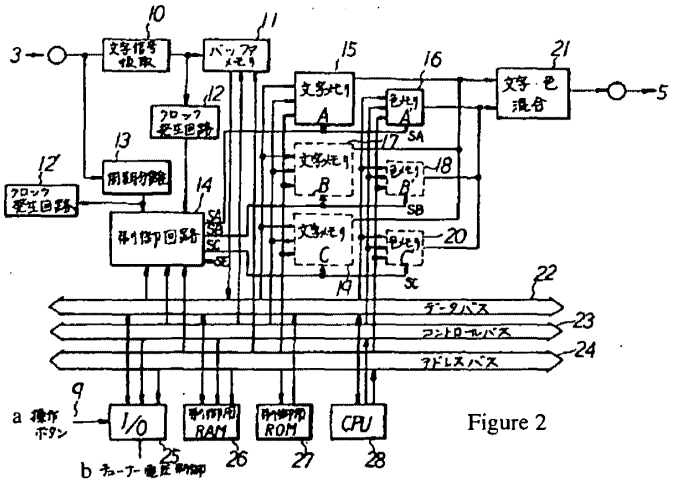

Figure 2

[captions]
a: Control buttons
b: Tuner voltage control
10: Character signal extraction
11: Buffer memory
12: Clock generating circuit
13: Sync separation
14: Control circuit
15: Character memory A
16: Color memory A'
17: Character memory B
18: Color memory B'
19: Character memory C
20: Color memory C'
21: Character/color mixing
22: Data bus
23: Control bus
24: Address bus
26: Control RAM
27: Control ROM

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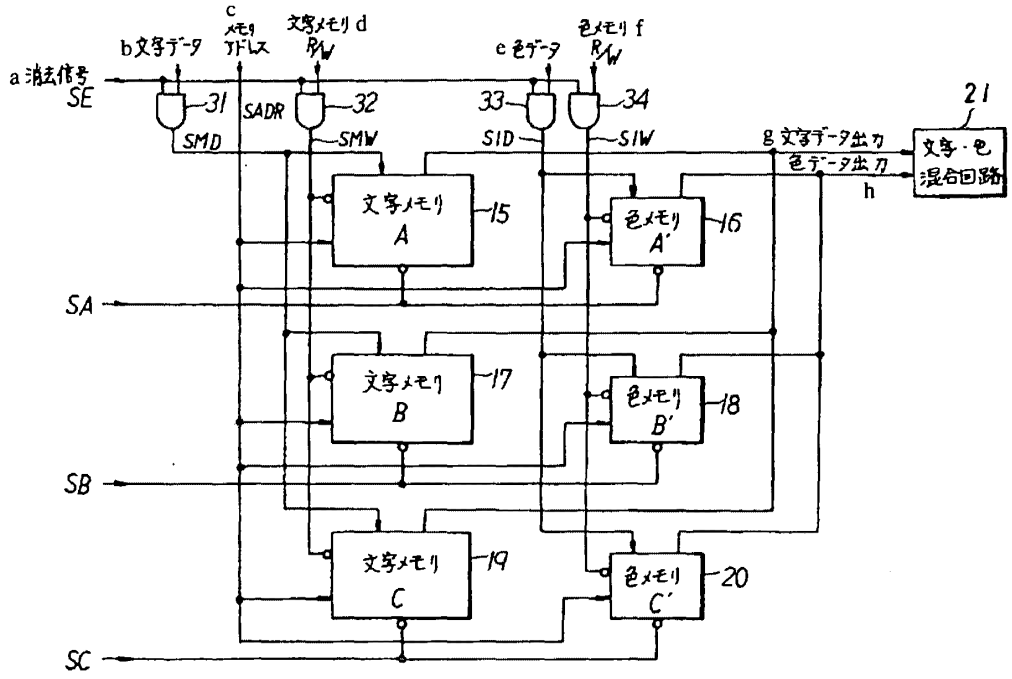

Figure 3

[captions]
a: Erase signal
b: Character data
c: Memory address
d: Character memory R/W
e: Color data
f: Color memory R/W
g: Character data output
h: Color data output

15: Character memory A
16: Color memory A'
17: Character memory B
18: Color memory B'
19: Character memory C
20: Color memory C'
21: Character/color mixing circuit

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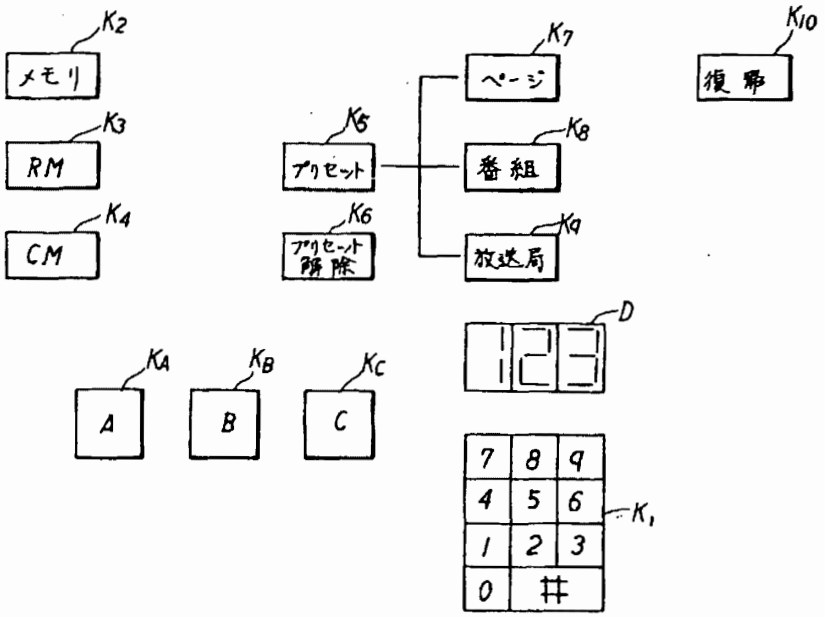

Figure 4

[captions]
K2: Memory
K5: Preset
K6: Preset cancel
K7: Page
K8: Program
K9: Broadcast station
K10: Return

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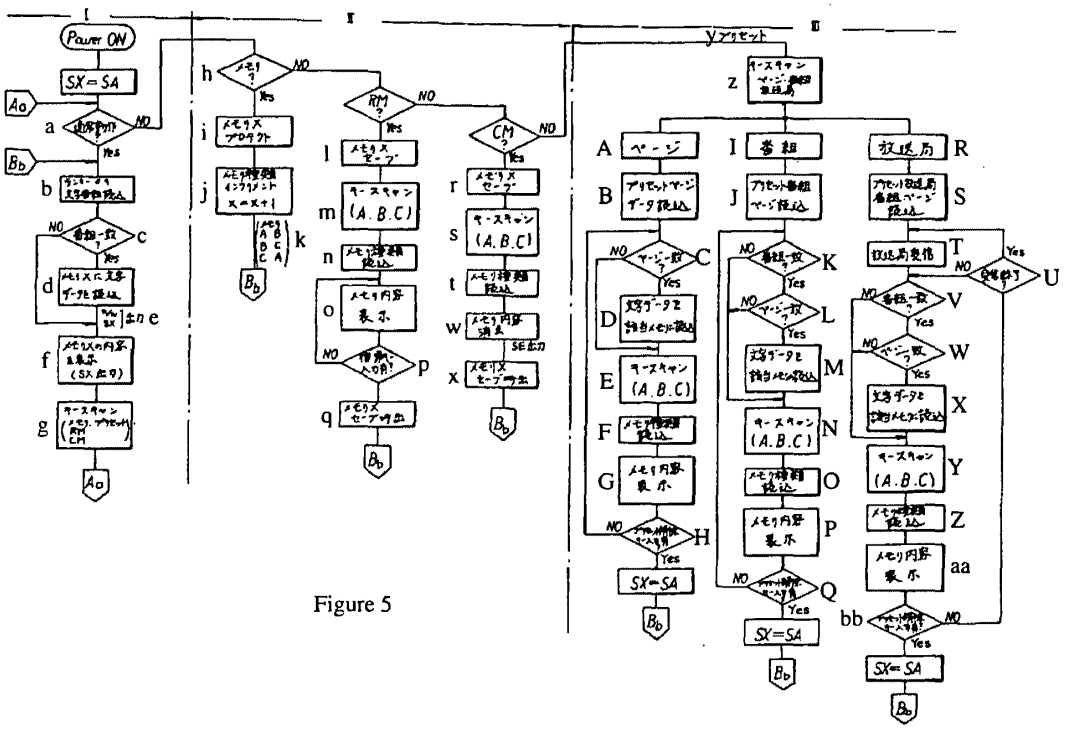

Figure 5

[captions]

a: Normal operation?
b: Read in character program from ten-key
c: Programs match?
d: Read character data into memory X
e: R/W, SX output
f: Display content of memory X (SX output)
g: Key scan (memory, preset); RM, CM
h: Memory?
i: Memory X protect
j: Memory type increment X = X + 1
k: Memory
A B
B C
C A
l: Memory X save
m: Key scan (A, B, C)
n: Memory type read
o: Display memory content
p: Return key input?
q: Memory X save call
r: Memory X save
s: Key scan (A, B, C)
t: Memory type read
w: Erase memory content
x: Memory X save call
y: Preset
z: Key scan: page, program, broadcast station
A: Page
B: Read in preset page data
C: Pages match
D: Read character data into corresponding memory
E: Key scan (A, B, C)
F: Memory type read
G: Display memory content
H: Preset cancel key input?
I: Program
J: Read in preset program page
K: Programs match?
L: Pages match?
M: Read character data into corresponding memory
N: Key scan (A, B, C)
O: Memory type read
P: Display memory content
Q: Preset cancel key input?
R: Broadcast station
S: Read in preset broadcast station, program, page
T: Receive broadcast station
U: Reception complete?
V: Programs match?
W: Pages match?
X: Read character data into corresponding memory
Y: Key scan (A, B, C)
Z: Memory type read
aa: Display memory content
bb: Preset cancel key input?

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NHK character broadcast program guide	Asahi Hoso character broadcast program guide	TBS character broadcast program guide
Ch 1 ···· News	Ch 1 ····News	Ch 1 ···· News
Ch 10 ·· Weather forecast	Ch 10···Program announcements	Ch 10 ·· Stock market conditions
Ch 20 ·· Stock market conditions	Ch 20···Weather forecast	Ch 20 ·· Shopping information
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Figure 6

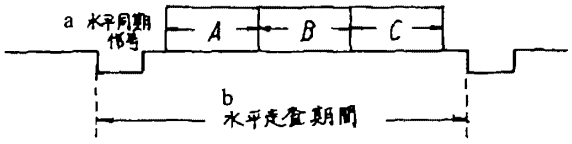

Figure 7

[captions]
a: Horizontal sync signal
b: Horizontal scan interval

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exhibit 4

(19) Japan Patent Office (JP) (11) Unexamined Patent Application Publication

(12) Japanese Unexamined Patent Application Publication (A) S62-60378

(51) Int. Cl.[4]	Identification symbols	Internal file number	(43) Published 17 March 1987
H04N 7/00		6668–5C	
5/44		7423–5C	
7/173		6668–5C	

Request for examination: Not filed Number of inventions: 3 (14 pages total)

(54) Title of invention Television receiver

(21) Japan Patent Application S60-200034
(22) Filed 10 September 1985

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A portion of Figure 3 of the drawings has not been published, as provided under Article 65, Section 2, Paragraph 4 of the Patent Law.

Specifications

1. Title of the Invention

Television receiver

2. Scope of Patent Claims

(1) A television receiver distinguished in that it comprises:

a program information storage means that stores television program information including broadcast station data, broadcast date and time data and program title data and

a means that displays television program information stored by said program information storage means.

(2) A television receiver distinguished in that it comprises:

a program information storage means that stores television program information including broadcast station data, broadcast date and time data and program title data;

a clock circuit;

a means that detects programs currently being broadcast based on the date and time data timed by the clock circuit and program broadcast date and time data stored by said program information storage means; and

a means that displays a list of programs currently being broadcast detected by the above means.

(3) A television receiver distinguished in that it comprises:

a program information storage means that stores television program information including at least one of the following: broadcast station data, broadcast date and time data, program type data, broadcast day of the week data, and program title data;

a means that designates at least one of the following items: broadcast station, date and time, program type, and day of the week;

a means that searches program information for the items designated by the above means from

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said program information storage means; and

a means that displays program information searched for by the above means.

(4) A television receiver as set forth in claim 3, distinguished in that said searching means excludes programs that have already concluded from its search.

3. Detailed Description of the Invention

{Technical Field of the Invention}

The present invention relates to television receivers comprising a function of displaying television program information.

{Prior Art and Problems Thereof}

Currently, television receivers have spread to practically all households, and the viewership rate is also extremely high. Furthermore, in every household equipped with a television receiver, it is often the case that somebody wants to see the news, or somebody wants to see the weather forecast. Moreover, there are cases when somebody wants to watch a film or to watch baseball. In such cases where somebody wants to view a specific program, it suffices to look at the television section of a newspaper and tune in, but sometimes there is may be no newspaper at hand, or looking at the newspaper may be bothersome. This is notable when going out somewhere with a portable television.

{Object of the Invention}

The present invention was made in view of the aforesaid points, and has the objective of providing a television receiver that allows a program list to be easily displayed on the television screen and allows searching for desired programs from that program list.

{Gist of the Invention}

The present invention provides a program information storage means that stores television program information including broadcast station data, broadcast date and time data, program title data, etc.

{Examples of Embodiment of the Invention}

Below, an example of embodiment of the present invention is described with reference to the drawings. This example of embodiment shows a case using character and pattern information system (videotex) telesoftware, whereby television program information is stored in program memory, and the television program information stored in this program memory is displayed on the CRT screen in response to specific key operations. First, the appearance and structure of the television receiver is described using Figure 2. In Figure 2, 1 is the television receiver housing. A television receiver circuit and character graphical information system (videotex) reception circuit, the details of which are described later, are arranged in this housing 1. Furthermore, the top front side of said housing 1 is formed diagonally, with a keyboard 2 being provided in that area. Moreover, a CRT display unit 3 is arranged in the top part of the housing 1, with a telephone placement area 4 being formed to the side thereof. A telephone 5 is placed onto this telephone placement area 4.

Next, the structure of the television reception circuit 10 and the character and pattern information system reception circuit 20, the details of which are shown in Figure 1, is described. In Figure 1, 12 is the tuner of the television reception circuit 10, which selects the broadcast radio wave of the desired channel according to the instructions of the auto channel circuit 13 from the television broadcast radio waves induced in the antenna 11, converts it to an intermediate frequency and outputs it to the TV circuit 14. This TV circuit 14 amplifies the television signal sent from the tuner 12, then performs processing for video detection, sync separation, audio detection, etc., outputs the video signal via a display switching circuit 15 to a CRT display unit 3 and outputs the audio signal to the speakers (not illustrated). Moreover, said TV circuit 14 generates a tuning signal based on the signal from the tuner 12 and outputs it to said auto channel circuit 13. Furthermore, 16 is a program memory that stores television program information, to which program memory 16 are connected a search circuit 17 and flag control circuit 18. Moreover, 19 is a clock circuit that counts the date and time and outputs the current date and time data to the search circuit 17 and the flag control circuit 18. This flag control circuit 18 performs rewriting control of flags, such as an on-air or program-complete flag, in the program memory 16 in response to time

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data from the clock circuit 19. Said search circuit 17 searches the content of program memory 16 in accordance with instruction from the keyboard 2 in the character and pattern information system reception circuit 20, and outputs channel selection signals to the auto channel circuit 13.

Said program memory 16 stores for instance one month's worth of program information; the address area is divided into date units, each given a top address (x address). Figure 3 shows the structure of a partial area (May 12) of the program memory 16, wherein the date, channel, day of the week, start time, end time, the program type, a flag F1 indicating that the program is being broadcast, a flag F2 indicating that the program has completed, the program title, etc. are set as the program information. This program information is read out by telesoftware from the videotex information center and written in via the character and pattern information system reception circuit 20.

The character and pattern information system reception circuit 20 also has a telephone line (not illustrated) connected to a line control unit 21 via a terminal unit 22. Furthermore, the line control unit 21 has a telephone 5 connected thereto and has a videotex controller 25 connected thereto via a modem 23 and a modem controller 24. In addition, said videotex controller 25 has a keyboard 2, display memory 26 and work memory 27 connected thereto, and has a printer 29 connected thereto via printing memory 28. Said display memory 26 is memory that stores received videotex images, and this stored data is sent via a display switching circuit 15 to a CRT display unit 3. Furthermore, when said videotex controller 25 reads television program information from the videotex information center using telesoftware in accordance with instructions from the keyboard 2, that television program information is output to the television reception circuit 10 and is stored in program memory 16. Moreover, when the program type is specified by the keyboard 2, the videotex controller 25 outputs the corresponding type code and search command to the search circuit 17.

Next, the details of the search circuit 17 in aforementioned Figure 1 are described by means of Figure 4. In Figure 4, 171 is an address generating circuit; this address generating circuit 171 is given date data from the clock circuit 19 in Figure 1 and is given program search commands from the keyboard 2 via the videotex controller 25. Said address-generating circuit 171 operates in accordance with search commands from the keyboard 2, generating address data x corresponding to the date data provided from the clock circuit 19 and placing it into an address register 172. The address data x placed into the address register 172 designates the top address of a date area of the program memory 16 shown in Figure 1. According to said designated address, the information for one program, i.e. the "date", "channel", "day of the week", "start time", "end time", "type", "flag F1", "flag F2" and "program title" are read out and written into a buffer 173. Then, out of the information written into said buffer 173, the "channel" information is input into a channel voltage generating circuit 174, the "type" information that indicates the type of program is input into a type code comparison circuit 175, and the "flag F1" is input into a flag discrimination circuit 176. This flag discrimination circuit 176 discriminates whether the flag F1 read out into the buffer 173 is "1" or "0", outputting a "+1" signal to the address register 172 via an OR circuit 177 if it is "0" and outputting a compare command to the type code comparison circuit 175 if it is "1". Furthermore, this type code comparison circuit 175 is given, via a type code register 178, the code indicating the type of program that was input via the videotex controller 25 from the keyboard 2. When given a "1" signal from the flag discrimination circuit 176, said type code comparison circuit 175 compares the type code read from the buffer 173 with the type code input into the type code register 178, outputting a match signal to the channel voltage generating circuit 174 if they match, and outputting a no-match signal to the address register 172 via the OR circuit 177 if they do not match. When given a no-match signal from the type code comparison circuit 175, said channel voltage generating circuit 174 generates a channel voltage corresponding to the channel information provided from the buffer 173, and outputs it to the auto channel circuit 13 of Figure 1.

Next, the operation of the above example of embodiment is described. Prior to any television program search operation, as shown in the flow chart of Figure 5, for instance one month's worth of television program information is read from the videotex information center by means of telesoftware and is stored in the program memory 16 of the television reception circuit 10. That is,

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the user first selects the videotex mode by key operations from the keyboard 2, as shown in step A1 of Figure 5. He then calls the videotex information center using the telephone 5 and receives for instance one month's worth of television program information including broadcast station data, broadcast time data and program type data by means of telesoftware, as shown in step A2. In said videotex mode, the display switching circuit 15 is switched over to the display memory 26 side, and the received videotex images stored in display memory 26 are displayed on the CRT display unit 3. As television program information is being sent from the information center via telesoftware, the videotex controller 25 stores that television program information in program memory 16 in step A3. Subsequently, the videotex controller 25 sends a command to the search circuit 17, causing in step A4 the execution of initial processing, the details of which are shown in Figure 6, and completing program information reception processing.

Next, the details of the initial processing of staid step A4 are described with the aid of Figure 6. The search circuit 17 first takes "1" (the top address) as the designated address N of program memory 16, as shown in step A11 of Figure 6, and then reads the content of the designated address from the program memory 16 in step A2. Then, as shown under step A13, it compares the program date read from program memory 16 to the current date as timed by the clock circuit 19, and if the current date is greater, i.e. if the broadcast date was yesterday or earlier and the broadcast has already been completed, it proceeds to step A14, sets the flag F2 and then proceeds to step A16. Furthermore, if the current date and the program date match, it proceeds from step A13 to step A15, determines if the current time as timed by the clock circuit 19 is past the end time of the program, and if the current time is past the program end time, it proceeds to step A14 and sets the flag F2. However, if the current time is not past the program end time, it proceeds from step A15 to step A16. Furthermore, in aforementioned step A13, if the current date is smaller than the program date, i.e. if it is determined that the program has not been broadcast yet, it proceeds directly to step A16. In this step A16, it evaluates whether the designated address N of program memory 16 has reached the final address, and if the final address has not been reached, the designated address N is incremented by "+1" in step A, and the system returns to step A12. Thereafter, the same processing is repeated, successively reading program information from the program memory 16, determining if that program's broadcast has ended, and setting the flag F2 for programs whereof the broadcast has ended. Then, once the designated address N of program memory 16 reaches the final address, that state is detected in step A16 and initial processing is terminated. Here, the final address N may be fixed, or else initial processing may be terminated upon reading a termination code from the program memory 16.

After television program information has been stored in program memory 16 and initial processing has been completed as described above, it is possible to have the search performed automatically by designating arbitrary program types by key operations using the keyboard 2. When having a search performed for a television program, one switches to TV mode by means of key operations using the keyboard 2 as shown in step B1 of Figure 7, and operates the program keys. When switched to TV mode, the videotex controller 25 constantly checks for the presence of program key operations as shown in step B2; when the program keys are not being operated, it enters a state of waiting for input of other keys and enters normal TV reception mode whereby video signals outputted from the TV circuit 14 are displayed on the CRT display unit 3. However, when a program key is operated, the videotex controller 25 goes from step B2 to step B3 and displays a program menu on the CRT display unit 3. That is, it displays a program menu of "News", "Weather forecast", "Baseball", "Sports", "Films", "Educational", "Drama", "Songs", "Cartoons", "Quizzes", "Tabloid" (tabloid programs), "Sketches", etc. together with the corresponding numbers, on the CRT display unit 3, as shown in Figure 8. The user, as shown under step B4, specifies the number corresponding to the desired program from the program menu displayed on the CRT display unit 3 by operating keys of the keyboard 2. Once the program designation number is input, the videotex controller 25, as shown in step B5, outputs the designation number's type code and a search command to the search circuit 17, after which it holds its state in step B6 until the search is completed. Then, once the search operation of the search circuit 17 has completed and the designated station is selected, the videotex controller 25 assumes a state of waiting for other key

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input and enters normal TV reception mode, and the program of the station selected by said search circuit 17 is displayed on the CRT display unit 3.

Next, the detailed operation of said search circuit 17 and flag control circuit 18 is described. In Figure 1, the program memory 16, search circuit 17, flag control circuit 18 and clock circuit 19 are constantly supplied with operating voltage regardless of whether the power supply is on or off. The clock circuit 19 constantly performs timing processing of the current time and date, and provides current time and date information to the search circuit 17 and flag control circuit 18. Said flag control circuit 18 performs rewriting control of the program information flags F1 and F2 stored in program memory 16 based on the time information from the clock circuit 19. Figure 9 shows a flow chart of the rewriting processing of said flags F1 and F2; below, the operation is described according to this flow chart. The flag control circuit 18, as shown in step C1 of Figure 9, performs detection processing of one-minute pulses sent from the clock circuit 19; upon detecting a one-minute pulse, it proceeds to step C2 and reads date data from the clock circuit 19. Then, the flag control circuit 18, as shown in step C3, generates the top address x and the end address x_{END} for the date area of program memory 16 corresponding to the date data read from the clock circuit 19. Then, as shown in step C4, the flag control circuit 18 sets the designated address N of program memory 16 to the top address x, and reads out the stored content of program memory 16 in step C5. Then in step C6, it determines whether or not flag F2 has been set, and if flag F2 has not been set, it proceeds to step C7 and determines if the current time is past the broadcast start time. If the current time is past the broadcast start time, it proceeds to step C8 and determines if the current time has reached the broadcast end time, and if the current time has not reached the broadcast end time, i.e. if the broadcast is currently going on, it sets flag F1 in step C9. However, if the current time has reached the broadcast end time, it moves from step C8 to step C10, sets flag F2, and resets flag F1. Then, if the processing of aforementioned step C9 or step C10 has been completed, or if it is determined that flag F2 has been set (broadcast has ended) in aforementioned step C6, if it is furthermore determined that the current time has not reached the broadcast start time in step C7, one proceeds to step C11, determines if the memory designation address N has reached the final address, and if the final address has not been reached yet, one increments the memory designation address N by "+1" in step C12 and returns to step C5. Subsequently, the same operation is repeated, setting flag F1 if the program is being broadcast, and setting flag F2 if the broadcast has ended. Then, once processing of the current date's date area of program memory 16 is completed, the decision at step C11 becomes YES, whereupon the system returns to step C1 and waits until the next one-minute pulse is sent from the clock circuit 19. The rewriting control of flags F1 and F2 is performed every time a one-minute pulse is outputted from the clock circuit 19 in the manner described above.

Rewriting of flags F1 and F2 of program memory 16 is constantly performed by the flag control circuit 18 as described above, and when a program type is designated by operating keys of the keyboard 2 as described above and the videotex controller 25 outputs a type code and search command to the search circuit 17 in step B5 of Figure 7, program search processing is started by the search circuit 17. That is, the type code sent from said videotex controller 25 to the search circuit 17 is placed into type code register 178 and the search command is inputted into the address generating circuit 171. This address generating circuit 171, when given said search command, generates the top address x for the date area of program memory 16 corresponding to the date information from the clock circuit 19 and places it into address register 172. The top address x of the date area of program memory 16 is designated by means of the data placed in this address register 172, and one program's worth of information at that designated address is read from the program memory 16 into buffer 173. When program information is read into this buffer 173, first, flag F1 is sent to the flag discrimination circuit 176 and its content is evaluated. If the program read out into buffer 173 is not being broadcast, flag F1 will be "0", so in this case a "+1" signal will be output from the flag discrimination circuit 176 via the OR circuit 177 and the content of address register 172 will be incremented by "+1". The next address of program memory 16 is thereby designated, and the program information stored at that address is read into buffer 173. Then the content of flag F1 is evaluated by the flag discrimination circuit 176 in the same way as in the

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above case. If Flag F1 is "0", the same operation as above is repeated, while if flag F1 is "1", i.e. if the program is being broadcast, a "1" signal is sent from the search circuit 17 to the type code comparison circuit 175. When given a "1" signal from the flag discrimination circuit 176, this type code comparison circuit 175 compares the type code held at the time in buffer 173 to the type code held in the type code register 178, and if there is no match, i.e. if the program read into the buffer 173 is not the program designated by means of the keyboard 2, a no-match signal is output to the address register 172 via the OR circuit 177. As a result, the content of address register 172 is incremented by "+1" and the next address of program memory 16 is designated and its content read out into the buffer 173. When program information is newly placed into this buffer 173, the flag F1 and type code are checked as described above. If the type code held in the buffer 173 and the type code held in type code register 178 match, a match signal is sent from the type code comparison circuit 175 to the channel voltage generating circuit 174. That is, if for example "news" was specified as the program type using the keyboard 2, when a "news" program currently being broadcast is read out from the program memory 16 into the buffer 173, a match signal will be output from the type code comparison circuit 175 and sent to the channel voltage generating circuit 174. When this channel voltage generating circuit 174 is given said type code match signal, it generates voltage corresponding to the channel code held in the buffer 173 and outputs it to the auto channel circuit 13. When given a channel voltage from the channel voltage generating circuit 174, this auto channel circuit 13 controls the reception frequency of the tuner 12 according to this channel voltage and selects the station of the designated channel. When the program type is designated using the keyboard 2 as described above, the channel on which it is being broadcast is selected and the program is displayed on the CRT display unit 3. When there is no station broadcasting the specified type of program, e.g. "news", the station that was selected at the time continues to be received. Furthermore, if two or more stations are broadcasting the specified type of program, the lower numbered station is received.

Next, the operation when displaying the program list stored in program memory 16 on the CRT display unit 3 is described. The display of said program list is specified by operating keys of the keyboard 2. For the program list to be displayed, as shown in Figure 10, one can specify:

① A list of all future programs to be broadcast.
② A list of programs for one designated date.
③ A summary list of programs of a specified genre (type) to be broadcast in the future.
④ A summary list of programs of a specified channel to be broadcast in the future.
⑤ A list of programs for a designated (upcoming) day of the week.
⑥ A list of programs currently being broadcast.

To display the program lists of ① though ⑥ above, for example as shown in Figure 10, ① is designated by a simple operation D using the "program list" key alone; ② is designated by a combined operation E involving input of the "date" and using the "program list" key; ③ is designated by a combined operation F involving designation of the program "type" and using the "program list" key; ④ is designated by combined operation G involving designation of the "channel" and using the "program list" key; ⑤ is designated by combined operation H involving designation of the "day of the week" and using the "program list" key; and ⑥ is designated by a simple operation I using the "on air" key. When the above-described program list display designation operation is performed using the keyboard 2, the videotex controller 25 executes the processing shown in Figures 11 through 16.

Figure 11 shows the processing of the videotex controller 25 when displaying a list of all programs to be broadcast in the future as per ① above. When the key operation D for ① above is performed, the videotex controller 25 first sets the designated address N of program memory 16 to "1" (the top address), as shown in step D1, and reads the content of program memory 16 in step D2. Next, as shown in step D3, it evaluates whether today's date matches the program date, and if they match, it further evaluates in step D4 whether or not the current time has reached the program end time. Then, if the broadcast of the program read from program memory 16 has not ended yet, the program information is outputted into the work memory 27 as shown in step D5, after which one proceeds to step D6. Furthermore, if in aforementioned step D3 it is determined that the dates do

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not match, or if it is determined in step D4 that the program's broadcast has ended, one likewise proceeds to step D6. At this step D6, it is evaluated if the designated address N of program memory 16 has reached the final address, and if the final address has not been reached, the designated address N is updated in step D7 and one returns to step D2. Subsequently, the same processing operation is repeated, with only the information for programs to be broadcast in the future being selected from the program information stored in program memory 16 and written into the work memory 27. Then, if it is determined in step D6 that the designated address of program memory 16 has reached the final address, one proceeds to step D8, where the program information stored in the work memory 27 is edited into an easy to view form. Thereafter, as shown in step D9, the aforementioned edited program information is written from the work memory 27 into the display memory 26, and is further sent from this display memory 26 to the CRT display unit 3 and displayed. That is, a list of all programs to be broadcast in the future is displayed on the CRT display unit 3.

Next, the operation under ② above, when combined operation E involving "date" input and the "program list" key is performed to display a list of programs for one day, is described using Figure 12. When the key operation E for ② above is performed using the keyboard 2, the videotex controller 25 first generates the top address x for the date area of the given day as the designated address N of program memory 16, as shown in step E1 of Figure 12, and reads the content of the program memory 16 in step E2. Then, as shown in step E3, it outputs the program information into the work memory 27, after which it moves to step E4 and evaluates if the designated address N of the program memory 16 has reached the final address of the date area, and if the final address has not been reached, it updates the designated address N in step E5 and returns to step E2. Subsequently, the same operation is repeated, selecting only information for programs to be broadcast on the designated date out of the program information stored in the program memory 16, and writing it into the work memory 27. Then, upon determining in step E4 that the designated address N of the program memory 16 has reached the final address of the date area, it moves to step E6 where the program information stored in the work memory 27 is edited into an easy to view form. Then, as shown in step E7, said edited program information is written from the work memory 27 into the display memory 26, and is further sent from this work memory 27 to the CRT display unit 3 and displayed. That is, a list of one day's worth of programs for the designated day is displayed on the CRT display unit 3.

Next, the operation under ③ above, when combined operation F involving "type" designation and using the "program list" key is performed to display a summary list of programs of the given genre to be broadcast in the future, is described using Figure 13. When the key operation F for ③ above is performed using the keyboard 2, the videotex controller 25 first sets the designated address N of program memory 16 to 1 (the top address) as shown in step F1 of Figure 13, and reads the content of program memory 16 in step F2. Then, as shown in step F3, it determines if flag F2 is "1" or "0", i.e. if the program's broadcast has ended or not, and if the broadcast has not ended, it further evaluates in step F4 if that program's type code matches the designated type code. Then, if the program's type code and the designated type code match, it outputs the program information into the work memory 27 as shown in step F5, and then moves to step F6. Moreover, it if it determined in aforementioned step F3 that the program's broadcast has already ended, or if it is determined in step F4 that the type codes do not match, it likewise moves to step F6. In this step F6, it is evaluated if the designated address N of program memory 16 has reached the final address, and if the final address has not been reached, the designated address N is updated in step F7 and one returns to step F2. Subsequently, the same processing operation is repeated, with only the information for programs of the designated type being selected from the program information stored in program memory 16 and written into the work memory 27. Then, if it is determined in step F6 that the designated address of program memory 16 has reached the final address, one proceeds to step F8, where the program information stored in the work memory 27 is edited into an easy to view form. Thereafter, as shown in step F9, the aforementioned edited program information is written from the work memory 27 into the display memory 26, and is further sent from this display memory 26 to the CRT display unit 3 and displayed. That is, a summary list of programs of

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the designated genre to be broadcast in the future is displayed on the CRT display unit 3.

Next, the operation under ④ above, when combined operation G involving "channel" designation and the "program list" key is performed to display a summary list of programs to be broadcast in the future on the given channel, is described using Figure 14. When the key operation G for ④ above is performed using the keyboard 2, the videotex controller 25 first sets the designated address N of program memory 16 to 1 (the top address) as shown in step G1 of Figure 14, and reads the content of program memory 16 in step G2. Then, as shown in step G3, it determines if flag F2 is "1" or "0", i.e. if the program's broadcast has ended or not, and if the broadcast has not ended, it further evaluates in step G4 if that program's channel matches the designated channel. Then, if the program's channel and the designated channel match, it outputs the program information into the work memory 27 as shown in step G5, and then moves to step G6. Moreover, it if it determined in aforementioned step G3 that the program's broadcast has already ended, or if it is determined in step G4 that the channels do not match, it likewise moves to step G6. In this step G6, it is evaluated if the designated address N of program memory 16 has reached the final address, and if the final address has not been reached, the designated address N is updated in step G7 [*sic*] is repeated, with only the information for programs to be broadcast in the future on the designated channel being selected from the program information stored in program memory 16 and written into the work memory 27. Then, if it is determined in step G6 that the designated address of program memory 16 has reached the final address, one proceeds to step G8, where the program information stored in the work memory 27 is edited into an easy to view form. Thereafter, as shown in step G9, the aforementioned edited program information is written from the work memory 27 into the display memory 26, and is further sent from this display memory 26 to the CRT display unit 3 and displayed. That is, a summary list of programs to be broadcast in the future on the designated channel is displayed on the CRT display unit 3.

Next, the operation under ⑤ above, when combined operation H involving "day of the week" designation and the "program list" key is performed to display a list of one day's worth of programs for an upcoming designated day of the week, is described using Figure 15. When the key operation H for ⑤ above is performed using the keyboard 2, the videotex controller 25 first evaluates if the current day of the week matches the designated day of the week as shown in step H1 of Figure 15, and if they match, it proceeds to step H2, generating the top address x for the date area of program memory 16 of the given date, and reads the content of the program memory 16 in step H3. Then after outputting the program information into the work memory 27 as shown in step H4, it proceeds to step H5, determines if the designated address N of program memory 16 has reached the final address of the date area, and if the final address has not been reached, the designated address N is updated in step H6 and one returns to step H3. Subsequently, the same processing operation is repeated, with only the information for programs to be broadcast on the designated day of the week, which in this case is the current day, being selected from the program information stored in program memory 16 and written into the work memory 27. Then, if it is determined in step H5 that the designated address N of program memory 16 has reached the final address of the date area, one proceeds to step H7, where the program information stored in the work memory 27 is edited into an easy to view form. Thereafter, as shown in step H8, the aforementioned edited program information is written from the work memory 27 into the display memory 26, and is further sent from this display memory 26 to the CRT display unit 3 and displayed. That is, a list of one day's worth of programs for the designated day of the week is displayed on the CRT display unit 3.

Moreover, if it is determined in aforementioned step H1 that the current day of the week and the designated day of the week are different, one proceeds to step H9, where the date of the upcoming day of the week in question is calculated, and then a top address x′ for that date is generated in step H10 as the designated address N of program memory 16. Thereafter, the same processing as in steps H3 through H6 above is repeated through steps H11 to H14. Then in step H13, once it is determined that the designated address has reached the final address x'_{END}, one proceeds to aforementioned step H7, where editing processing is performed, after which the information is output to the display memory 26 as shown in step H8 and displayed on the CRT

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display unit 3.

Next, the operation under ⑥ above, when key operation I using the "on air" key is performed to display a list of programs currently being broadcast, is described using Figure 16. When the key operation I for ⑥ above is performed using the keyboard 2, the videotex controller 25 first generates the top address x for the date area of the given day as the designated address N of program memory 16, as shown in step I1 of Figure 16, and reads the content of the program memory 16 in step I2. Then, as shown in step I3, it determines if flag F1 is "1" or "0", i.e. if the program is currently being broadcast, and if the broadcast is currently on the air, the information for that program is output into the work memory 27 as shown in step I4, after which one proceeds to step I5. Moreover, if it is determined in step I3 that the program is not currently on the air, one proceeds directly to step I5 without performing the processing of step I4. In this step I5, it is evaluated if the designated address N of program memory 16 has reached the final address, and if the final address has not been reached, the designated address N is updated in step I6, and one returns to step I2. Subsequently, the same processing operations are repeated, with only the information for programs currently on the air being selected from the program information stored in program memory 16 and written into the work memory 27. Then, if it is determined in step I5 that the designated address of program memory 16 has reached the final address of the date area for the given day, one proceeds to step I7, where the program information stored in the work memory 27 is edited into an easy to view form. Thereafter, as shown in step I8, the aforementioned edited program information is written from the work memory 27 into the display memory 26, and is further sent from this display memory 26 to the CRT display unit 3 and displayed. That is, a summary list of programs currently being broadcast is displayed on the CRT display unit 3.

In the above example of embodiment, if the program list cannot be displayed completely on a single screen, one can allow scrolling, or display one day's worth or one channel's worth at a time and move to the next page by operating a specified key such as the return key.

Furthermore, in the above example of embodiment, by including performer information in the program information stored in the program memory 16, it is also possible to display a summary list of programs with a designated performer.

{Effect of the Invention}

According to the present invention as described in detail above, a program information storage means is provided that stores television program information including broadcast station data, broadcast date and time data, program title data, etc., and the television program information stored by this means is selected and read out to the display screen in response to specific input operations, thereby making it possible to simply display arbitrary program lists on the television screen, for instance lists of all programs to be broadcast in the future, programs on a designated date, programs of a designated type, programs of a designated day of the week, programs of a designated channel, programs currently on the air, etc., which is very convenient in cases where there is no newspaper at hand and the like.

4. Brief Description of the Drawings

The drawings show an example of embodiment of the present invention. Figure 1 is a block diagram showing a circuit configuration. Figure 2 is a perspective view of the external configuration. Figure 3 is a drawing that shows an example of information stored in program memory. Figure 4 is a block diagram showing the details of the search circuit in Figure 1. Figure 5 is flow chart showing the operation of receiving program information. Figure 6 is a flow chart showing the details of the initial processing in Figure 5. Figure 7 is a flow chart showing the program search operation. Figure 8 is a drawing that shows a program menu display example. Figure 9 is a flow chart showing the flag rewriting processing for the program memory. Figure 10 is a drawing that shows an example of key operations for specifying and displaying various types of program lists. Figure 11 is a flow chart showing the processing operations for displaying a list of all programs to be broadcast in the future. Figure 12 is a flow chart showing the processing operations for displaying a list of programs for a specified date. Figure 13 is a flow chart showing the processing operations for displaying a summary list of programs of a specified type. Figure 14 is a flow chart showing the processing operations for displaying a list of programs of a specified

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channel. Figure 15 is a flow chart showing the processing operations for displaying a list of programs for a specified day of the week. Figure 16 is a flow chart showing the processing operations for displaying a list of programs currently on the air.

1 ··· television receiver housing, 2 ··· keyboard, 3 ··· CRT display unit, 4 ··· telephone placement area, 5 ··· telephone, 10 ··· television reception circuit, 11 ··· antenna, 12 ··· tuner, 13 ··· auto channel circuit, 14 ··· TV circuit, 15 ··· display switching circuit, 16 ··· program memory, 17 ··· search circuit, 18 ··· flag control circuit, 19 ··· clock circuit, 20 ··· character and pattern information system reception circuit, 21 ··· line control unit, 23 ··· modem, 24 ··· modem controller, 25 ··· videotex controller, 26 ··· display memory.

Agent for the applicant: Patent Attorney Suzue, Takehiko

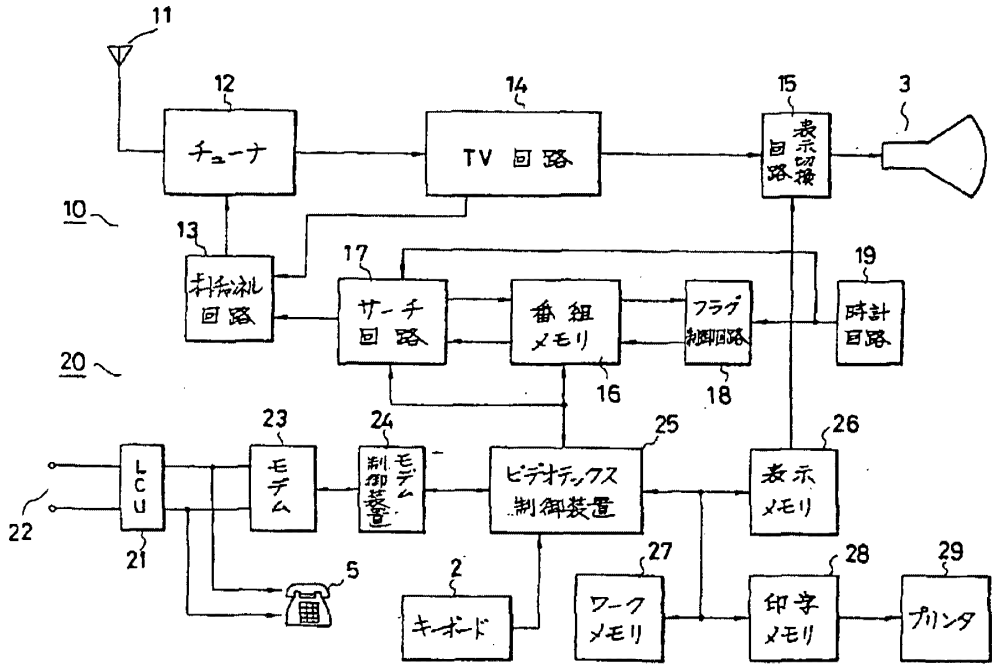

Figure 1

[captions]
2: Keyboard
12: Tuner
13: Auto channel circuit
14: TV circuit
15: Display switching circuit
16: Program memory
17: Search circuit
18: Flag control circuit
19: Clock circuit
23: Modem
24: Model controller
25: Videotex controller
26: Display memory
27: Work memory
28: Printing memory
29: Printer

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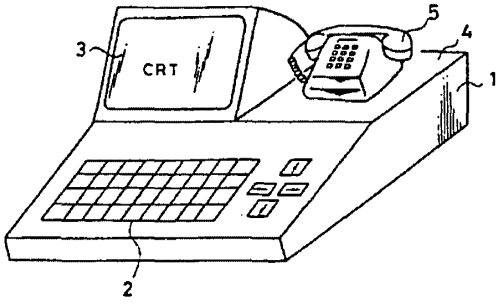

Figure 2

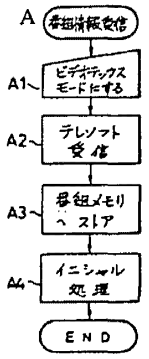

Figure 5

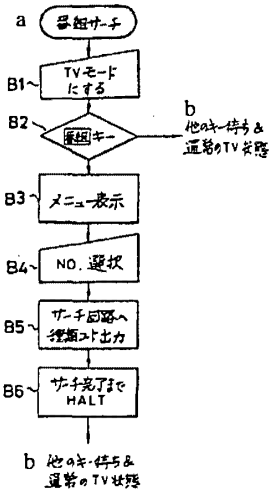

Figure 7

[captions]
[Figure 5]
A: Program information reception
A1: Select videotape mode
A2: Telesoft reception
A3: Sore in program memory
A4: Initial processing

[Figure 7]
a: Program search
b: Wait for other keys; normal TV mode
B1: Select TV mode
B2: Program key
B3: Menu display
B4: No. select
B5: Output type code to search circuit
B6: HALT until search completed

16

Date	Channel	Day of week	Start	End	Type	F_1	F_2	Program title
5/12	CH 1	SAT	6:00	6:15	News			
5/12	CH 1	SAT	6:15	6:45	Educational			
5/12	CH 1	SAT	6:45	7:20	News			
5/12	CH 1	SAT	7:20	7:25	Weather forecast			
⋮	⋮	⋮	⋮	⋮	⋮			⋮
5/12	CH 4	SAT	13:00	16:30	Baseball			
⋮	⋮	⋮	⋮	⋮	⋮			⋮
5/12	CH 6	SAT	19:00	19:30	Cartoons			
5/12	CH 6	SAT	19:30	20:00	Quizzes			

Figure 3

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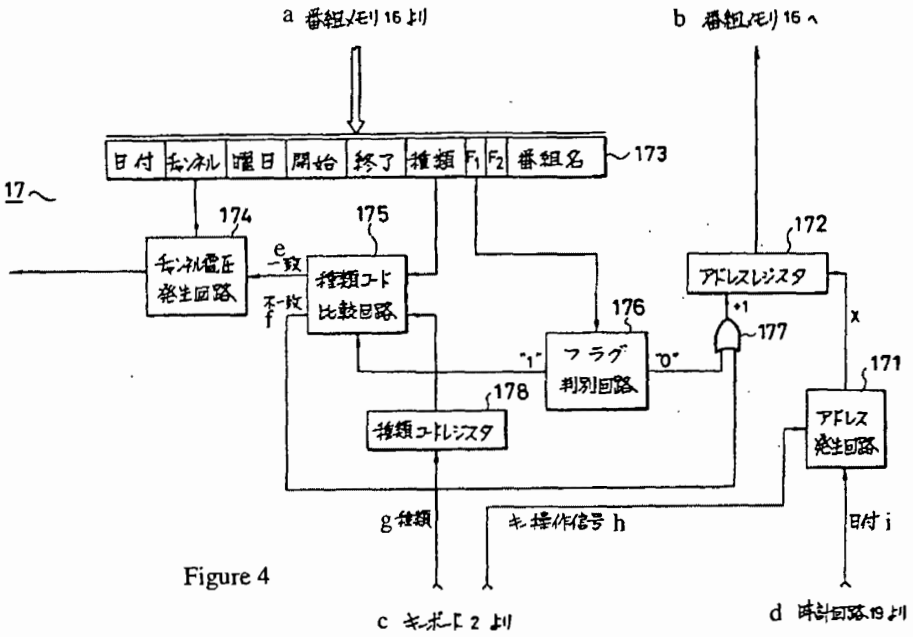

Figure 4

[captions]

a: From program memory 16
b: To program memory 16
c: From keyboard 2
d: From clock circuit 19
e: Match
f: No match
g: Type
h: Key operation signal
i: Date
171: Address generating circuit
172: Address register
174: Channel voltage generating circuit
175: Type code comparison circuit
176: Flag discrimination circuit
178: Type code register
173: Date | Channel | Day of week | Start | End | Type | F_1 | F_2 | Program title

Program menu

1 News	7 Drama
2 Weather forecast	8 Songs
3 Baseball	9 Cartoons
4 Sports	10 Quizzes
5 Films	11 Tabloid
6 Educational	12 Sketches

Figure 8

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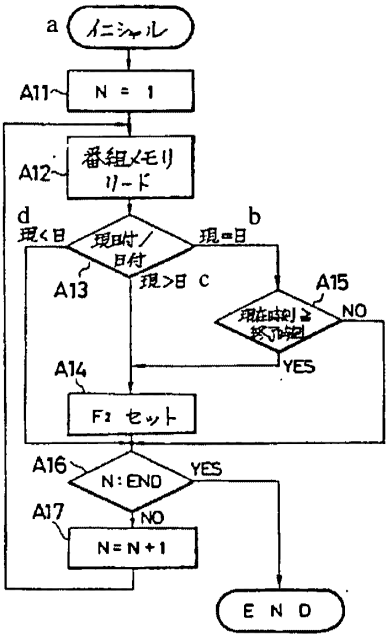

Figure 6

[captions]
a: Initial
b: Current = date
c: Current > date
d: Current < date
A12: Program memory read
A13: Current date / date
A14: Set F_2
A15: Current time ≥ end time

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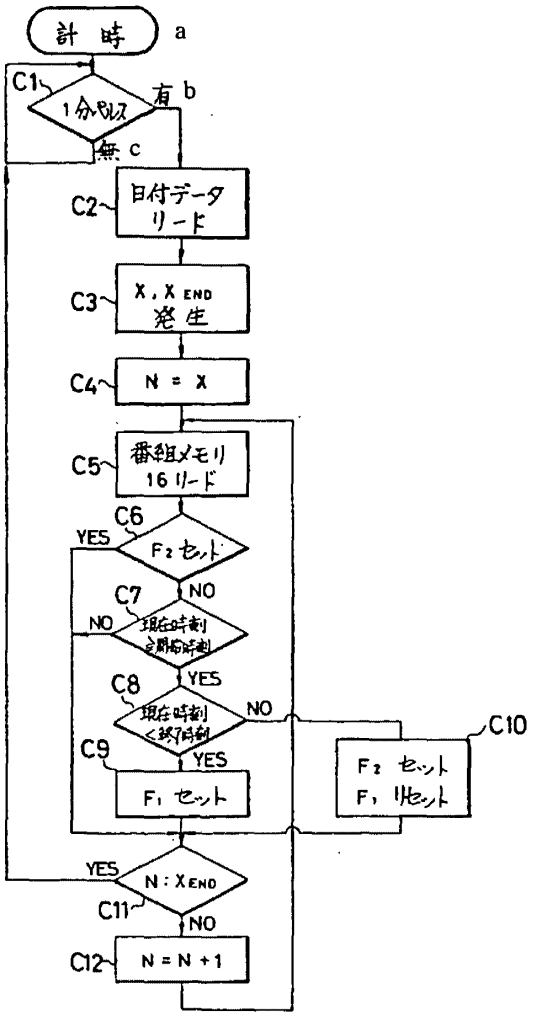

Figure 9

[captions]
a: Time
b: Present
c: Absent
C1: one-minute pulse
C2: Read date data
C3: Generate x, x_{END}
C5: Read program memory 16
C6: Set F_2
C7: Current time ≥ start time
C8: Current time < end time
C9: Set F_1
C10: Set F_2; Reset F_1

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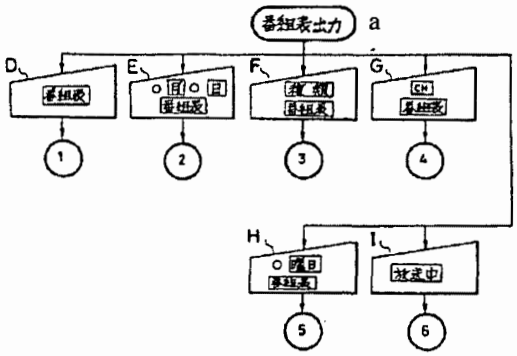

Figure 10

[captions]
a: Program list output
D: Program list
E: ○ Month ○ Day
Program list
F: Type
Program list
G: CH
Program list
H: ○ Day of week
Program list
I: On air

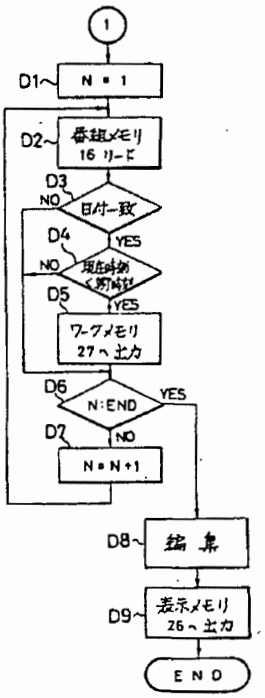

Figure 11

D2: Read program memory 16
D3: Dates match
D4: Current time < end time
D5: Output to work memory 27
D8: Edit
D9: Output to display memory 26

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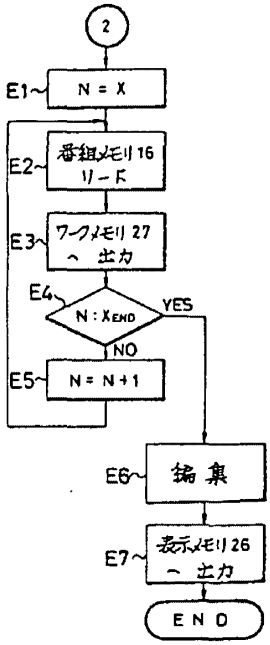

Figure 12

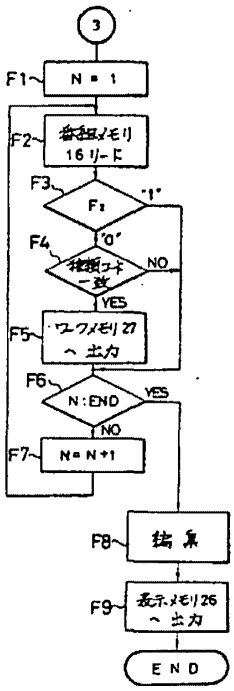

Figure 13

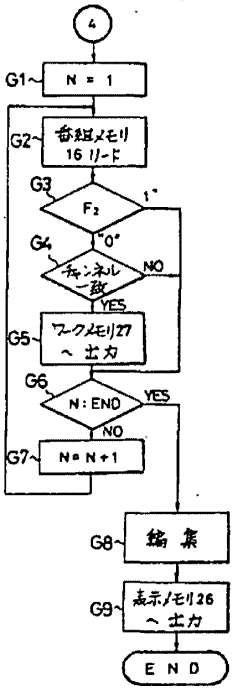

Figure 14

[captions]

E2: Read program memory 16
E3: Output to work memory 27
E6: Edit
E7: Output to display memory 26

F2: Read program memory 16
F4: Type codes match
F5: Output to work memory 27
F8: Edit
F9: Output to display memory 26

G2: Read program memory 16
G4: Channels match
G5: Output to work memory 27
G8: Edit
G9: Output to display memory 26

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/487,526	06/07/1995	JOHN C. HARVEY	5634.355	7792

21967 7590 07/30/2002

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EXAMINER	
HARVEY, DAVID E	
ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 07/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary

Application No.	Applicant(s)
08/487,526	Harvey et al.
Examiner	**Art Unit**
David E. Harvey	2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *May 6, 2002*

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *2-18, 20-30, 33-49, and 51-60* is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *2-18, 20-30, 33-49, and 51-60* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

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SECTION I: A *MOST* SIGNIFICANT ISSUE (CONTINUED)

(The pending amended claims are (at best) only entitled to the 9/11/87 filing date of the instant 1987 CIP specification. The following discussion has been provided to rebut applicant's arguments to the contrary submitted in the supplemental response filed 5/06/2002):

A) Given the way in which applicant elected to draft and file his instant 1987 CIP specification, it is impossible for one to determine with any degree of certainty as to what portion or portions, or indeed if any portion, of the subject matter from the 44 pages of applicant's past 1981 Parent specification was *actually* carried forward into the 557 pages of the instant 1987 CIP specification. The instant 1987 CIP specification unquestionably failed to incorporate the "1981 subject matter" of the past 1981 Parent specification via an "Incorporation by Reference." Likewise, the instant 1987 CIP specification unquestionably failed to incorporate the "1981 subject matter" of the past 1981 Parent specification by literally copying the past 1981 specification into the instant 1987 specification. In fact, based testimony made before the ITC, no conscious effort to carry the "1981 subject matter" forward into the instant 1987 CIP specification ever appears to have been made; i.e. being that applicant's counsel appears to have testified that he had to go back, e.g. in hindsight, to review the instant 1987 CIP disclosure to try to determine for himself whether the 1981 subject matter had been carried forward into the instant 1987 CIP specification. After completing this review, it was the counsel's stated *belief* that the 1981 subject matter of the 1981 parent somehow found its way into the instant 1987 CIP specification. However, applicant's counsel admitted that if the 1981 subject matter had indeed been carried forward, then its wording had been changed and this re-worded subject matter had been scattered throughout more than 500 plus pages of subsequently added new 1987 CIP text/teachings/"subject matter".

> **"To the extent -- and I'm unaware of any significant differences between the '490 patent [*the 44 pages of applicant's past 1981 Parent specification*] and the '277 patent [*the 557 pages of applicant's instant 1987 CIP specification*]. I haven't seen one, and I don't remember it. Certainly, I made an effort early on to determine whether or not the disclosures of the '490 patent made their way into the '277 and although they're spread around and sometimes stated a little bit differently, for all relevant purposes of this hearing, the '490 patent is expanded by the '277. Its certainly not inconsistent."**
> [Applicant counsel testimony before the ITC (1997 ITC LEXIS 307, *252)]

> **"There is at least one significant difference in the specifications of the '490 [*the 44 pages of the past 1981 Parent specification*] and '277 *[the 557 pages of the present 1987 CIP specification*] patents, viz. the fact that the '277 specification is more than ten times the length of the '490 specification. More over, assuming no inconsistencies between the two specifications, it is indisputable that the '277 specification contains a significant amount of material that was added to the disclosure of the '490 specification in 1987 (i.e. over 500 pages of text)."**
> [Administrative Law Judge Luckern's response to the applicant counsel testimony (1997 ITC LEXIS 307, *252)]

Administrative Law Judge Luckern also noted that applicant's counsel admitted during closing arguments that:

> **"the disclosure in the 24 columns of the '490 patent [*the 44 pages of the past 1981 parent specification*], <u>if indeed it is at all carried forward</u>, is interspersed among some 328 columns of the '277 patent [*the 557 pages of the instant 1987 CIP specification*]".** (emphasis added)
> 1997 ITC LEXIS 307, *252

After reading and comparing the 1987 and the 1981 specifications for himself, the current examiner believes that it is simply impossible for one to determine with any degree of certainty as to what portion or portions, or indeed if any portion, of the past 1981 Parent specification's 1981 subject matter was actually carried forward into the instant 1987 CIP specification. For this reason alone, the current examiner does not believe that applicant's currently pending amended claims, e.g. those which must necessarily derive their required section 112-1 support from the instant 1987 CIP specification, are entitled to the earlier filing date of the past 1981 Parent specification [i.e. until such time that applicant is able to show with a relative degree of certainty that the limitations of each pending amended claim, e.g. for which section 120 priority is alleged, is supported "solely" by 1981 subject matter that has been carried forward into the specification of the instant 1987 CIP specification (a daunting/impossible task given the state of affairs that has been created by applicant's own actions)].

> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application <u>only with respect to subject matter common to both applications</u>"** (emphasis added)
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"Any claim in a continuation-in-part application that is directed *solely* to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application."**
>
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 *and be the same invention as that disclosed in the later application."*** (emphasis added)
>
> *Kirschner*, 305 F.2d 897 (C.C.PA1962)

In an attempt to free himself of this daunting/impossible task, applicant adopts the erroneous position that his pending amended claims, all of which hail from the instant 1987 CIP specification, are entitled to the 1981 filing date of the past 1981 Parent specification even if the 1987 subject matter that is currently being recited does not represent "common subject matter" with respect to the 1981 subject matter of the past 1981 Parent specification. According to applicant's way of thinking, the only thing that applicant needs to do in order to obtain the earlier 1981 filing date for his pending amended claims is to show that each of his pending amended claims can be given different 1987 and 1981 claim interpretations which allows each claim to be supported, in parallel, by "different subject matter" from the two specification.

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim."** (emphasis added)
>
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]

> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the § 112 support from each application consists of 'common subject matter.'"**
> [see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

Applicant's position seems to be wrong.

> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications"** (emphasis added)
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"Any claim in a continuation-in-part application that is directed *solely* to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application."**
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 *and be the same invention as that disclosed in the later application.*"** (emphasis added)
> *Kirschner*, 305 F.2d 897 (C.C.PA1962)

B) Given the above, it is the examiner position that the "1987 inventions" that are currently described in the instant 1987 CIP specification and the "1981 inventions" that were previously described in the past 1981 Parent specification do not represent "common subject matter" are, for all intents and purposes, different inventions. It is therefor the examiner's position that the currently pending claims, which necessarily derive their required section 112-1 support from the "1987 inventions", are not entitled to the earlier

1981 filing date of the *different* "1981 inventions"; i.e. being that the subject matter of the past 1981 Parent specification, e.g. the *different* "1981 inventions", was not carried forward into the 1987 CIP specification as is required under section 120.

C) While applicant disagrees with the examiner's position that the "1987 inventions" are different from the "1981 inventions", applicant seems willing to acknowledge that the "1987 inventions" are in at least in some ways *enhanced and improved* versions of the 1981 inventions.

> **"In fact, both [the 1981 and 1987] specifications describe the inventions disclosed in the 1981 specification, although the 1987 specification contains many enhancements and improvements."**
> [see the last two lines on page 9 of applicant's supplemental response filed 5/6/02 in SN 08/470,571]

Because only the "enhanced and improved" 1987 versions of the 1981 inventions actually exist within the instant 1987 CIP specification, when citing section 112-1 support for the currently pending claims from the instant 1987 CIP disclosure, applicant's citations inevitably comprise "enhanced and improved" subject matter [1]. Applicant, however, takes the position that this fact is irrelevant to the issue of priority under section 120.

> **"The fact that the [section 112-1] support [that applicant] identified in the 1987 specification for a certain [claimed] features (or limitation) also happens to include additional features or details relating to the same underlying feature (or limitation) disclosed in the 1981 specification , does not mean that both specifications do not support the feature or limitation with similar and valid 'common subject matter' support."** [2]
> [lines 5-8 on page 10 of the supplemental response]

---

[1] The examiner notes that this fact is blatantly obvious whenever applicant attempts to specifically show alleged dual section 112-1 support for each claim limitation of any given pending amended claim [e.g. as is exemplified via Appendix A of the amendment filed 6/7/2000 in 08/470,571]

[2] Throughout the prosection history, applicant has maintained that "common subject matter" is not a real/actual requirement of section 120 but is instead a requirement that the examiner himself has created and imposed on the current applicant. It is not clear whether this quote reflects a departure from applicant 's past positions (?)

The examiner disagrees with applicant's "way of thinking" for at least the following reason:

1) Suppose that the currently pending claims had indeed been introduced into an application that comprised the past 1981 Parent specification; e.g. instead of the instant application having the instant 1987 CIP specification as is currently the case. In this situation, a potential infringer wishing to make and use one of the 1987 "enhanced and improved" versions of applicant's 1981 inventions would have to have made an "educated determination" as to whether or not the making and using of the "enhanced and improved" version of the 1981 invention infringes the claims in question (e.g. being that the 1981 specification did not describe such enhanced/improved inventions). In such a situation there is at least potential *wiggle room* for the potential infringer to have concluded/argued that such an "enhanced and improved" system does not infringe the claim in question; i.e. the issue is purely a matter of the potential infringer's judgement.

2) Now introduce these same claims into an application having the instant 1987 CIP specification. Now there is no question that the potential infringer would be infringing the claims if he made and used the "enhanced and improved" version of the 1981 inventions because the required section 112-1 support for these claims, e.g. as has been cited & acknowledged by applicant himself during the prosection of the CIP application, in fact comes from portions of the 1987 specification that explicitly describe the "enhancements and improvements" in question.

> **"The fact that the [section 112-1] support [that applicant] identified in the 1987 specification for a certain [claimed] features (or limitation) also happens to include additional features or details relating to the same underlying feature (or limitation) disclosed in the 1981 specification , does not mean that both specifications do not support the feature or limitation with similar and valid 'common subject matter' support."** [3]
> [lines 5-8 on page 10 of the supplemental response]

Thus, the wiggle room that exists when a given claim derives its section 112-1 support from the 1981 Patent specification evaporates when section 112-1 support

---

[3] Throughout the prosection history, applicant has maintained that "common subject matter" is not an actual requirement of section 120 but is instead an invalid requirement created and imposed on applicant by the current examiner. It is not clear whether or not this passage reflects a changed in applicant past position (?)

for the same claim is derived from the instant 1987 CIP specification; i.e. the issue is no longer purely a matter of judgment as had been the case with respect to the past 1981 Parent specification. From this, it is clear that applicant's pending amended claims take on a different scope/meaning depending on which of the 1987 and 1981 specifications you use as the basis for deriving section 112-1 support. Therefor, "different" 1981 and 1987 inventions are effectively being claimed by each of applicant's pending claims given the "different" 1981 and 1987 subject matter from the "different" 1981 and 1987 specifications which must serve to provide "different" 1981 and 1987 section 112-1 support for each claim.

3) From the above, it is clear why applicant's currently pending claims which depend on applicant's 1987 CIP specification are not entitled to the earlier filing date of the past 1981 Parent application. Specifically, the instant 1987 disclosure imposes very real modifications onto the meaning/scope of the currently pending amended claims in a way that was not supported by the past 1981 Parent specification as originally filed. [4] Allowing applicant to improperly use section 120 in this way, gives the applicant a way to retroactively modify the scope and meaning of pending claims via the specification of the subsequently filed CIP 1987, e.g. so as to eliminate "wiggle room" that was available to a potential infringers as of the 1981 filing date of the parent application, and yet improperly obtain a 1981 filing date for claims which have been modified to have such 1987 scopes/meanings.

4) So what in the law prevents applicant from improperly using section 120 in this fashion? As understood by the examiner, it is the fact that section 120 only entitles a claim in a later filed continuing application to the earlier filing date of a Parent if there is a "continuity of common subject matter" between the respective applications whereby this common subject matter defines precisely the "same claimed invention":

> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application *only with respect to subject matter common to both applications*"** [emphasis added]; [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

[4] This is because the "unmodified and unenhanced" 1981 subject matter described in the past 1981 Parent disclosure simply does not exist within the instant 1987 CIP disclosure; e.g. "common subject matter" does not exist between specification.

> **"Any claim in a continuation-in-part application that is directed solely to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application."**
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]
>
> **"Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 *and be the same invention as that disclosed in the later application.*"**
> (emphasis added)
> *Kirschner*, 305 F.2d 897 (C.C.PA1962)

D) In the first four lines on page 15 of the supplemental response filed 5/6/2002 in 08/470,571, applicant states:

> **"applicants further questioned [the examiner as to] why it would be necessary to incorporate the parent disclosure, by reference or in full-text format, if the subject matter of the parent application *is properly disclosed* in the CIP application in an integrated manner with the enhancements and improvements of the CIP application."** (emphasis added)

That depends on what applicant means by "*properly disclosed*." To applicant, "*properly disclosed*" does not require that the claims be supported by "common subject matter" found in both applications.

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim."**
> (emphasis added)
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]

In contrast, the examiner maintains that "*properly disclosed*" requires continuity of "common subject matter" between applications for that which is claimed. Being such, if there is any way by which current applicant can use the section 112-1 support that is actually available in the instant 1987 CIP disclosure to "properly" show that the currently pending claims are in fact directed "solely" to 1981 subject matter previously described in the past 1981 Parent specification, i.e. "common subject matter", then section 120 priority would be a "*given*". To date, applicant has been unable to provide such a showing. [5] Here, it is important to note that a direct path to such a "*proper*" showing would have been available to the current applicant had the *unenhanced/unimproved* subject matter from the past 1981 specification *actually* been incorporated into the instant specification in a distinct and discernible fashion. This is, in essence, the answer to the question that has been asked by applicant.

> **"applicants further questioned why it would be necessary to incorporate the parent disclosure, by reference or in full-text format"**
> [the first four lines on page 15 of the supplemental response filed 5/6/2002 in 08/470,571]

Specifically, any applicant wishing to draft a claim in a later filed CIP application that is going to be directed ***solely*** to "subject matter" found in an earlier filed Parent application, e.g. thereby allowing the drafted claim to obtain the benefit of section 120 priority, would be wise to incorporate said "subject matter" from the parent application into the CIP specification in a clear and undisputable fashion. Incorporating the Parent specification by reference, or by literally carrying it forward in a substantially identical "full-text format", are methods that are commonly used by applicant's for this purpose. And for obvious reasons, the need to "incorporate" the parent's subject matter in such a clear and undisputable fashion is especially true/"necessary" when the "subject matter" of the past parent disclosure is going to be extensively "re-worded", "enhanced", "improved" and "scattered" throughout vast quantities of new CIP added subject matter during its alleged migration to the specification of the subsequently filed CIP specification.

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[5] This is not a situation in which the "wording" that was used to described "common subject matter" has simply been changed between applications as applicant would now try to have one believe [note lines 7-11 on page 15 of the supplemental response filed in 08/470,571 on 5/6/02]. Instead, it is a situation in which "1981 inventions" from the 1981 specification were left behind at the time of filing the instant 1987 CIP specification in favor of the enhanced/improved/modified "1987 inventions" which are actually described within the instant 1987 CIP disclosure; a fact that is clearly self-evident whenever applicant attempts to specifically demonstrate "dual" 1987 and 1981 section 112-1 for that which is claimed [e.g. as is exemplified via Appendix A of the amendment filed 6/7/2000 in 08/470,571].

E) Applicant takes the position that he is allowed to use the "new subject matter" that is contained only within the instant 1987 CIP specification to fulfil the section 112-1 requirement for his pending claims and yet still obtain the earlier 1981 filing date of the 1981 Parent specification for these claims by alleging that some underlying principle or teaching from the 1981 specification is buried/embedded/hidden somewhere within the cited "new subject matter".

> **"The fact that the [section 112-1] support [that applicant] identified in the 1987 specification for a certain [claimed] features (or limitation) also happens to include additional features or details relating to the same underlying feature (or limitation) disclosed in the 1981 specification , does not mean that both specifications do not support the feature or limitation with similar and valid 'common subject matter' support."** [6]
> [lines 5-8 on page 10 of the supplemental response]

Here, applicant seems to suggest that it is "solely" alleged "underlying features" from the 1981 disclosure that are being claimed by the pending claim's recited limitations, even though the passages from the instant 1987 specification that must be cited by applicant, for the expressed purpose of providing the required section 112-1 support for the claim's limitations, necessarily comprise new/added 1987 subject matter that was introduced via the filing of the 1987 CIP specification. Apparently, it is applicant's position that the added/new 1987 subject matter contained within applicant's own citations of alleged section 112-1 support should be weeded out, discarded and/or ignored in order to allow the alleged underlying principles, ones that were allegedly carried forward from the past 1981 parent specification, to emerge therefrom (thereby allowing applicant's subsequently filed CIP claims to obtain the earlier 1981 filing date of the parent application).
The examiner thinks not!

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[6] The examiner notes that the fact applicant is relying on the new "enhanced/improved" subject from his 1987 CIP to provide section 112-1 support for the claim is self-evident whenever applicant attempts to specifically show the alleged "dual" section 112-1 support for a given claim's limitations via the different specifications [e.g. as is exemplified via Appendix A of the amendment filed 6/7/2000 in 08/470,571]

F) In lines 16-19 on page 15 of the supplemental amendment filed 5/6/2002 in 08/470,571, applicant boldly alleges:

> **"that incorporating the parent [specification], either by reference or in full-text format, into a CIP application that disclosed the subject matter of the parent in an integrated fashion does nothing more than add unnecessary duplicative content to the CIP application."**

The examiner notes the following:

1) If applicant is suggesting that this is the situation that currently exists between his instant 1987 CIP specification and his past 1981 Parent specification, then the examiner suggests that applicant make the attempt to formally incorporate his past 1981 parent specification into his current 1987 CIP specification either by reference or in said full-text format in order to resolve the priority issue once and for all. Applicant is, however, put on notice that any attempt to amendment the instant 1987 CIP specification in such a fashion will be vigorously objected to as introducing "NEW MATTER"; and

2) Given the present situation, having added a single a sentence to the 557 pages of text that comprise the 1987 CIP specification, stating that the 44 page specification of the past 1981 Parent application had been "Incorporated by Reference", hardly seems to fall within the realm of "add[ing] unnecessary duplicative content to the CIP application."

G) In lines 19-22 on page 15 of the supplemental amendment filed 5/6/2002 in 08/470,571, applicant alleges:

> **"applicant's have established in their prior submissions that all of the fundamental teachings of the 1981 disclosure were carried forward to the CIP application, albeit in an integrated fashion with many enhancements and improvements of the CIP application."**

The current examiner knows of no prior submission or submissions made by applicant which has "established", as fact, that *that* which is now claimed by applicant's currently pending amended claims is directed "solely" to "fundamental teachings" from applicant's past 1981 Parent disclosure which have allegedly been carried forward to the instant 1987 CIP specification. In fact, all attempts made by applicant to specifically identify the required section 112-1 support for the limitations of the currently pending amended claims

have instead "established", as fact, that *that* which is now claimed actually comprises ones the "many enhancements and improvements of the CIP application" that are not entitled to "priority" under section 120.

H) In lines 9-12 on page 10 of the supplemental response filed 5/06/2002 in SN 08/470,571, applicant states:

> **"The mere presence of the additional details and enhancement in the 1987 specification does not deprive applicant's of the 1981 priority date *unless the claim limitation or feature is only supported by such additional details and enhancements which are not found in the 1981 specification.* *See Kennecot,* 835 F.2d at 1422." (Emphasis added)**
> [Lines 9-12 on page 10 of applicant's supplemental response filed 5/6/02]

It is not clear how the cited case law, e.g. *Kennecot,* 835 F.2d at 1422, supports applicant's apparent position that a claim in a continuation-in-part application is entitled to the earlier filing date of a past parent application if only part of its required section 112-1 support comes from "new CIP subject matter" that was introduced via the filing of a CIP specification. This would suggest a situation in which the examiner could/should reject that portion of a pending claim's scope which is allegedly supported by the "New Matter" of a CIP via valid intervening "prior art" while, at the same time, allowing that portion of the same pending claim's "scope" that is directed "solely" to the subject matter of the Parent application to issue as a patent. Such a position does not make sense.

To the contrary, by claiming the benefit of section 120 priority for a given claim filed in a subsequently filed CIP application, an applicant is essentially "*pledging*" (e.g. putting everyone on notice) that the claim is directed "solely" to the subject matter that is found within the specification of the Parent application, and not to any of the "new subject matter" that has been introduced via the subsequently filed CIP. [7]
However, such a "pledge" must be supported by the CIP specification from which the claim depends. Namely, if a claim in a CIP application is going to be directed "solely" to the subject matter of a past parent application, then said subject matter of the past parent application must exist within said CIP specification being that the required section 112-1

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[7] That is, to determine the scope/meaning of the claim, one looks only to the subject matter of the parent application, which has been carried forward into the CIP application (i.e. *common subject matter*), to which the claim is necessarily "directed".

support for the claim must necessarily come from the instant CIP disclosure. Specifically, the subject matter of the parent that one wishes to claim must be carried forward from the parent specification into the CIP specification; hence the requirement of "common subject matter". However, given the current state of applicant's instant 1987 CIP specification, e.g. one in which past 1981 subject matter has been (at best) inseparably blended/modified with subsequently added new 1987 subject matter, it impossible for one to determine what of the past 1981 subject matter, if any, has been carried forward into the instant CIP disclosure. Being such, one cannot reasonably "*pledge*"/assume that a currently pending claim are (or even could be) directed solely to the past 1981 subject matter.

> **"The fact that the [section 112-1] support [that applicant] identified in the 1987 specification for a certain [claimed] features (or limitation) also happens to include additional features or details relating to the same underlying feature (or limitation) disclosed in the 1981 specification , does not mean that both specifications do not support the feature or limitation with similar and valid 'common subject matter' support."**
> [lines 5-8 on page 10 of the supplemental response]

Again, why should a pending claim having limitations that are directed to even a smudge of new 1987 subject matter be entitled to the earlier 1981 filing date of the Parent specification which did not disclose that smudge of new 1987 subject matter?

> **"Any claim in a continuation-in-part application that is directed solely to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application."**
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

I) In lines 3-7 on page 11 of the supplemental response filed 5/06/2002 in SN 08/470,571, applicant states:

> **"the starting point for determining whether an applicant is entitled to priority under section 120 is *what is being claimed.* Without identifying precisely what is being claimed, it is impossible to seriously undertake an analysis of whether sufficient support exists in both applications thus entitling applicants to a 1981 priority date".** [8]

The examiner is a bit surprised that applicant raises this issue after all of the section 112-1 requests which have been made by the Office throughout the present prosecution in hopes of getting applicant's clarification as to *precisely what it is* that applicant claims. In fact, the Office continues to struggle in its efforts to make such determinations for the 10,000 or so pending amended claims. In the past, when applicant has been asked to identify "*precisely what is being claimed*", applicant has declined [9] to provide such showings instead opting to take the positions:

> 1) That it is the examiner's job, not applicant's, to read and understand the 557 pages of applicant's current 1987 CIP specification in order to determine "precisely what it is being claimed" via applicant's 10,000 or so pending claims; and
>
> 2) That at least some of the limitations of applicant's 10,000 or so pending claims are actually directed to subject matter that is not described within in the instant 1987 CIP specification.
>
> **"the [examiner's] assumption that 'all limitations of the currently pending claims are necessarily directed to that which is described in the present 1987 disclosure' is mistaken and wholly unsupported."** [10]
>
> [lines 8-10 on page 144 of the amendment filed in 08/470,571 on 1/28/2002].

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[8] The examiner agrees with applicant's position noting that, without being able to identify precisely what it is that is being claimed, it is impossible to seriously undertake many other examining related activities too .

[9] A notable exception being the most helpful claim charts of alleged "dual" section 112 support which applicant has, only on a few occasions, been willing to kindly provide [e.g. APPENDIX A in the amendment filed 6/7/2000 in 08/470,571].

[10] Contrary to applicant's position, the examiner maintains that a pending claim must necessarily be directed to that which is described in the instant 1987 specification. This is not to say that the resulting scope of the pending claim is limited only to that of the 1987 specification to which it must necessarily be directed.

Because the claims are allegedly not directed to that which is described in the present 1987 specification, applicant does not wish to cite, or indeed is unable to cite, section 112-1 support from the instant CIP disclosure for these limitations [e.g. often times out of an expressed fear that a court, at some later date, might actually hold the scope/meaning of these limitations as being directed to subject matter that was actually disclosed within the instant 1987 CIP specification].

In regard to the section 112-1 issue that has now been raised by applicant, the following positions continue to be taken by the present examiner:

1) It has always been a desire of the Office to determine "precisely what it is" that applicant now claims. Being that it still remains so unclear as to "precisely what it is" that applicant now claims, clarification on the part of applicant is once again formally requested for the 10,000 or so pending claims. For the record, the current examiner has found applicant's claim charts of alleged "dual" section 112-1 support to be the most helpful form of aid that applicant has provided to date because it at least attempts to match each claimed limitation to the specific teachings in the specification(s) that they are allegedly directed. [11]

2) The examiner continues to adopt the positions expressed by Judge Luckern at the ITC:

a) "that the specification of the '277 patent [the 557 pages of the instant 1987 specification] is difficult to understand, as it is dealing with many possible systems";

b) "that despite complainant's [i.e. the current applicant's] attempts to point to the specification of the '277 patent [the 557 pages of the instant 1987 specification] as illustrative of some claim elements, said specification has not been helpful in connecting individual claim language to distinct statements in the specification of the '277 patent that is supposed to provide an explanation of the claimed systems in issue";

c) "that complainant's [i.e. the current applicant's] assertions in many instances of where support in the specification of the '277 patent [the 557 pages of the instant 1987 specification] can be found for claimed

[11] The process of showing a limitation-to-disclosure match for each limitation of each claim should be an easy task for applicant, if not a trivial one, being that the currently pending claims must be "*clearly anticipated*" by the teachings of applicant's instant disclosure.

elements 'reads like the directions to a treasure hunt. There's a piece here, there's a piece there, it's in there somewhere.'"; and

d) " that the specification of the '277 patent [the 557 pages of the instant 1987 specification] and the claims in issue 'are like ships passing in the night in the same ocean, but not necessarily sailing in the same direction.'"

[SEE: 1997 ITC Lexis 307, *258 (part I of II)]

The examiner again requests applicant's help in determining "precisely what it is" that applicant now claims.

J) When one actually attempts to compare the "1987 inventions" that are described in the instant 1987 CIP specification with the past "1981 inventions" previously described in prior 1981 Parent specification, one finds significant differences and "inconsistencies" between the 1987 and 1981 inventions at every level of the respective written descriptions:

1) One finds that the instant 1987 specification sets forth circuit configurations for the current 1987 inventions which differ from the circuit configurations of the past "1981 inventions" previously described in the prior 1981 specification;

2) One finds that the instant 1987 specification sets forth more advanced signaling structures and advanced processing thereof than was set forth for the past "1981 inventions" previously described in the prior 1981 specification;

3) One finds that while the instant 1987 specification provides circuit diagrams which include a significant number of "blocks" having labeling and numbering identical to respective "blocks" found within figures the 1981 specification, the instant 1987 specification nonetheless associates new/expanded/different functions and operations to the 1987 blocks as compared to those which were associated with the respective blocks of the past 1981 specification; and

4) Even at the most basic level, one finds that the definitions coined for terminology that is used throughout the instant 1987 disclosure in order to describe the "1987 inventions" is significantly different/inconsistent in both scope and meaning of definitions that are coined for this same terminology in the prior 1981 specification [i.e. meaning that similarly worded teachings found within the

respective 1987 and 1981 specifications can (and often do) have different scopes/meanings too].

K) In the last four lines on page 9 of the supplemental response, applicant takes the position that:

> **"[The examiner has] mistakenly assumed that the 1981 and 1987 specifications describe different and inconsistent inventions. In fact, both specifications describe the inventions disclosed in the 1981 specification, although the 1987 specification contains many enhancements and improvements."**

The examiner has "assumed" nothing of the kind. To the contrary, the examiner has made a significant effort to compare the disclosed "1987 inventions" with the disclosed "1981 inventions" in order to specifically identify the differences and inconsistencies that truly exist between them. In response to the examiner's efforts, applicant has simply alleged that it is wrong and improper for the examiner to make such comparisons:

> **"In fact, applicant's have found no cases addressing compliance with section 120 which suggests that the two disclosures identified to support a claim [e.g. from the 1981 and 1987] should or need be compared for similarity in any manner. Instead, the case law discussed above established that such comparison is unnecessary and indeed improper."**
> [lines 8-11 on page 4 of the supplemental response]

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim." (emphasis added)**
> [See page 141 of the response filed on 1/28/2002 in application S.N. 08/470,571]

Yet in almost the same breath, applicant is willing to make unsubstantiated allegations that his current 1987 CIP specification and his past 1981 specification do in fact: 1) describe

the "same invention"; 2) contain "common subject matter"; 3) have descriptions which are consistent with each other; etc,...
How in the world does applicant expect the examiner to refute or rebut such unsubstantiated allegations if the examiner is not allowed to compare the currently claimed 1987 subject matter from the instant 1987 specification with the 1981 subject matter from the past 1981 specification in order to show that the respective 1987 and 1981 disclosures do in fact: 1) describe "different invention"; 2) lack descriptions of "common subject matter"; 3) have descriptions that are "inconsistent" with each other; etc,... (?)

L) Applicant takes the position that his pending amended claims, e.g. claims which must derive their required section 112-1 support from the instant 1987 CIP specification, are entitled to the 1981 filing date of the 1981 specification provided that one cannot identify "inconsistencies" between the 1981 subject matter and the 1987 subject matter that are being claimed. This position is clearly rooted in applicant's belief that section 120 does not require "common subject matter" between specifications.

> **"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim." (emphasis added)**
>
> [See page 141 of the response filed on 1/28/2002 in application S.N. 08/470,571]

The examiner does not share in this belief. Applicant's pending claims are not entitled to 1981 filing date of the past 1981 Parent specification because the 1987 "subject matter" that is currently being claimed via the instant pending amended claims is not the same as the "subject matter" that was previously described in applicant's past 1981 Parent specification; i.e. the "subject matter" now being claimed does not represent "common subject matter" and does not constitute the "same invention" with respect to the subject matter that was actually described in applicant's past 1981 parent specification. Contrary to applicant, the examiner believes that "common subject matter" between applications is a very real requirement of section 120.

M) 35 USC 120 (reproduced):

> **35 USC 120: Benefit of earlier filing date in the United States.**
> **An application for a patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or terminations of proceedings on the first application or an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain specific reference to the earlier filed application.**

In the last 12 lines on page 3, applicant cites only a select portion of a passage found in *In re Kirschner*, 305 F.2d 897 (C.C.PA1962) as the "authority" for setting forth the requirements of section 120. The examiner notes that the "complete" passage reads:

> "**Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 and *be* the same invention as that disclosed in the later application. It does not require that the invention be described in the same way, or comply with section 112 in the same way , in both applications. And to determine what is the invention under consideration, one must be governed by the claims of the later application, because it is there one must look to determine what invention the "application for patent" referred to in the opening words of section 120 is for** " (emphasis added)

Thus, for a currently pending claim to be entitled to the earlier filing date of a parent application under section 120, applicant's own cited "authority" identifies **two** distinct requirements of section 120:

> 1) that "the invention" being claimed in the later filed CIP application must have been disclosed in the earlier filed Parent application in such manner so as to comply with the first paragraph of section 112; ***AND***.....

> 2) that said "invention", as disclosed in the parent application in a manner that complies with the first paragraph of section 112, **be the "same invention" as that which is disclosed in the later application.**

In *In re Kirschner*, all of the involved parties had accepted the fact that "the invention" being claimed by each of the appealed claims was a chemical compound, and all involved parties had accepted the fact that this claimed chemical compound had indeed been disclosed in the disclosure of the CIP and the in the disclosure of the Parent application for which section 120 priority was being sought. Thus, as emphasized by the court in this decision, no party had ever questioned the fact that the "same invention", e.g. the same disclosed compound, was being claimed with respect to both of the two disclosures (i.e. the second requirement cited above). Instead, the dispute over whether the appealed claims were entitled to section 120 priority pertained to the fact that different "utilities" for this "same claimed compound" had been disclosed in both the CIP and Parent disclosures. The court clearly reasoned that the "same invention" of the appealed claims was entitled to the earlier filing date of the parent application despite the differences in the respective "***disclosed utilities***" [12] for the ***compound*** being claimed.

In the present prosection, the current fact pattern is essentially opposite to that which was addressed in *In re Kirschner*. Specifically, in the current situation, different subject mater being claimed is being claimed with respect to the two specifications whereas, in some cited examples, it is the disclosed utility for the respectively disclosed/claimed subject matter that appears to be the same/similar (e.g. the "Wall Street Week" embodiment). Being such, it seems improper for applicant to suggest that the factual scenario in *In re Kirschner* is in any way similar to that found in the present prosection [note lines 20-21 on page 3 of said supplemental response].

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[12] The court noted:

> 1) that the pending claims were directed only to a "compound" that was adequately disclosed in both applications and did not recited a specific one of the different "*disclosed utilities*" that had been disclosed; and
>
> 2) that "compounds" have innate properties which inherently define all of their "utilities" and thus any "*disclosed utility*" in a given specification for a "compound", represents nothing more than a disclosed example of that compound's *inherent* "utilities".

The present applicant's pending claims are not directed to a "compound" having such innate properties.

N) One of the "enhancements and improvements" that was effected via the subsequent filing of instant 1987 CIP specification was a change made to the definition of the word "programming." Whereas the past 1981 Parent specification defined the terminology as referring to Television and Radio transmissions, the instant 1987 specification "improved and enhanced" the 1981 definition of "programming" to explicitly cover "all forms of electronic transmission" now explicitly including "computer programming", "broadcast print", etc,... (e.g. additions to the radio/TV transmission of the past 1981 definition).

> **"everything that is transmitted over television or radio intended for communication of entertainment or to instruct or inform";**
> ["programming" as defined in the past 1981 Parent specification]
>
> **"everything that is transmitted electronically to entertain, instruct, or inform including television, radio, broadcast print, computer programming, as well as combined medium programming".**
> ["programming" as defined in the instant 1987 CIP specification]

Thus, whereas a potential infringer might have reasonably argued that any claim which derives its required section 112-1 support from the past 1981 specification cannot be fairly read on subject matter outside the Television and Radio transmission arts given the 1981 definition of "programming" (e.g. that these claims cannot be fairly read on computer software/programming transmissions), the wiggle room for such arguments has been effectively eliminated when the identically worded claims derive their required section 112-1 support from the instant 1987 CIP specification instead; i.e. being that the 1987 specification replaces the 1981 definition of "programming" with the new "improved and enhanced" 1987 definition of "programming" which has been expanded to explicitly covers "all forms of electronic transmission" including, i.e. explicitly, said "computer programming" transmissions. [13]

> **Why should any applicant be allowed to improve/enhance/redefine the subject matter that is being recited by a given claim using new subject**

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[13] The examiner maintains that the differences in the respective 1981 and 1987 definitions of "programming":

1) represent real differences in the respective "properties" of the different kinds of "signaling" that made up the respective 1987 and 1981 subject matter; and

2) are not simply different statements of "*disclosed utilities*" as applicant might try to allege in the future.

(e.g. once again, the 1987 SPAM-type signaling subject matter that is necessarily being claimed by the pending claims is explicitly inclusive of "computer software/programming" whereas the 1981 signaling subject matter was not).

matter that was added via a subsequently filed CIP specification, e.g. in order to tighten the noose on existing potential infringers and/or to cast a wider net to ensnare new potential infringers, and still be entitled to the earlier filing date of a past un-incorporated 1981 Parent specification that did not contain this improved/enhanced/redefined subject matter?
The short answer to this question is: NOT!

The point being that applicant had every right to draft a claim based on his past 1981 parent specification which contained the 1981 definition of "programming" and to take the position that a fair reading of the 1981 "programming" terminology, e.g. in the context of said past 1981 parent specification, encompassed "computer programming" transmission too; i.e. such an "argument" being necessary in view that that 1981 definition of "programming" did not include "computer programming". Instead, applicant elected to draft a new CIP specification which modified the definition of "programming" to explicitly include "computer programming" thereby eliminating any question that the fair reading of "programming", in the context of the new 1987 CIP, now encompasses "computer programming". Again, the examiner asks:

Why should any applicant be allowed to improve/enhance/redefine the subject matter that is being recited by a given claim using new subject matter that was added via a subsequently filed CIP specification, e.g. in order to tighten the noose on existing potential infringers and/or to cast a wider net to ensnare new potential infringers, and still be entitled to the earlier filing date of a past un-incorporated 1981 Parent specification that did not contain this improved/enhanced/redefined subject matter?

(*E.G. Why does applicant believe that his new 1987 definition of "programming" should be entitled to the 1981 filing date of the old 1981 "programming" definition which it replaced?; Why should applicant's "1987 inventions", which have been re-defined by the new 1987 definition of "programming", be entitled to the 1981 filing date of "past 1981 inventions" which were defined by the past 1981 definition of "programming?"; etc,...)*

O) In lines 20-26 on page 17 of the supplemental response filed 5/6/2002, applicant now alleges that the past 1981 Parent specification "implicitly" taught the downloading of "computer programming" (i.e. computer *software*).

> **"To the contrary, the 1981 definition [of "programming"] implicitly includes, and the 1987 definition [of "programming"] explicitly includes, computer programming in the definition".**

Even if this erroneous allegation were true, it still would be insufficient to establish a 1981 date for the 1987 "computer programming" feature because that which is "implied" by the 1981 specification is irrelevant to section 112-1 issues. To establish section 112-1 support for a given feature, the alleged feature must at least be "inherent" to the specification in question (i.e. it must be there). Thus, applicant's current allegation confirms the position held by the examiner that applicant's 1981 specification does not provide section 112-1 support for recitations directed to "computer programming/software."

P) As noted above, applicant alleges that his past 1981 Parent specification "implicitly" taught the downloading of "computer programming" (i.e. computer *software*).

> **"To the contrary, the 1981 definition [of "programming"] implicitly includes, and the 1987 definition [of "programming"] explicitly includes, computer programming in the definition".**

The examiner disagrees with applicant's allegation itself.
To create support for the erroneous allegation, applicant attempts weave together a tapestry of "engineered" teachings and definitions:

1) Applicant falsely asserts that the past 1981 Parent specification literally used the term "programming" to refer to the "instruction signals" that were communicated through the TV/RADIO networks of its disclosed "1981 inventions";

2) Applicant notes that the "instruction signals" of the past 1981 specification were described as comprising signals which instructed ***preprogrammed*** microcomputers to perform given tasks;

3) Applicant cites an outside *Dictionary* definition of the term "program" to show that the term "program" was conventionally used to refer to "computer programming/software"; and

4) Finally, applicant argues that when one combines the above "engineered" teachings from his past 1981 Parent specification together, based on the cited *Dictionary* definition of "program", one "implicitly" arrives at the cited *Dictionary* definition of "program."

Unfortunately, for a variety of reasons, the tapestry woven by applicant falls apart at the slightest touch:

1) When one actually looks at the way in which the 1981 "programming" terminology was coined and used throughout applicant's past 1981 Parent specification, i.e. the context in which it actually appears, one finds that the 1981 "programming" terminology unquestionably referred to signaling which represented scheduled TV/Radio shows (and not to "computer software" as applicant wishfully alleges). In this regard, one finds that applicant's past 1981 Parent specification clearly distinguishes the 1981 "instruct signals" from the 1981 "programming" into which said 1981 "instuct signals" were embedded. Specifically, the past 1981 parent specification leaves absolutely no doubt that said 1981 "instruct signals" constituted ancillary/auxiliary signaling that was "associated" with, and "embedded" within, respective 1981 TV/Radio "programming".

> **"One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the can duplicate the operation of a television studio automatically through the use of instructions and information signals embedded in programming either supplied from a remote source or sources or prerecorded"** (emphasis added)
> [lines 32-37 of column 3] [14]

> **"Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and pass them, along with information identifying the channel source of each signal, externally to code reader, 72."** (emphasis added)
> [lines 3-7 of column 11]

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[14] Citations have been obtained from US Patent #4,694,490.

"The cable head end facility contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from the programing as required, and signal generators, 82, 86, and 90, also known in the art, that controller/computer, 73, can instruct to add signals to programming as required"
[lines 36-42 of column 12]

"One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programing that are conventionally recorded by, for example, conventional video recorders, ..."
[lines 25-29 of column 16]

"Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by Passing Instructions and Information Signal that are Embedded in Television and Radio Programing Transmissions to Such External Equipment" (emphasis added)
[Lines 34-38 of column 17]

"Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programing transmissions" (emphasis added)
[lines 39-41 of column 17]

"Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission....These [embedded instruction] signals instruct microcomputer, 205, to generate several video graphic overlays..." (emphasis added)
[lines 42-49 of column 19]

"At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission" (emphasis added)
[lines 60-63 of column 19]

Given the above, it seems ridiculous for applicant to suggest that the term "programming", e.g. in the context of the past 1981 specification", ever referred to "computer software" (or even to applicant's 1981 "instruct signals").

2) It is also quite clear from applicant's 1981 past parent specification that the "microcomputers" on the receiver side of the disclosed 1981 inventions were "***preprogrammed***" with the "computer programming/software" which told then *how to respond* to detected "instruct signals" that were embedded within received TV/Radio "programming." More specifically, it seems quite apparent that each of the 1981 "instruct signals" of applicant's 1981 inventions represented typical cuing signals/commands which instructed/triggered "**preprogrammed**" microcomputers to execute respective portions of preprogrammed software in order to perform predefined task/operation (e.g. the 1981 "instruct signals" told the 1981 microcomputers "to generate the overlay" whereas the pre-loaded 1981 computer programming/software told said 1981 microcomputers "how to generate the overlay that was to be generated").[15]

> **"Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission....These [embedded instruction] signals instruct microcomputer, 205, to generate several video graphic overlays..."** (emphasis added)
> [lines 42-49 of column 19]

Clearly, contrary to applicant's erroneous allegations, there is no teaching in applicant's past 1981 specification indicates that applicant's 1981 "instruct signals" represented "computer software/programming" in any conventional sense of such terminology.

3) The past 1981 parent specification does not offer/provide a signaling mechanism and/or structure which would have been capable of handling the large continuous sequence of data bytes required to push "computer software" through TV and/or Radio networks. Such a signaling mechanism and structure was not provided until "SPAM" packeting was introduced via applicant's subsequently filed instant 1987 CIP specification. Thus, applicant's past 1981 parent specification was not enabling of the alleged "computer programming/software" feature (i.e. the alleged "computer programming/software" feature that the past 1981 specification did not even describe/disclose).

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[15] This being even more apparent when one reads the teaching of applicant's past 1981 Parent specification in light of the "enhanced and improved" teachings of applicant's 1987 CIP specification.

Q) On page 150 of the amendment filed 1/28/2002 in 08/470,571, applicant states:

> **"The 1981 specification states:**
>
> > **It is the object of this invention to unlock this potential by the development of means and methods which permit programming to communicate with equipment that is external to television receivers and radio receivers, particularly computers and computer peripherals such as printers**
> >
> > **1981 Spec., Col. 1, ll.36-41**
>
> **Thus applicants' 1981 specification makes it clear that 'programming' is not just TV and Radio shows- it can also include instructions, codes, and signals that are communicated to and control e.g., computers and computer peripherals. <u>These instructions, codes, and signals clearly fall within the definition of programming and to find otherwise is to conveniently and purposefully overlook the entire purpose of the invention.</u>"** (emphasis added)

The examiner disagrees. In reading the 1981 Specification, it seems that "**the *entire* purpose**" [16] to which applicant refers was the ability to provide multimedia presentations in which TV or Radio "programming" was be displayed with another supplemental media presentation; wherein the content of the supplemental media presentation was related to the content TV and Radio "programming" thereby *enhancing* the content of the displayed TV and Radio "programming". To achieve this goal, ancillary "instruct signals" and/or other ancillary "information signals" were "associated" with, and "embedded" within, the TV or Radio "programming." These embedded "instruct and information signals" allowed the TV and Radio *programming* "to communicate" with equipment that was external to the TV and Radio receivers in order to produce the supplemental media presentation. Specifically, the associated "instruct and information signals", which were embedded within the Radio or TV "programming", were themselves communicated to the external equipment by the "programming" thereby causing the external equipment to produce said supplemental media presentations. Being such, it is still crystal clear to the examiner that the 1981 "programming" terminology was used in a conventional sense by the 1981 specification so as to refer to TV and Radio signaling which represented scheduled TV

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[16] The examiner notes that applicant's 1981 inventions appear to serve many purposes. Therefor, the examiner does not believe that "the invention" of applicant's 1981 specification has one "entire purpose" as is now alleged by applicant; i.e. if it does have one "entire purpose", then it is not clear to the examiner what that "entire purpose" actually is.

and Radio shows. To suggest otherwise is to conveniently and purposefully ignore the fact that applicant's 1981 specification clearly distinguished the associated "instruct and information signals" from said "programming" into which these associated "instruct and information signals" were actually embedded:

> **"One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the can duplicate the operation of a television studio automatically through the use of instructions and information signals embedded in programing either supplied from a remote source or sources or prerecorded"** (emphasis added)
> [lines 32-37 of column 3][17]
>
> **"Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and pass them, along with information identifying the channel source of each signal, externally to code reader, 72."** (emphasis added)
> [lines 3-7 of column 11]
>
> **"The cable head end facility contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from the programing as required, and signal generators, 82, 86, and 90, also known in the art, that controller/computer, 73, can instruct to add signals to programing as required"** (emphasis added)
> [lines 36-42 of column 12]
>
> **"One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programing that are conventionally recorded by, for example, conventional video recorders, ..."** (emphasis added)
> [lines 25-29 of column 16]
>
> **"Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by Passing Instructions and Information Signal that are Embedded in Television and Radio Programing Transmissions to Such External Equipment"** (emphasis added) [Lines 34-38 of column 17]

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[17] Citations have been obtained from US Patent #4,694,490.

> **"Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programing transmissions"** (emphasis added)
> [lines 39-41 of column 17]
>
> **"Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission....These [embedded instruction] signals instruct microcomputer, 205, to generate several video graphic overlays..."** (emphasis added)
> [lines 42-49 of column 19]
>
> **"At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission"** (emphasis added)
> [lines 60-63 of column 19]

R) When it comes to the Section 120 priority issue, applicant alleges that the "common subject matter" requirement is one that the instant examiner has created.

> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the § 112 support from each application consists of 'common subject matter.'" (emphasis added)**
> [see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

Applicant's allegation seems to be betrayed within the current record by applicant's own cited "authorities." For example:

a) In the second paragraph on page 27 of the Appeal Brief filed on 9/17/96 in SN 08/113,329, applicant quotes from a Board of Appeals decision:

> **"Rather, all that is required to preserve an effective filing date as to common subject matter is copendency or a continuous chain of copendency"** [emphasis added];

b) In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]:

> **"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications"** [emphasis added];
>
> and
>
> **"Any claim in a continuation-in-part application that is directed solely to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application. However, if a claim in a continuation-in-part application recites a feature which was not disclosed or adequately supported by a proper disclosure under section 112 in the parent application, but was introduced first or adequately supported in the continuation-in-part application such a claim is entitled only to the filing date of the continuation-in-part application."**

Looking at the claim charts that have been submitted by applicant in the past, it is quite evident that "common subject matter" between the 1987 and 1981 application is not being claimed; e.g. assuming that it is even disclosed. For example, the claim charts in question show that the 1987 scope/meaning for limitations found within all of the currently pending amended claims are based on 1987 subject matter (e.g. "SPAM") that was first introduced via the filing of the 1987 CIP specification.

The examiner also finds it interesting that applicant does not believe in the necessity of "common subject matter", and yet, on page 137 of the amendment filed 1/28/2002 in SN 08/470,571, cites *Studiengesellscchaft Kohble v. Shell Oil Co.*, 112F.3d 1561 for the following quote:

> **"In other words, a claim complies with section 120 and acquires an earlier filing date if, and only if, it could be added to an earlier application without introducing new matter"**

Given the new and expanded 1987 scopes and meanings that are necessarily imparted to the pending amended claims by the instant disclosure via section

112, the currently pending amended claims would most certainly have introduced "New Matter" into the 1981 disclosure if added to the 1981 disclosure given their present 1987 scopes/meanings. Specifically, 1987 teachings that only exist within the instant "1987" disclosure necessarily contribute to the scope/meaning that must now be given to the limitations of the currently pending amended claims and thus, there is simply no way that these claim limitations can be interpreted as being limited **solely** to subject matter which was adequately disclosed in the 1981 parent application" via all of the requirements of section 112. And if the claims are not supported solely by the subject matter of the 1981 application, e.g. if there scope/meaning is at all modified and/or expanded by subject matter that is found only within the instant 1987 disclosure **from which section 112 support must necessarily be derived,** then they are not entitled to the 1981 filing data.
Clearly, the pending amended claim are not entitled to the 1981 filing date!

S) Applicant erroneously believes that his currently pending amended claims are entitled to §120 "priority" of his past 1981 parent specification even if they are not directed to "common subject matter." [18] According to applicant, applicant's pending amended claims are entitled to §120 "priority" even when said claims are directed to "different 1987 and 1981 subject matter" [19], provided that this different 1987 and 1981 subject matter provides "separate" (i.e. even different) 1987 and 1981 section 112 support for each of the pending claims' limitations.

> **"[§] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each**

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[18] That is: that the currently pending claims derive section 112 support based on 1981 subject matter found in the past 1981 parent specification which has been carried forward into the instant 1987 CIP specification in the form of "common subject matter".

[19] As opposed to the same *subject matter* that is "common" to both specifications.

> **disclosure meets the requirements of §112-1 for a given claim."** (emphasis added)
> [See page 141 of the response filed on 1/28/2002 in application S.N. 08/470,571]
>
> **"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the § 112 support from each application consists of 'common subject matter.'"**
> [see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

Applicant's belief does not make sense because, in applicant's world, one could obtain the benefit of an earlier filing date for a later filed invention using nothing more than *inventive/creative* claim construction: e.g.

> 1) One could disclose only "*Invention B*" in a CIP application that was very different from "*Invention A*" that was disclosed in an earlier filed Parent application; and
>
> 2) Yet obtain the earlier filing date of "*Invention A*" for "*Invention B*" by carefully crafting claims in the CIP application to have quasi-generic limitations that can be separately/differently read on "*Invention A*" and "*Invention B*" in order to obtain different/separate section 112 support therefrom.

Because such a belief does not make sense, when challenged, applicant modifies his belief to include an additional requirement; namely, that the different/separate showings of section 112 support provided by the respective 1987 CIP and 1981 Parent specifications cannot be "inconsistent" with each other. The examiner agrees with applicant's modified belief, however, the examiner disagrees as to what constitutes a "fatal inconsistency":

> 1) According to applicant, in order for 1987 and 1981 subject matter to be "inconsistent" with each other, the 1987 and 1981 subject matter must comprise respective 1987 and 1981 features/teachings that contradict each other and are therefor mutually exclusive; whereas
>
> 2) The examiner believes that the respective 1987 and 1981 subject matter are "inconsistent" with each other anytime the 1987 specification imparts a scope/meaning to the "subject matter" that is being claimed that is different from the scope/meaning that would have been imparted to the claimed "subject matter"

via the 1981 specification had the same claim been introduced into the past parent application instead of the instant CIP (e.g. the specifications are inconsistent whenever "common subject matter" is not being claimed).

Again, why should any of applicant's currently pending claims ever be given an a claim interpretation that is "enhanced/improved" via the "enhanced/improved" subject matter of applicant's 1987 CIP specification, and yet obtain the 1981 filing date of the past 1981 Parent specification for this "enhanced/improved" interpretation?

T) Clearly, it would be improper for applicant to use the "new" and "expanded" disclosure of his the 1987 CIP:

1) to expand and/or modify the teachings which were originally conveyed by the disclosure of his 1981 parent application;

2) to draft new amended claims based on these "new", "expanded", and/or "modified" teachings of the 1987 CIP disclosure so as to impart the "new" and "expanded" 1987 scope and meaning to the newly drafted amended claims; and then

3) to allege that the amended claims, having the "new" and "expanded" 1987 scopes and meanings, are entitled to the 1981 priority of the originally filed parent disclosure which does not support these "new" and "expanded" 1987 scopes and meanings.

And yet that is precisely what applicant is attempting to do by alleging a 1981 filing date for the currently pending amended claims which necessarily derive their required section 112 support from subject matter that is only contained within the 557 pages of applicant's new and expanded "*1987*" instant disclosure.

U) The examiner has never taken the position that applicant's currently pending amended claims should be viewed as being "limited" to one or more of the "embodiments of alleged invention" that are now described in applicant's instant 1987 CIP specification. Clearly, they are not "limited" in this way.

Instead, it is the examiner's understanding that applicant's currently pending claims must be"directed" to "subject matter" that was described in applicant's 1987 CIP specification whereby the "subject matter" that is described in the

specification effectively defines the metes and bounds of the claims' limitations that are directed to it (e.g. the broadest reasonable interpretation that cam be given to a claim). Being that the described "subject mater" of the specification will necessarily include descriptions pertaining to one or more embodiments of alleged invention described therein, if one were to "improve and enhance" the embodiments of the alleged invention described therein, one would clearly be at risk of "improving and enhancing" the subject matter that is being claimed too.

In claiming "priority" under section 120 for the instant claims, applicant is effectively alleging that his instant claims are directed to "subject matter" from the past 1981 parent specification that has been untouched by the filing of the CIP application; i.e. that the pending claims are reciting "subject matter" from the past parent specification that has not been "improved"/"enhanced"/changed by the teachings that have been introduced via the filing of the CIP specification. While applicant alleges this to be true, applicant has been unable to support such allegation with hard evidence (e.g. citations of section 112-1 support from the instant 1987 CIP specification which show that the "subject matter" being claimed has not been "improved"/"enhanced"/changed by CIP introduced teachings). To the contrary, all of the evidence of record shows that the instant claims are directed to "subject matter" from the instant 1987 CIP specification that has been "improved and enhanced" during its alleged migration into the instant 1987 CIP specification from the past 1981 Parent specification. Namely, when attempting to find section 112 support for the claims, applicant has been unable to cited descriptions of the claimed "subject matter" from the 1987 CIP specification that are not permeated with CIP introduced "new matter." Applicant argues that this CIP introduced "new matter" should be ignored under section 120 for the sake of some "***higher goal***" [20]. Again, the examiner thinks not..

V) Given the discussion set forth in part "S)" above, the examiner maintains that the 1987 subject matter of applicant's instant 1987 CIP specification is "inconsistent" with the 1981 subject matter of applicant's past parent specification because the 1987 CIP specification has introduced 1987 "enhancements and improvements" which effect the scope and meaning of everything that is disclosed in the 1987 CIP specification. Specifically, it is the examiner's position that applicant cannot draft a claim based on the current 1987 CIP

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[20] The "higher goal" being the grab for the 1981 filing date of applicant's past parent specification for the enhanced/improved "1987 subject matter" that is clearly currently being claimed.

specification whose scope/meaning has not been modified via the "new subject matter" of the subsequently filed CIP application. The following examples of such "inconsistencies" are hereby noted:

1) On page 149 of the response filed 1/28/2002 in SN 08/470,571, applicant now acknowledges the fact that the same "programming" terminology was defined differently within the respective 1981 and the 1987 disclosures. Specifically:

a) The disclosure of the 1981 parent application, which was not carried forward into the instant 1987 CIP disclosure, defined the "programming" terminology to mean:

"Everything that is transmitted over television or radio intended for communication of entertainment or to instruct or inform"; whereas

b) The instant 1987 CIP disclosure defined this same "programming" term to mean :

"Everything that is transmitted electronically to entertain, instruct, or inform including television, radio, broadcast print, computer programming, as well as combined medium programming".

Amazingly, applicant now alleges that the scope/meaning that is respectively imparted to the same "Programming" terminology by these different definitions is the same. In fact, applicant alleges that the only differences that exists between the 1981 and 1987 "programming" definitions are ones that the instant examiner has supposedly created [see page 149 of the response filed 1/28/2002 in SN 08/470,571]. Who is applicant kidding?
Clearly, the 1981 definition defines the "programming" terminology as being Radio and TV transmissions, while the 1987 disclosure expands the definition be "everything that is transmitted electronically." [21] And,

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[21] In fact, the 1987 definition not only expands the "programming" terminology to mean "everything transmitted electronically", but this 1987 expanded "programming" definition explicitly adds "computer programming", "broadcast print", and "combined medium programming" to the "television and radio transmissions" which made up the 1981 "programming" definition.

contrary to applicant's current accusation, the examiner was not present and played no part in creating or incorporating these vastly different 1981 and 1987 "programming" definitions into applicant's respective 1981 and 1987 disclosures.

While applicant can avoid literally using the "programming" terminology itself in the currently pending amended claims, the "expanded" 1987 definition of the "programming" terminology nonetheless continues to impart its expanded scope and meaning onto all of the 1987 disclosures that are described in terms of this expanded 1987 "programming" definition. And thus, in a like manner, these expanded 1987 disclosures continue to impart expanded 1987 scopes and meanings onto the limitations of the currently pending amended claims which necessarily derive required section 112 support therefrom. And being that the "programming" terminology does not constitute "common subject matter" between 1981 and 1987 disclosures, as is evident from its vastly different 1987 and 1981 definitions, it too refutes applicant's current claim to the 1981 date.

As is evidenced above, the instant 1987 disclosure explicitly defines and uses the "programming" terminology in a way that is vastly different both in scope and meaning from the way that this the same "programming" terminology was previously defined and used within the disclosure of the 1981 parent:

> **Evidencing the fact that one cannot assume that the terminology shared by the respective 1981 and 1987 disclosure is indicative of "common subject matter."**

2) The "instruct signals" of applicant's 1987 specification comprised computer software/programming whereas the "instruct signals" of applicant's 1981 specification did not comprise computer software/programming:

> **Also evidencing the fact that one cannot assume that the terminology shared by the respective 1981 and 1987 disclosure is indicative of "common subject matter."**

3) While the "inconsistent" use/scope/meaning of the "programming" and "instruct signal" terminology between 1987 and 1981 applications is self-evident, the inconsistent use of other shared terminology is less conspicuous. The term "signal word" represents but just one example of the more subtle inconsistencies that exist between the 1981 and the 1987 disclosures.

The 1981 inventions of the 1981 specification were described as having distributed discrete digital information, in the form of "signal units", from a transmitter site to a plurality of receiver as ancillary data embedded within TV and Radio transmissions. To transmit these "signal units", the bits from one or more of the "signal units" were organized into one or more discrete strings of bits. Each of these discrete bit strings was then embedded, at a respective discrete time and/or location, within the transmitted TV or radio programming as a "signal word". Specifically, as defined by the 1981 specification, each "signal word" represented a respective occurrence/"appearance" of ancillary signaling within the distributed programming:

> **"The term 'signal word' hereinafter means one full discrete appearance of a signal as embedded at one of time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial and whole signal units or combinations"** [22]
> [note lines 3-12 of column 3 in US Patent #4,694,490]

Although this 1981 definition of the "signal word" terminology has literally been carried forward into the instant 1987, it appears to have been carried forward only in a "cosmetic" sense. For while the 1987 disclosure includes a statement which indicates that the "signal word" terminology

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[22] "The term 'signal units' hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programing unit, or a unique purchase order number identifying the prior use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission." [note: lines 64-68 of column 2 and lines 1-3 of column 3 in US Patent #4,694,490; and lines 25-32 of the instant disclosure]

will be used throughout the 1987 disclosure in the same manner as it was used throughout the 1981 parent disclosure [see the last 10 lines on page 14 of the instant disclosure], in practice, this statement is false and wholly untrue. To the contrary, in much to most to all of the remaining portion of the instant 1987, the term "signal word" is not used for the so stated/coined purpose. Instead, in much to most to all of the remaining portion of the 1987 disclosure the "signal word" terminology is used in a way that is (at best) inconsistent with its explicitly coined definition and (at worst) is "*repugnant*" to its explicitly coined definition. Specifically, in the remaining portions of the 1987 disclosure, the term "signal word" is now used to refer to the N-bit bytes of "computer-type" data which make up the digital information that is now distributed and/or processed by the 1987 inventions [e.g. note: the last three lines on page 54 of the instant disclosure; lines 4-8 on page 56 of the instant disclosure; lines 9-13 on page 59 of the instant disclosure; etc,...].

In summary, "signal word" was explicitly defined/coined early in the 1987 disclosure for the expressed purpose of referring to each occurrence/appearance of ancillary signaling within the distributed TV/Radio/Other programming (i.e. corresponding to its definition in the 981 specification of the parent). However, via sleight of hand, the alleged meaning of the "signal word" terminology was quickly changed within the instant 1987 disclosure so as to refer to the "words"/bytes of digital computer-type data which comprise (and did not carry) said ancillary signaling; i.e. which is quite different from its use in the 1981 parent use/definition.

As with the "programming" terminology, the 1987 CIP disclosure's smeared use/misuse of the explicitly coined "signal word" terminology does not represent "common subject matter" with respect to the disclosure of the 1981 parent and therefor this smeared use/misuse of this terminology is not entitled to the 1981 filing date for reasons addressed above. The smeared use/misuse of the "signal word" terminology:

> **Evidences the fact that even terminology that has been explicitly coined in both application for the same alleged purpose, is not always what it appears.**

Such a condition simply adds to all the uncertainty as to exactly what subject matter, if any, has been carried forward from the 1981 disclosure into the 1987 disclosure.
[ALSO, SEE "APPENDIX C" ATTACHED HERETO]

4) As if all the existing uncertainty was not enough, it seems that applicant has come to a realization that some/much/most of the features now being claimed with respect to the instant 1987 CIP disclosure were not "explicitly" disclosed in the past 1981 Parent specification. Because of this, applicant now alleges that such features were "inherently" present and/or "implicitly" present within the teachings of the past 1981 parent specification.

> **"To the contrary, the 1981 definition [of "programming"] implicitly includes, and the 1987 definition [of "programming"] explicitly includes, computer programming in the definition".**
> [lines 20-26 on page 17 of the supplemental response filed 5/6/2002 in 08/470,571]
>
> **"An applicant is entitled to priority for a claim that was inherently described in an earlier application and explicitly described in a later application"**
> [note the last 15 lines on page 140 of the response filed on 1/28/2002 in application SN 08/470,571].

With respect to such new allegations, the following is noted:

a) What might have been "implicitly" taught in the past 1981 parent specification is irrelevant to section 112-1 support issues [for required section 112-1 support to have been provided, the recited feature must be there (the recited feature must be "inherent" in the teaching, not simply "implied")]; and

b) The implication of claimed subject matter being "inherently" embedded within teachings of the 1981 disclosure, e.g. and previously patented claims derived therefrom, is profound (e.g.

especially as it pertains to the issue of double patenting). Thus, it is respectfully requested that applicant now identify:

1. All of those features from the 1987 disclosure that are "inherently" contained within teachings of the 1981 parent disclosure; and

2. All of those teachings from the 1981 disclosure which "inherently" contain features that are now explicitly disclosed in the instant 1987 CIP specification

[especially when the issue of "inherent" features pertains to subject matter that is currently being claimed within the instant pending amended claims or to subject matter which has been claimed within previously patented claims].

For the record: Applicant is reminded that a 1987 feature is only "inherent" in a 1981 teaching when the feature is necessarily found within the 1981 teaching (i.e. it must be there). The fact that the 1987 feature was most probably there, was most likely there, was almost certainly there, was obviously there, or was "implicitly" there is insufficient to establish something as being "inherent".

5) In order to transmit a wider range of control and messaging information than was previously possible, and in order to transmit this wider range of control and messaging information more efficiently within "signal word"-*like* intervals of Radio/TV/"ALL OTHER" forms of electronic transmissions, applicant's instant 1987 CIP disclosure introduced a packetized data format called "SPAM" (see figures 2E-2K of the instant disclosure). In applicant's 1987 "SPAM" environment, it was this "SPAM" packeting which carried an expanded range of "signal unit"-*like* information, and it was the "SPAM" packets themselves whose bits were organized into sequences so as to be transmitted within "signal word"-*like* intervals of TV/Radio/"ALL OTHER" forms of electronic transmission; e.g. the expression "-*like*" being appended here and above in order to emphasize the fact that the information carried within "SPAM" packeting, and the "strings" of bits derived from such "SPAM" packeting, are different from the 1981 "signal units" and 1981 "signal words" that were explicitly

defined by the 1981 even though such terminology was carried forward, i.e. "*cosmetically*", into the 1987 disclosure [see part "2)" of part "S)" of this section]. The fact that this 1987 "SPAM" transport scheme was not disclosed within applicant's 1981 parent application was clearly argued by applicant themselves during ITC Investigation No. 337-TA-392:

> **"Even more difficult to understand is PMC's assertion that the French chef example [in the '490 patent], and I am quoting from their brief, 'it says nothing about the recipe being sent in any type of SPAM signal' .....Technically, they're correct, because the term 'SPAM signal' was introduced in the '277 patent or the specification which led to the '277 patent [i.e. the instant 1987 CIP disclosure], and it doesn't appear in the '490 patent [i.e. the 1981 disclosure of the past parent] "**
> [1997 ITC Lexis 307,*254 (Part II)]

As it applies to the issue of section 120 priority, the examiner maintains that the applicant [*PMC*] was more than just "*technically correct*". Specifically, while both of applicant's 1981 and 1987 inventions operated to transmit digitally encoded ancillary signaling within TV/RADIO programming, only the 1987 inventions did so using the more sophisticated 1987 packetized "SPAM" transport technology that was first introduced via the instant disclosure as originally filed within the 1987 CIP. And because applicant submits that all of the recited auxiliary "signaling" of the currently pending claims derive their required Section 112-1 support from the more advanced 1987 "SPAM" technology of the instant 1987 CIP specification, applicant refutes his own claim to the 1981 date of the parent application for these claims being that the 1987 "SPAM" technology now being claimed was not disclosed or supported by the past 1981 parent's specification.
[NOTE: "APPENDIX A" of applicant's response filed 6/7/2000 in SN 08/470,571; and "APPENDIX C" of this Office action].

In summary, because all of the currently pending amended claims have at least one limitation whose scope and meaning is defined by 1987 "SPAM" signaling (a fact that is evident in all of the claim charts that applicant has submitted to date for the purpose of demonstrating 112-1 support), and because the scope and meaning defined by "SPAM" exists only in the instant 1987 disclosure, all of the currently pending amended claims are (at best) only entitled to the 1987 filing date of the originally filed CIP

application; e.g. none of the claims are entitled to the 1981 priority date of the parent disclosure which did not describe "SPAM".

6) Applicant alleges that many/most/all of his pending claims derive required section 112 support from the "*WALL STREET WEEK*" embodiment that was described in the instant disclosure (wherein said instant disclosure was originally filed within a CIP application on 9/11/1987). During the present prosecution, applicant has alleged that these same pending claims are entitled to priority under Section 120 based on a similar "*WALL STREET WEEK*" embodiment that was described in the disclosure of the parent application filed 11/3/81. Since applicant's 1987 disclosure is different from applicant's 1981 disclosure, and since applicant's 1987 disclosure did not formally incorporate the 1981 disclosure into the 1987 disclosure physically or via an "*incorporation by reference*", the pending claims are only entitled to 1981 priority for the subject matter that was common to both disclosures. While the "*WALL STREET WEEK*" embodiment that is described in applicant's 1987 disclosure and the "*WALL STREET WEEK*" embodiment that is described in applicant's 1981 disclosure have their similarities, the actual methods/details/structures used to carry out these two "*WALL STREET WEEK*" embodiments are quite different. The following is provided to exemplify such differences:

a) It is noted that:

1) applicant's 1987 disclosure references figure 1 of the 1987 disclosure as illustrating the receiver structure that was used to implement the 1987 "*WALL STREET WEEK*" embodiment [note the discussion which begins in line 21 on page 20 of applicant's 1987 disclosure]; and

2) applicant's 1981 disclosure references figure 6c of the 1981 disclosure as illustrating the receiver structure that was used to implement the 1981 "*WALL STREET WEEK*" embodiment [note the discussion which begins on line 31 of column 19 of US Patent #4,694,490].

While these two figures use a common label "MICROCOMPUTER" and reference numeral "205" to identify one element of the

respective structures, the respectively identified elements are clearly different in both structure and operation:

showing that, as with applicant's use of common terminology, it would also be erroneous for one to assume that common labels and common reference numerals were used in applicant's 1981 and 1987 disclosures as an indication of common elements or "common subject matter".

The fact that commonly labeled elements in applicants 1981 and 1987 disclosures represent different structures/operations/scopes is evidenced in the following:

1) the "MICROCOMPUTER" (205) of applicant's 1987 disclosure actually comprised the circuitry required for overlaying locally generated graphics over the related/received TV signal broadcast.
Whereas, in contrast, the "MICROCOMPUTER" (205) of applicant's 1981 disclosure did not comprise such circuitry but instead outputted locally generated graphics to the TV receiver so that they could be overlaid over a related/received TV signal broadcast;

2) the "MICROCOMPUTER" (205) of applicant's 1987 disclosure actually comprised the circuitry required for receiving, loading, and running **downloaded** computer *software* (i.e. the disclosed "program instruction set") which was used to control the "MICROCOMPUTER"(205) of applicant's 1987 disclosure to execute functions defined by ones of later received discrete instructions. Whereas, in contrast, the "MICROCOMPUTER" (205) of applicant's 1981 disclosure was **pre-programmed** with computer *software* which was used to control the "MICROCOMPUTER"(205) of applicant 1981 disclosure to execute functions defined by ones of received discrete instructions;

b) In view of the differences in structure that is set forth in part a) of this paragraph, it is clear that the method used to overlay graphic images on a related/received TV signal broadcast in the 1987 "*WALL STREET WEEK*" embodiment is quite different from the

method used to overlay graphic images on a related/received TV signal broadcast in the 1981 "*WALL STREET WEEK*" embodiment. Most notably, in the 1981 "*WALL STREET WEEK*" embodiment the overlay method was performed by cuing a microcomputer with instructions signals (e.g. with some unspecified type of cuing signals) which caused the microcomputer to execute ones of locally stored software instructions which were required to generate, output, and overlay locally generated graphics onto a received/related video signal broadcast whereas, in sharp contrast, in the 1987 "*WALL STREET WEEK*" embodiment the overlay method was performed by first **downloading software** to the microcomputer and then cuing the microcomputer with instructions signals (e.g. cuing signals) which caused the microcomputer to execute the downloaded software to generate, output, and overlay locally generated graphics onto a received/related video signal broadcast.

c) The examiner agrees that applicant is entitled to the 1981 priority date only for those claims of the present application which are limited to subject matter that was **common** to both of applicant's 1981 and 1987 disclosures; i.e. that is limited to the subject matter that was previously disclosed in the 1981 parent. Under the present circumstances [23] , it is maintained that applicant is not entitled to the 1981 priority date for claims in which the **same/common support** can not be shown to exist in both of applicant's 1981 and 1987 disclosures. More specifically, the examiner rejects any allegation that the currently pending amended claims are entitled to the priority of their 1981 disclosure for claims which depend from their 1987 disclosure when it can be shown/alleged that each claim has different interpretations which allow them to be read on applicant's 1987 "*WALL STREET WEEK*" embodiment (via a first interpretation) and on applicant's 1981 "*WALL STREET WEEK*" embodiment (via a second interpretation

[23] The present disclosure: 1) comprises the 1987 disclosure and is, at best, a CIP of the disclosure filed in 1981; and 2) comprises the 1987 disclosure into which the 1981 disclosure has not been incorporated (i.e. neither literally nor by reference).

that is different from the first);i.e. priority to the 1981 disclosure should/will only be given if applicant can show that the way that the claims are being interpreted is the same for both disclosures (i.e. if the teachings on which each claim is based is **common** to both disclosures). To permit otherwise, would improperly create a tool by which an applicant could obtain the earlier filing date of a first filed invention, for a later filed invention, by carefully drafting subsequently filed claims in a manner which allows said drafted claims to be read on both inventions via different interpretations of the same claims. In the present application, it would be improper for the examiner to give a 1981 priority date to claims that are directed to applicant's 1987 "*WALL STREET WEEK*" embodiment even if it can be shown that the same claims can be interpreted in a manner which allows them to be read on applicant's 1981 "*WALL STREET WEEK*" embodiment; i.e. unless it can show that the support that is provided for the claims by both disclosures is in fact the same/common to both disclosures. Because the disclosed structures and processes used to implement applicant's 1987 "*WALL STREET WEEK*" embodiment clearly differ from the disclosed structures and processes used to implement applicant's 1981 "*WALL STREET WEEK*" embodiment (note: parts a and B of this paragraph), the examiner maintains that the subject matter which is actually common to both disclosures, e.g. that subject matter of the 1987 disclosure which is actually entitled to priority of the 1981 disclosure, if any, is very small indeed.

7) As is evident from the claim charts filed in SN 08/470,571 on 6/7/2000, all of the recitations that are directed to the signals/instructions/data that are conveyed as ancillary signaling within Radio and TV Programming transmissions, derive their required Section 112 support from the "SPAM" signaling that was first introduced by applicant's "1987" instant disclosure. Therefor, the scope and meaning that must be given to these signals/instructions/data recitations under section 112, e.g. their broadest reasonable interpretations, is necessarily defined/interpreted based said on said "SPAM" signaling. However, "SPAM" signaling was not disclosed in the 1981 parent and, therefor, applicant's claim to the earlier 1981 filing date is refuted; i.e. the scope/meaning imparted to the currently

pending amended claims by "SPAM" of the instant "1987" disclosure would not have been imparted to these same limitations by the earlier filed 1981 disclosure which lacked any discussion of "SPAM" therein; e.g. evidencing the fact that a "different invention"/"New Matter"/"different subject matter" has now been disclosed and claimed within the instant application.

8) The examiner notes that the basic requirements of section 120 includes "continuity of disclosure". Specifically, for priority to an earlier filing date to be established, section 120 requires that the invention now sought to be patented in a child application to have been "disclosed in the manner provided by the first paragraph of section 112" within the disclosure of the parent application. Significantly, section 120 does not indicate that only the descriptive requirement of section 112-1 must be met, but instead it indicates that all of the requirements of section 112-1 must be met [e.g. this includes the "enablement" requirement and the "best mode" requirement too].

TRANSCO [38 F.3d 551; 32 U.S.P.Q.2D (BNA) 1077] was cited in the last Office action. The TRANSCO decision determined that one is not required to update his "best mode" when filing a continuation. Thus, it is true that the current applicant was not required to update his "best mode". However, applicant chose to update it. Unfortunately, in *dicta*, Judge Rich warned that requiring an applicant to update the best mode when filing the continuation application defeats the purpose of the "continuation":

> "**It must be understood that the introduction of a new best mode disclosure would constitute the injection of 'new matter' into the application and automatically deprive the applicant of the benefit of the earlier filing date of the parent or original application for any claim whose validity rests on the new best mode disclosure**".

During the present prosection, the examiner has simply adopted the position of Judge Rich as set forth in this decision. The examiner acknowledges that TRANSCO has been cited by the examiner for the

clarity in which its *dicta* explains the current examiner's understanding of the present issues, and not for "authority" given by the decision.

9) The receiver station circuitry of applicant's 1981 inventions, e.g. that disclosed in the 44 page disclosure of the 1981 parent application, all appear to have been:

a)"pre-programmed" with the computer programming (i.e. software) that was necessary to detect and recognize the occurrence of certain predetermined digital codes in data that was embedded within received TV and Radio program transmissions; and

b)"pre-programmed" with the computer programming (i.e. software) that instructed the receiver station circuitry as how to respond when a given one of these certain digital codes was in fact detected/recognized.

Specifically, in the 1981 disclosure, the receiver side circuitry was pre-programmed so as to be effectively "triggered"/"cued" by certain detected/recognized ones of the embedded digital codes in order to executed a respective portion of the pre-stored software (i.e. a respective "subroutine") thereby causing the receiver station to operate in a predetermined fashion.

In contrast, the receiver station circuitry of applicant's 1987 inventions, e.g. that disclosed in the 557 page disclosure of the 1987 CIP, had the advantage that the pre-programmed software itself could now be changed/modified (i.e. "re-programmed") via a new and very different type of data, i.e. "SPAM" messages, which were now embedded within the received TV and Radio programming. The ability to re-program the receiver stations from a distance (e.g. remotely) meant that the way in which the receiver stations of the system operated/responded to detected/recognized digital codes (now transmitted within "SPAM messages" too) could be change on the fly (i.e. without a visit from a service technician being necessary).

Given the above, it is clear that the 1987 inventions do not represent "common subject matter" with respect to the 1981 inventions even though they can both could be operated, in very different ways, to produce/provide a similar effect/"application"; e.g. such as respective 1981 and 1987 "WALL STREET WEEK" applications. However, the vast difference in the nature of the 1987 and 1981 inventions appears to be partially masked by the repugnant use (i.e. misuse) of the "computer program" terminology by the 1987 disclosure to encompass things other than computer "software". For example, in lines 13-20 on page 427 of the instant disclosure, the 1987 "invention" was explicitly described as comprising a computer system which operated to produce combined medium combining at respective subscriber stations via the transmission of one "computer program" (e.g. software) to all the computers at all of the subscribed stations. Yet, as an alleged example such computer system operation (e.g. lines 20-34 on page 427), the 1987 disclosure repugnantly cites an operation during which the transmitted SPAM messages were carrying codes which only triggered/cued specific receiver responses within already pre-programmed/re-programmed receiver station circuitry; e.g. as opposed to actually citing an operation during which "software" was being downloaded to re-program the receivers (e.g. as described in lines 5-21 on page 24 of the instant disclosure). By using the "computer program" terminology in this repugnant fashion, the 1987 disclosure attempts to impart some legitimacy to the erroneous claim that the 1981 disclosure described the downloading of "computer software/programming" too; i.e. the argument being that because the trigger/cuing type codes of the 1987 disclosure have been erroneously defined as having comprised "computer programing" (e.g. software), then the corresponding cuing/trigger codes of the 1981 disclosure must be erroneously considered computer programming/software too [a position which also appears to be reflected in applicant arguments (e.g. note example #2 under "Section II" in the Office action mailed on 8/27/01 in SN 08/470,571)]. The result is still further confusion!

10) etc,....

SECTION II: Arguments/Allegation (addressed)

1) "Interactive Video" recitations [note the discussion on page 106 of the response filed SN 08/470,571]:

The only place that the terminology "interactive video" is ever used in the entire 557 pages of applicant's instant "1987" disclosure is that occurring line 22 on page 8. And at this one occurrence, applicant has in fact used the terminology in its conventional sense so as to refer to the retrieval/serving of stored video information based on requests/desires/inputs of a user.

In contrast to such conventional "interactive video" systems, applicant's 1987 disclosure was directed to inventions that provided "personalized programming" (e.g. the "WALL STREET WEEK" representing but one embodiment of such inventions) wherein such "personalized programming" was created by "automatically" displaying locally generated "personalized" information over received "programming" when the locally generated information has specific relevance to said received programming [note lines 21-23 on page 27 of the instant disclosure]. Further, as noted before, it was the expressed intent of applicant disclosure to provide the personalized programming "automatically" and without viewer interaction [SEE: lines 27-34 on page 11 of the instant disclosure; lines 18-20 on page 91 of the instant disclosure; lines 13-34 on page 427 of the instant disclosure; etc].

Despite the original teachings and understandings set forth by the instant disclosure as originally filed, applicant now alleges/argues that the receiver of his system might now be construed as a "interactive video" apparatus in the same way that an alarm clock might be construed as an "interactive" apparatus. The examiner thinks not. Again, in the one instance that "interactive video" was used in the instant disclosure seems to show that applicant understood the meaning/significance of the "interactive video" terminology as conventionally used by those of ordinary skill in the art; i.e. an understanding which applicant appears to have lost with the passage of time given his current arguments.

2) Applicant continues to misunderstand and/or misrepresent the Teletext "prior art".

The examiner notes that those of ordinary skill in the art, at the time of applicant's alleged invention, had long recognized the fact that the vacant lines which occur during the VBI of transmitted TV programming transmissions could be used to carry addition auxiliary/ancillary information through a TV network. It had also long been recognized that coded character/graphic image data represented one type of information which was to be desirably conveyed by these vacant lines. The transmission of such coded character/graphic images was known as "Teletext".

Because of inherent bandwidth and noise considerations, it was found that each vacant line of transmitted TV programming could only carry between 30 and 40 bytes of digital information. In contrast, to transmit enough coded data to convey a full character/graphics video frame, it was found that somewhere between 700-800 bytes of coded data was needed. Obviously all 700-800 bytes of codes data could not fit within a single vacant line period that was only capable of carrying between 30 and 40 bytes. Therefor, in order to convey coded data representing the full character/graphics frame within the vacant line intervals of the transmitted TV programming, the 700-800 bytes of each coded image frame had to be broken up into a plurality of discrete 30 to 40 bytes chunks/portions and conveyed via a respective plurality of the vacant line periods. On the receiver side of the system, the conveyed chunks/portions of a coded image frame which was to be received/displayed had to be: identified in their respective video line periods; recovered/extracted from their respective line periods; and re-assembled back into the original 700-800 byte sequence. The examiner maintains that all "standardized" Teletext systems operated to convey coded character data in the manner discussed above.

Additionally, at the time of applicant's alleged invention, those skilled in the art had recognized that these "standardized" Teletext systems could transmit other types of data using the same data "page" format that was used to carry the 700-800 bytes of coded character/graphic data. For example, it was understood by those of ordinary skill in the art that 700 to 800 bytes of "computer software" could be conveyed in the vacant lines of transmitted TV programming as Teletext "pages", in the same way that the 700-800 bytes of coded character/graphics data had been conveyed; e.g. by breaking 700-800 byte sections of software down into the required 30-40 byte chunks/portions that were required in order to fit within respective vacant TV line intervals. The transmission of computer software via "standard" Teletext pages was conventionally known as: "*Telesoftware*".

Given the above, the examiner maintains that applicant's suggestion that "standardized" Teletext systems did not convey its "information" as discrete signal chunks/portions evidences a very real misunderstanding and/or misrepresentation of conventional Teletext "prior art" on the part of applicant. In fact, applicant's latest position constitutes another link in a long chain of previously submitted misunderstandings/misrepresentations of such Teletext "prior art":

1) Applicant has erroneously alleged that coded Teletext character/graphics data itself comprised displayable data which was simply received and transferred directly to a display device for display thereby requiring no signal processing; e.g. when in fact coded Teletext data actually represented respective "series of instructions" which were used to instruct the Teletext decoders as to how to "locally generate" desired TV images/frames [note "APPENDIX E" attached hereto];

2) Applicant has erroneously alleged that Teletext decoders were not "signal processors"; i.e. according to applicant's erroneous allegations, Teletext decoders only buffered and passed received Teletext data directly to a display device for display thereon without any "signal processing" thereof (e.g. such a characterization of Teletext decoder operation is simply untrue);

3) ETC,...

SECTION III: Additional Issues (addressed)

1) In lines 2-8 on page 142 of the amendment filed on 1/28/2002 in application SN 08/470,571, applicant suggests that the examiner has objected to the fact that applicant provided citations of dual 1981 and 1987 section 112 support for the limitations of the pending amended claims. No such objection has ever been raise by the examiner. To the contrary, the examiner finds such citations of dual support to be most helpful (i.e. when presented in the form of claim charts).

Having said this, the fact remains that examiner/Office was unquestionably misled by the many statements made by applicant concerning the "consequences" of Section 120 "priority". The reason that these statements misled the examiner/Office seems self evident from the statements themselves. For example, in the last 7 lines on page 24 of the Appeal Brief filed in SN 08/113,329 on 9/17/1996, applicant states:

> **"The case law makes clear that the only inquiry concerning claims filed in a subsequent continuation application pursuant to Section 120 is whether they are adequately supported in under Section 112, first paragraph, in the initial application. If the support exists, the inquiry is at an end."**

And the statement made in the remarks section of many amendments stating that:

> **"The present application claims priority under 35 USC §120 of the following applications.....Consequently, Applicants will demonstrate disclosure only with respect to the '81 case,..."** [e.g. see lines 9-21 on page 000507 of the Appendix in the document mailed on 9/10/01 in SN 08/474,139]

Such statements misled the examiner/Office into believing that, as a consequence of Section 120, applicant was permitted to use the disclosure of his 1981 parent application alone, e.g. in place of the instant 1987 disclosure, to fulfill section 112 requirements when addressing/replying to Section 112 rejections. However, the examiner/Office now understands that, because applicant's past 1981 parent disclosure was not incorporated into the instant disclosure, the 1981 specification cannot be relied upon by applicant for showings of section 112 support when addressing/responding to rejections

made under Section 112; i.e. all section 112 Support must come from the instant "1987" disclosure alone.

The *"objections"* made by the examiner in the last Office Action were raised because the examiner perceived a continuation, on the part of the applicant, of the same arguments that misled the examiner/Office in the first place. By raising these "*objections*", the examiner hoped to elicit a response from applicant acknowledging the fact that the instant "1987" disclosure was the only disclosure which could be used to fulfill the requirements of section 112 with respect to the limitations of the currently pending amended claims (the significance of the 1981 disclosure is relegated only to the secondary issue of Section 120 priority). The examiner wished to make sure that the examiner and applicant were now on the same page concerning this issue. And, at least one point in applicant's last response, the desired acknowledgment appears to have been provided [see the last 5 lines on page 141 of the amendment filed on 1/28/2002 in SN 08/470,571].

2) In the last 5 lines on page 141 of the response filed on 1/28/2002 in 08/470,571, applicant now acknowledges that the 1981 application was not incorporated into the 1987 application. As a consequence, applicant also appears to understands that all Section 112 support must come solely from the "instant" 1987 disclosure if the section 112 requirements are to be satisfied. If such is true, then it is not understood how applicant can now adopt the position:

> **"the [examiner's] assumption that 'all limitations of the currently pending claims are necessarily directed to that which is described in the present 1987 disclosure' is mistaken and wholly unsupported."** [24]
> [lines 8-10 on page 144 of the amendment filed in 08/470,571 on 1/28/2002].

Namely, if all section 112-1 support for all of the claims' limitations must necessarily come from the instant "1987" disclosure alone (e.g. in light that the disclosure of the 1981 parent was not incorporated into the instant 1987

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[24] Contrary to applicant's position, the examiner maintains that a pending claim must necessarily be directed to that which is described in the instant specification. This is not to say that the resulting scope of the pending claim is limited only to that which it must necessarily be directed.

disclosure), then how can a limitation of a claim be directed to (i.e. obtain required section 112-1 support from) anything but that which is described within the said instant 1987 disclosure? Is applicant suggesting that the pending amended claims are **not** necessarily directed to, do **not** necessarily derive section 112-1 support from, and are **not** necessarily claiming, subject matter that is found in the instant 1987 disclosure**?** Further clarification is most urgently needed.

SECTION IV: During the present prosection, many of the same issues have been raised in different ones of the many copending applications. In at least some cases, these issues appear to have been handled and addressed inconsistently between applications. Thus, the following "list" of positions taken by the examiner/Office in regard to such overlapping issues has been created, and will be maintained by the Office, in an attempt to ensure consistency in the way that these issues are handled between applications in the future.

THE EXAMPLES:

1) In lines 2-8 on page 142 of the amendment filed on 1/28/2002 in application SN 08/470,571, applicant suggests that the examiner has objected to the fact that applicant provided citations showing dual 1981 and 1987 section 112 support for the limitations of the pending amended claims. No such objection has ever been raised by the examiner. To the contrary, the examiner found applicant's citations of dual support to be one of the most helpful aids that applicant has provided to date (i.e. when presented in the form of claim charts).

Having said this, the fact remains that examiner/Office was unquestionably misled by the many statements made by applicant concerning the "consequences" of Section 120 "priority". The reason that these statements misled the examiner/Office seems self evident from the statements themselves. For example, in the last 7 lines on page 24 of the Appeal Brief filed in SN 08/113,329 on 9/17/1996, applicant states:

> ***"The case law makes clear that the only inquiry concerning claims filed in a subsequent continuation application pursuant to Section 120 is whether they are adequately supported in under Section 112, first paragraph, in the initial application. If the support exists, the inquiry is at an end."***

And statements made in the remarks section of many amendments in which applicant states:

> ***"The present application claims priority under 35 USC §120 of the following applications.....Consequently, Applicants will demonstrate disclosure only with respect to the '81 case,..."***

[e.g. see lines 9-21 on page 000507 of the Appendix in the document mailed on 9/10/01 in SN 08/474,139]

These statements misled the examiner/Office into believing that, as a consequence of Section 120, applicant was permitted to use the disclosure of his 1981 parent application alone, e.g. in place of the instant 1987 disclosure, to fulfill section 112 requirements when addressing/replying to Section 112 rejections. However, the examiner/Office now understands that, because applicant's past 1981 parent disclosure was not incorporated into the instant disclosure, the 1981 specification cannot be relied upon by applicant for showings of section 112 support when addressing/responding to rejections made under Section 112; i.e. all section 112 Support must come from the instant "1987" disclosure alone.

The *"objections"* made by the examiner in 08/470,571 were raised because the examiner perceived a continuation, on the part of the applicant, of the same arguments that misled the examiner/Office in the first place. By raising these "*objections*", the examiner hoped to elicit a response from applicant acknowledging the fact that the instant "1987" disclosure was the only disclosure which could be used to fulfill the requirements of section 112 with respect to the limitations of the currently pending amended claims (the significance of the 1981 disclosure is relegated only to the secondary issue of Section 120 priority). The examiner wanted to be sure that the examiner and applicant were now on the same page concerning this issue. And, on at least one occasion, such an acknowledgment appears to have been provided by applicant [see the last 5 lines on page 141 of the amendment filed on 1/28/2002 in SN 08/470,571].

2) Applicant does not believe that "common subject matter" is required for "priority" under Section 120. Instead, according to applicant, the only thing that applicant needs to do in order to obtain the earlier 1981 filing date for his pending amended claims is to show that each of his pending amended claims can be given different 1987 and 1981 claim interpretations

which allows each claim to be supported, in parallel, by "different subject matter" from the 1981 and 1987 specifications.

> ***"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim."*** (emphasis added)
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]
>
> ***"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the § 112 support from each application consists of 'common subject matter.'"***
> [see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

Applicant's position seems to be wrong.

> ***"However, as mentioned earlier, a continuing application is entitled to rely on the earlier filing date of an earlier application only with respect to subject matter common to both applications"*** (emphasis added)
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]
>
> ***"Any claim in a continuation-in-part application that is directed solely to subject matter adequately disclosed under 35 U.S.C. 112 in the parent application is entitled to the filing date of the parent application."***
> [In *Transco Products, Inc., v. Performance Contracting, Inc.*, 32 USPQ2d 1077 [**18]]

> **"Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 *and be the same invention as that disclosed in the later application.*"** (emphasis added)
> [*Kirschner*, 305 F.2d 897 (C.C.PA1962)]

3) In the last 5 lines on page 141 of the response filed on 1/28/2002 in 08/470,571, applicant acknowledged that the 1981 application was not incorporated into the 1987 application. As a consequence, applicant also appears to understands that all Section 112 support must come solely from the "instant" 1987 disclosure if the requirements of section 112 are to be satisfied. If applicant knows such to be true, then it is not understood how applicant can then adopt the position that:

> ***"the [examiner's] assumption that 'all limitations of the currently pending claims are necessarily directed to that which is described in the present 1987 disclosure' is mistaken and wholly unsupported."*** [25]
> [lines 8-10 on page 144 of the amendment filed in 08/470,571 on 1/28/2002].

Namely, if all section 112-1 support for all of the claims' limitations must necessarily come from the instant "1987" disclosure alone (e.g. in light that the disclosure of the 1981 parent was not formally incorporated into the instant 1987 disclosure), then how can a limitation of a claim be directed to (i.e. and obtain required section 112-1 support from) anything but that which is described within the said instant 1987 disclosure? Is applicant suggesting that the pending amended claims are **not** necessarily directed to, do **not** necessarily derive section 112-1 support from, and are **not**

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[25] Contrary to applicant's position, the examiner maintains that a pending claim must necessarily be directed to that which is described in the instant specification. This is not to say that the resulting scope of the pending claim is limited only to that which it must necessarily be directed.

necessarily claiming, subject matter that is found in the instant 1987 disclosure?

4) Applicant has alleged that "Teletext decoders" did not "locally generate" the images that they outputted/displayed. According to applicant, Teletext decoders only transferred, to their outputs, displayable image data that was received at their inputs. The examiner rejects such a notion. The following is noted:

a) That, as was exemplified via the discussion provided on page 5 of the appendix that was attached to a 1981 "PETITION FOR RULEMAKING" submitted to the FCC [26], it was notoriously well known in the art that transmitted Teletext data *typically* comprised a "series of instructions" which instructed the Teletext decoders on how to "generate" the desired images which were to be outputted/displayed;

b) That conventional Teletext decoders *typically* comprised "character generators"; i.e. such "character generators" would not have been required had the received Teletext data actually comprised displayable image data as alleged by applicant; and

c) That transmitted Teletext data *typically* comprised of ASCII-type codes; i.e. wherein one of ordinary skill in the art would have understood the fact that these ASCII-type codes are not themselves displayable. Specifically, these ASCII-type codes only identified the way in which locally stored pixel patterns which were locally retrieved and locally assembled into image frames, e.g. via the "character generators", in order to locally generate the images that were outputted/displayed.

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[26] SEE: APPENDIX E and APPENDIX F of the latest Office action in SN 470,571.

Clearly, Teletext decoders operated to "*locally generate*" the images that they outputted and displayed! [27]

5) Applicant's 1987 inventions used a "SPAM" transmission packet structure to transmit ancillary information through the TV broadcast networks. By using the "SPAM" packet structure, a transmission scheme was established in which a piece of coherent "information", e.g. such as a complete "processor instruction", could be broken down into a plurality of "partial information" segments and communicated through the TV network within/as respective "discrete (packet) signals". On the receiver side of the 1987 inventions, the partial information from the plurality of discrete signals could be recovered and re-organized back into the original piece of coherent "information (e.g. re-organized back into the single complete processor instruction).

Applicant has alleged the above described "partial information" transmission scheme is a key feature which distinguishes applicant's alleged 1987 inventions over Teletext "prior art". Applicant's allegation is founded on a huge misunderstanding/misrepresentation of the Teletext "prior art". In fact, via such arguments, it appears that applicant is effectively trying to re-invent the foundation on which the Teletext "prior art" was actually built [e.g. see the arguments which begin at the top of page 354 and extend to the bottom of page 356 in the response filed on 1/28/02 in SN 08/470,571].

Specifically, standardized Teletext was based on the recognition that vacant lines occurring during the VBI of TV signal transmissions could be used to transmit/communicate embedded frames/"pages" of character/graphics information along with the TV programming. However,

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[27] Character data was "always" transmitted in an encoded non-displayable format by "typical" Teletext transmission systems; e.g. the only exception to this "typical" configuration that the examiner is aware of is "typical" Chinese/Japanese ideograph Teletext systems being that there were simply too many Chinese/Japanese characters to encode efficiently. Graphics data, on the other hand, was "typically" encoded such that designated bits of each transmitted graphic code could be mapped by the decoder to regions of the display screen so as to generate the graphics image frame that was to be displayed. Yet, even here, a local graphics generator was still required to convert the graphics codes into displayable pixel data. Such a local graphics generator was conventionally implemented either with dedicated logic circuitry or with a "graphics generator" of the "character generator" variety [SEE: the discussion under the headings "Producing the display" and "Graphics" on page 398 of the article "CEEFAX/ORACLE: reception techniques (part I)" by Money in the 7/1975 issue of "TELEVISION"; and lines 13-21 in column 9 of US Patent #3,982,065].

it was instantly recognized that each video line did not have sufficient bandwidth to carry an entire frame/page of the character/graphics data. Therefor, the prior art Teletext systems established Teletext packet structures by which "partial image/information" segments (e.g. such as single "rows" of character and control information) could be communicated via respective discrete packetized signals which were embedded within respective discrete television line intervals. On the receiver side of the Teletext "prior art", the partial information segments from the plurality of discrete packetized signals were recovered and re-organized back into the original frame/pages of character/graphics information in order to "locally generate" a Teletext image for display. But the clear correlation that exists between applicant's "SPAM" transmission scheme and prior art Teletext transmission schemes does not end here!

In addition to the transmission of character/graphic frames/pages, those of ordinary skill in the art quickly recognized that the prior art Teletext transmission schemes could be "extended" so as to carry other kinds of information; e.g. "Telesoftware"(i.e. computer programming), remote control signaling, etc,...

This additional information was carried using the same packetized Teletext structure previously established for the character/graphic image data. For example, Telesoftware was also broken down into "partial information" segments to be carried as "rows" of character-like data within respective Teletext packets of one or more Teletext pages (e.g. depending on the size of the Telesoftware program that was being communicated). On the receiver side, the "partial information" segments of the additional information were then recovered from the transmitted discrete packet signals and were re-organized back into its original form (e.g. the complete "Telesoftware" program was reconstructed from the discrete partial programming segments).

Given the above, it is still the examiner's position that applicant's 1987 packetized "SPAM" structure represents little more than applicant's own version of a conventional "extended" Teletext system [SEE part "A." under "Section XI" in the Office action mailed 8/27/01 in SN 08/470,571]. And again, for the reasons addressed above, the examiner continues to refute applicant's position that claim recitations directed to "discrete signals" and "partial information" contribute anything to avoiding applied Teletext "prior

art"; i.e. applicant's allegations to the contrary represent nothing but "straw men."

6) Applicant points out that term "computer software/programming" has been defined as: "a series of instructions which controls the operation of a computer". Stretching this definition, applicant erroneously suggests that the term "computer software" encompasses: "any series of instructions which controls the operation of a computer". And finally, using this improperly stretched definition, applicant argues that each series of transmitted cuing-type codes which were described in his 1981 parent application *implicitly* [28] taught the transmission and/or downloading of "computer software" in view that each of these series of codes represented "instructions which controlled the operation of a computer". Applicant's argument is lame. For if one were to accept applicant's argument, then in applicant's new world:

a) a computer mouse and computer keyboard suddenly become generators of "computer software" because they too generate series of instructions which are used to control the operation of a computer;

b) Teletext data itself, when received by a CPU implemented decoder, suddenly becomes "computer software" because it too represents series of instructions which are used to instruct a computer as to how to generate an image for display;

c) etc,...

Clearly, applicant's argument twists the definition of "computer software" in a way that is repugnant to its conventional use/meaning in order to obtain a 1981 effective filing date for something that he did not have in his

[28] Applicant is reminded that what might be "implied" by the 1981 disclosure is irrelevant to section 112-1 support issues. Section 112 support for a claimed feature is only provided if the claimed feature was actually disclosed; i.e. the feature must at least be "inherent" in the disclosure (not simply "implicit").

possession, and/or did not disclose, until 1987; e.g. namely, the downloading of computer software.[29]
[note: parts "15)" and "16)" of this section too]

7) While applicant has alleged that his "computer software/programming" recitations should be stretched so as to retroactively find support from things which were not "computer software/programming" [30](i.e. a series of cuing-type codes/signals from his 1981 disclosure), applicant also takes the opposite approach by alleging that circuit structures which operated to process signals (i.e. specifically Teletext decoders) are not encompassed by the "signal processor" recitations of his pending amended claims. [31] The examiner disagrees. The examiner points out that not only are Teletext decoders "signal processors" in any conventional sense of such terminology, but that Teletext decoders are in fact "signal processors" specifically within the context of applicant's own alleged invention. More to the point, the Teletext decoders of the applied prior art are like "SPAM" decoders of applicant's alleged inventions in that both decoders operated to extract and process packets of encoded information distributed to them, at least "*preferably*", via the VBI of broadcasted and/or cable casted TV programming; i.e. wherein the packets of encoded information comprised Teletext data packets in the case of prior art Teletext decoders and comprised SPAM data packets in the case of the SPAM decoders of

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[29] In the supplemental response filed 5/06/2002 in 08/470,571, applicant now submits a different version of essentially the same argument [see part "P)" in "SECTION I" of the latest Office action in 08/470,571].

[30] This erroneous *reading* has been used in order to erroneous allege a 1981 "priority" date for current claim recitations which are directed to the 1987 "computer software/programing" features of the instant 1987 CIP specification.

[31] This erroneous *reading* has been used to try to distinguish which is now claimed over applied "prior art" of record.

applicants alleged invention. [32] Being such, applicant's allegation that conventional Teletext decoders should somehow be excluded by the "signal processor" recitations of his pending claims seems to fall under the heading of: "NONSENSE." [33]

8) The examiner maintains that applicant's own "SPAM" transmission system, at least as described in the context of television distribution, constitutes little more than applicant's own version of an "extended Teletext system" [34]. However, when Teletext "prior art" has been applied against applicant's claims, applicant has become hostile to the suggestion that there is any correlation between his "SPAM" transmission system and conventional Teletext transmission systems. [35] Yet, on the other hand, applicant appears to openly believe that the scope of many of his pending amended claims encompasses the "WEATHER STAR" system/receiver technology which, to the extent understood by the examiner, is in fact a

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[32] In fact, for reasons which will be addressed in more detail below, the examiner maintains that the "SPAM" data packets of applicant's alleged invention represent, for all intents and purposes, little more than applicant's own version of a Teletext system in which the function of its Teletext data packets have been "extended" so as to carry more than just the normal displayable character/graphics code (e.g. "extended" to carry control signals, Telesoftware, etc,...).

[33] NOTE:

1) that *typical* Teletext decoders sequentially performed steps of signal slicing/separation, serial-to-parallel conversion, signal storage, ASCII code to pixel data translation, etc... all which were recognized as having comprised steps of "signal processing" [the last 16 lines on page 5 of the appendix that is attached to the "PETITION FOR RULEMAKING" which was filed with the FCC on 3/26/1981 by the "United Kingdom Teletext Industry Group" which explicitly indicates Teletext decoders as having performed "signal processing"]; and

2) that such processing was even true in the unusual "ideograph" decoders of applicant's argument [i.e. see the block labeled "Teletext signal processor" in figure 10 of the NHK article "A Teletext System for Ideographs" by Numaguchi et al.].

[34] The term "extended Teletext" is being used here to refer to Teletext systems which have been "extended" so as to carry other types of information beyond the normal/typical coded Teletext character/graphic information. One alleged novel feature of applicant's SPAM packets was its ability to carry and distribute computer software. However, contrary to applicant's allegation, packets of "extended Teletext" systems had long been used to carry and distribute computer software too. In fact, the term "Telesoftware" had been specifically coined so as to refer to the "software" that was carried by "extended Teletext systems. The point being, that SPAM and Teletext data packets are equivalent right down to there recognized ability to carry other forms of information including "Telesoftware".

[35] Yet a large portion, if not the majority, of the "prior art" cited by applicant pertains to Teletext.

Teletext based technology. [36] If applicant's claimed/disclosed "SPAM" systems/receivers encompass Teletext based systems/receivers such as the "WEATHER STAR" system/receiver technology, then how in the world can applicant possibly suggest that "SPAM" and Teletext are not correlated/analogous technologies/arts with respect to the applied prior art? Clearly there is a conflict between the two positions.

9) Applicant and applicant's originally filed 1987 disclosure both seem to have alleged that "digital television signals/programming", of the type that is recited in many of applicant's pending amended claims, was notoriously well known in the art at the time of his alleged invention. The examiner has challenged applicant's apparent allegations and has requested that applicant submit "prior art" to show such to be true. In response to the examiner's requests, applicant has submitted U.S. Patent #3,906,480 to Schwartz et al. as having evidenced the conventional "digital television signal" technology on which his disclosure and amended claims were/are allegedly based [note the last 11 lines on page 97 and lines 3-6 on page 98 of the amendment filed on 6/7/2000 in SN 08/470,571]. The examiner continues to be mystified by this submission. The examiner points out that the cited Schwartz et al. patent describes a computer display system in which a computer was used to generate, albeit digitally, *frames* of vector encoded graphic/character information which were then transferred, via a data bus, to "digital TV monitors" for display thereon. As far as the examiner can tell, the Schwartz et al. disclosure has absolutely nothing to do with the transmission of "digitized TV signals/programming" in any conventional sense of such terminology. Simply trying to figure out how the Schwartz et al. patent might be related to anything that was originally disclosed by applicant in his 1987 disclosure, much less trying to figure out how it could have been used to enable that which was originally disclosed

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[36] SEE: the article "Landmark forms cable weather news network" which was cited by applicant [see appendix VIII attached hereto]

by applicant in his 1987 disclosure, represents an insurmountable invitation to experimentation unto itself. If Schwartz et al. has been cited by applicant out of carelessness, then its submission to the Office for required review and consideration represents nothing less than an unnecessary drain on already limited PTO resources. If, on the other hand, Schwartz et al. was cited out of necessity (e.g. if it actually represents the best showing of his "digital television" recitation that applicant is/was aware of), then its very presence in the record only goes to support the examiner's position that which is now claimed by applicant, i.e. via the subsequently introduced "digital television" recitations, is not supported and/or enabled by applicant's originally filed 1987 disclosure.

10) Applicant has made many attempts to have the Zaboklicki reference [DE 2,914,981] removed from consideration. In many responses [e.g. the communication filed 7/13/2000 in 08/470,571], applicant has argued that the applied Zaboklicki reference should be removed from consideration simply because the teachings and descriptions provided by this applied prior art reference differ from teachings and descriptions provided by other non-applied members of its patent family (namely, GB #2,016,874). Such a position is absurd. If Zaboklicki DE 2,914,981 teaches that which applicant now claimed, then the fact that Zaboklicki GB #2,016,874 might not have provided these same teachings (even if true) is irrelevant to the fact that the claims ARE unpatentable over Zaboklicki DE 2,914,981. [37]

[37] It is important to note that Zaboklicki [DE 2,914,981] included an extensive "List of References" section which described the operation of the Zaboklicki system element-by-element. This section was absent from Zaboklicki [GB 2,016,874]. This additional description in Zaboklicki [DE 2,914,981] is not trivial in that it goes a long way to understanding the invention which was disclosed in the ***applied*** Zaboklicki prior art; e.g. namely DE 2,914,981 (not GB 2,016,874).

11) Within the originally filed abstract of applicant's 1981 past parent specification (i.e. note S.N. 06/317,510), the term "*programming*" was explicitly defined to mean:

> ***"everything transmitted over television or radio intended for communication of entertainment or to instruct or inform".***
> [see lines 4-7 in the abstract of US patent #4,694,490]

Today this definition is in conflict with applicant's present needs (e.g. it too refutes applicant's claim to the earlier 1981 priority date [38]). Being such, applicant has argued that this explicitly stated definition should be ignored and given no weight because the "abstract", as applicant alleges, was not *technically* part of his 1981 written description. The examiner rejects this allegation too. The examiner points out: that the originally filed abstract was certainly part of the originally filed disclosure of applicant's 1981 parent application on which all issues must be considered/based and that the definition of "programming" that was provided by this originally filed abstract is completely consistent with the way that it was used throughout the 1981 disclosure.

12) Applicant seems willing to acknowledge that the "1987 inventions" that are described in the instant 1987 CIP specification are in at least in some ways *enhanced and improved* versions of the 1981 inventions that were described in applicant's past 1981 parent specification.

> ***"In fact, both [the 1981 and 1987] specifications describe the inventions disclosed in the 1981 specification, although the 1987 specification contains many enhancements and improvements."***
> [see the last two lines on page 9 of applicant's supplemental response filed 5/6/02 in SN 08/470,571]

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[38] The examiner notes that applicant is only entitled to the 1981 priority date for "common subject matter"; i.e. the "same" subject matter that is commonly found in both the present 1987 and the 1981 parent disclosures as originally filed. However, the term "programming" itself does not represent "common subject matter" required for priority because the definition given to it within the present 1987 disclosure is vastly different than the definition given to it via the 1981 parent. Specifically, whenever the "programming" terminology is used in a currently pending claim, section 112-1 demands that it be held to the definition that is explicitly provided via the present 1987 disclosure. This 1987 definition is not entitled to the 1981 priority date in view that the 1981 disclosure explicitly gave the same terminology a different meaning.

One of the "enhancements and improvements" that was effected via the subsequent filing of instant 1987 CIP specification was a change made to the definition of the word "programming." Whereas the past 1981 Parent specification defined the terminology as referring to Television and Radio transmissions, the instant 1987 specification "improved and enhanced" the 1981 definition of "programming" to explicitly cover "all forms of electronic transmission" now explicitly including "computer programming", "broadcast print", etc,... (e.g. additions to the radio/TV transmission of the past 1981 definition).

> ***"everything that is transmitted over television or radio intended for communication of entertainment or to instruct or inform";***
> ["programming" as defined in the past 1981 Parent specification]
>
> ***"everything that is transmitted electronically to entertain, instruct, or inform including television, radio, broadcast print, computer programming, as well as combined medium programming".***
> ["programming" as defined in the instant 1987 CIP specification]

Thus, whereas a potential infringer might have reasonably argued that any claim which derives its required section 112-1 support from the past 1981 specification cannot be fairly read on subject matter outside the Television and Radio transmission arts given the 1981 definition of "programming" (e.g. that these claims cannot be fairly read on computer software/programming transmissions), the wiggle room for such arguments has been effectively eliminated when the identically worded claims derive their required section 112-1 support from the instant 1987 CIP specification instead; i.e. being that the 1987 specification replaces the 1981 definition of "programming" with the new "improved and enhanced" 1987 definition of "programming" which has been expanded to explicitly covers "all forms of

electronic transmission" including, i.e. explicitly, said "computer programming" transmissions. [39] Thus, the examiner asks:

> **Why should any applicant be allowed to improve/enhance/redefine the subject matter that is being recited by a given claim using the new subject matter that was added via a subsequently filed CIP specification, e.g. in order to tighten the noose on existing potential infringers and/or to cast a wider net to ensnare new potential infringers, and yet still be entitled to the earlier filing date of a past un-incorporated 1981 Parent specification that did not contain this improved/enhanced/redefined subject matter?**
> *(The short answer to this question is:* NOT!)

The point being that applicant had every right to draft a claim based on his past 1981 parent specification which contained the 1981 definition of "programming", and to have taken the position that a fair reading of the 1981 "programming" terminology, e.g. in the context of said past 1981 parent specification, encompassed "computer programming" transmission too; i.e. wherein such an "argument" would have been necessary in view that the 1981 definition of "programming" did not include "computer programming". Instead, applicant elected to draft a new CIP specification which modified the definition of "programming" to explicitly include "computer programming" thereby eliminating any question that the fair reading of "programming", in the context of the new 1987 CIP, now encompasses "computer programming". Again, the examiner asks:

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[39] The examiner maintains that the differences in the respective 1981 and 1987 definitions of "programming":

> 1) represent real differences in the respective "properties" of the different kinds of "signaling" that made up the respective 1987 and 1981 subject matter; and
>
> 2) are not simply different statements of "*disclosed utilities*" as applicant might try to allege in the future.
>
> (e.g. once again, the 1987 SPAM-type signaling subject matter that is necessarily being claimed by the pending claims is explicitly inclusive of "computer software/programming" whereas the 1981 signaling subject matter was not).

Why should any applicant be allowed to improve/enhance/redefine the subject matter that is being recited by a given claim using new subject matter that was added via a subsequently filed CIP specification, e.g. in order to tighten the noose on existing potential infringers and/or to cast a wider net to ensnare new potential infringers, and still be entitled to the earlier filing date of a past un-incorporated 1981 Parent specification that did not contain this improved/enhanced/redefined subject matter?

(E.G. Why does applicant believe that his new 1987 definition of "programming" should be entitled to the 1981 filing date of the old 1981 "programming" definition which it replaced?; Why should applicant's "1987 inventions", which have been re-defined by the new 1987 definition of "programming", be entitled to the 1981 filing date of "past 1981 inventions" which were defined by the past 1981 definition of "programming?"; etc,...)

13) In order to try to overcome applied prior art of record, applicant has willfully and repeatedly alleged that the Radio and Television broadcast arts represent non-analogous arts. This position is absurd and wholly unsupportable too. The examiner points out that the Television broadcast art actually evolved from the radio broadcast art because the original radio broadcast networks represented existing entities who had the program distribution resources and expertise that was easily extended and applied to TV programming; e.g. NBC, CBS, ABC all began as Radio distribution networks which evolved, quite "naturally", into Television broadcast networks too [NOTE: the last 5 lines of the first paragraph of the first column on page 811 of the article "Versatile Transmission Video Facilities at NBC New York" by Mausler which states that: "the origins of television broadcasting practice may be found in radio" (a copy of which was provided within SN 08/470,571)]. In fact, the most significant difference (i.e. if not the only "real" difference) between Radio and Television distribution networks is the difference in bandwidth of the equipment that is required to handle Radio and Television program distributions. Thus, for

example, when Hetrich [Australian #74,619] stated that his disclosed "Netcue" system was applicable to either "a network of radio or television stations", one of ordinary skill in the art would have recognized that this teaching was in fact founded on the underlying understanding that Radio and Television network were in fact analogous arts. Applicant's allegations to the contrary is based on a unrealistically low level of skill in the art.

14) Throughout the prosection of their patent portfolio, applicant has alleged that the "***simultaneous or sequential presentation***" recitation, as found in many of their pending claims, represents a "key limitation" in overcoming and/or avoiding "prior art" of record [note: lines 2-6 on page 17 of Appendix A in the response filed on 3/19/2001 in SN 08/469,078; and part "4)" under "Section VII" of the Office action mailed 8/27/01 in SN 08/470,571]. The examiner strongly disagrees. Specifically, the examiner points out that the alternative expressions "*simultaneous or sequential*" or "*one of a simultaneous and sequential*" simply encompasses *ANY AND ALL* of the ways by which two types of information could ever be presented to a given audience. Specifically, any time two types of information are presented to a given audience, they must necessarily be presented to that audience either *simultaneously or sequentially* in time. The phrase "*simultaneous or sequential*" simply covers ALL of the possibilities! Thus, if one can show that a given piece of "prior art" operated to present two types of information to a given audience, then one has in fact inherently shown that the prior art meets the "*simultaneous or sequential presentation*" limitation of applicant's claims; i.e. again, the recitation "*simultaneous or sequential*" simply covers ALL of the way that two types of data could ever be displayed to a single audience!

15) Applicant has alleged that his past 1981 Parent specification "implicitly" taught the downloading of "computer programming" (i.e. computer *software*). [40]

> ***"To the contrary, the 1981 definition [of "programming"] implicitly includes, and the 1987 definition [of "programming"] explicitly includes, computer programming in the definition".***

In an attempt to create support for this erroneous allegation, applicant tries to weave together a tapestry of "engineered" teachings and definitions:

> A) Applicant falsely asserts that the past 1981 Parent specification literally used the term "programming" to refer to the "instruction signals" that were communicated through the TV/RADIO networks of its disclosed "1981 inventions";
>
> B) Applicant notes that the "instruction signals" of the past 1981 specification were described as comprising signals which instructed ***preprogrammed*** microcomputers to perform given tasks.
>
> C) Applicant cites an outside *Dictionary* definition of the term "program" to show that the term "program" was conventionally used to refer to "computer programming/software"; and
>
> D) Finally, applicant argues that when one combines the above "engineered" teachings from his past 1981 Parent specification together, based on the cited *Dictionary* definition of "program", one "implicitly" arrives at the cited *Dictionary* definition of "program."

However, for a variety of reasons, the tapestry which applicant attempts to weave falls apart at the slightest touch:

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[40] Again, what might be "implied" by the 1981 disclosure is irrelevant to section 112-1 support issues. Section 112 support for a claimed feature is only provided if the claimed feature was actually disclosed; i.e. the feature must at least be "inherent" in the disclosure (not simply "implicit").

A) When one actually looks at the way in which the 1981 "programming" terminology was coined and used throughout applicant's past 1981 Parent specification, i.e. the context in which it actually appears, one finds that the 1981 "programming" terminology unquestionably referred to signaling which represented scheduled TV/Radio shows (and not to "computer software" as applicant now wishfully alleges). In this regard, one finds that applicant's past 1981 Parent specification distinctly distinguished the 1981 "instruct signals" from the 1981 "programming" into which said 1981 "instruct signals" were embedded. Specifically, the past 1981 parent specification leaves absolutely no doubt that said 1981 "instruct and information signals" constituted ancillary/auxiliary signaling that was "associated" with, and embedded within, respective TV/Radio "programming":

> ***"One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the operation of a television studio automatically through the use of instructions and information signals embedded in programming either supplied from a remote source or sources or prerecorded" (emphasis added)***
> [lines 32-37 of column 3][41]
>
> ***"Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and pass them, along with information identifying the channel source of each signal, externally to code reader, 72." (emphasis added)***
> [lines 3-7 of column 11]
>
> ***"The cable head end facility contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from the programing as required, and signal generators, 82, 86, and 90, also known in the art, that***

[41] Citations have been obtained from US Patent #4,694,490.

controller/computer, 73, can instruct to add signals to programming as required"
[lines 36-42 of column 12]

"One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programing that are conventionally recorded by, for example, conventional video recorders, ..."
[lines 25-29 of column 16]

"Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by Passing Instructions and Information Signal that are Embedded in Television and Radio Programing Transmissions to Such External Equipment" (emphasis added)
[Lines 34-38 of column 17]

"Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programing transmissions" (emphasis added)
[lines 39-41 of column 17]

"Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission....These [embedded instruction] signals instruct microcomputer, 205, to generate several video graphic overlays..." (emphasis added)
[lines 42-49 of column 19]

"At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission" (emphasis added)
[lines 60-63 of column 19]

Given the above, it still seems ridiculous for applicant to suggest that the term "programming", e.g. in the context of the past 1981 specification", referred to "computer software" (or even that it referred to applicant's 1981 "instruct and information signals").

B) It is also quite clear from applicant's 1981 past parent specification that the "microcomputers" on the receiver side of the disclosed 1981 inventions were "***preprogrammed***" with the "computer programming/software" which told then ***how*** *to respond* to detected "instruct signals" that were embedded within received TV/Radio "programming." More specifically, it seems quite apparent that each of the 1981 "instruct signals" of applicant's 1981 inventions represented typical cuing-type signals/commands which instructed/triggered "**preprogrammed**" microcomputers to execute respective portions of preprogrammed software in order to perform predefined task/operation (e.g. the 1981 "instruct signals" told the 1981 microcomputers "to generate the overlay" whereas the pre-loaded 1981 computer programming/software told said 1981 microcomputers "how to generate the overlay that was to be generated").[42]

> ***"Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission....These [embedded instruction] signals instruct microcomputer, 205, to generate several video graphic overlays..." (emphasis added)***
> [lines 42-49 of column 19]

Clearly, contrary to applicant's erroneous allegations, there is no teaching in applicant's past 1981 specification indicates that applicant's 1981 "instruct signals" represented "computer

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[42] This being even more apparent when one reads the teaching of applicant's past 1981 Parent specification in light of the "enhanced and improved" teachings of applicant's 1987 CIP specification (i.e. a 1987 specification in which cuing-type signaling was enhanced/improved by the added ability of the 1987 systems to re-program downstream devices via downloaded computer software).

software/programming" in any conventional sense of such terminology.

C) The past 1981 parent specification does not offer/provide a signaling mechanism and/or structure which would have been capable of handling the large continuous sequence of data bytes required to push "computer software" through TV and/or Radio networks. Such a signaling mechanism and structure was not provided until "SPAM" packeting was introduced via applicant's subsequently filed instant 1987 CIP specification. Thus, applicant's past 1981 parent specification was not enabling of the alleged "computer programming/software" feature (i.e. the alleged "computer programming/software" feature that the past 1981 specification did not even describe/disclose).

16) On page 150 of the amendment filed 1/28/2002 in 08/470,571, applicant states:

> ***"The 1981 specification states:***
> ***It is the object of this invention to unlock this potential by the development of means and methods which permit programming to communicate with equipment that is external to television receivers and radio receivers, particularly computers and computer peripherals such as printers***
>
> ***1981 Spec., Col. 1, ll.36-41***
>
> ***Thus applicants' 1981 specification makes it clear that 'programming' is not just TV and Radio shows- it can also include instructions, codes, and signals that are communicated to and control e.g., computers and computer peripherals. <u>These instructions, codes, and signals clearly fall within the definition of programming and to find otherwise is to conveniently and purposefully overlook the entire purpose of the invention."</u> (emphasis added)***

The examiner disagrees with applicant's analysis as to the meaning of the cited excerpt. In reading the 1981 Specification, it seems that "**the *entire* purpose**" [43] to which applicant alludes was the ability to provide multimedia presentations in which TV or Radio "programming" was be displayed along with another supplemental media presentation; wherein the content of the supplemental media presentation was related to the content TV and Radio "programming" thereby *enhancing* the content of the displayed TV and Radio "programming". To achieve this goal, ancillary "instruct signals" and/or other ancillary "information signals" were "associated" with, and "embedded" within, the TV or Radio "programming."

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[43] The examiner notes that applicant's 1981 inventions appear to serve many purposes. Therefor, the examiner does not believe that "the invention" of applicant's 1981 specification has one "entire purpose" as is now alleged by applicant; i.e. if it does have one "entire purpose", then it is not clear to the examiner what that "entire purpose" actually is.

These embedded "instruct and information signals" allowed received TV and Radio *programming* "to communicate" with equipment that was external to the TV and Radio receivers in order to produce the supplemental media presentation. Specifically, the associated "instruct and information signals", which were embedded within the received Radio or TV "programming", were themselves transferred to the external equipment thereby causing the external equipment to produce said supplemental media presentations. Being such, it is still crystal clear to the examiner that the 1981 "programming" terminology was used in a conventional sense by the 1981 specification so as to refer to TV and Radio signaling which represented scheduled TV and Radio shows. To suggest otherwise is to conveniently and purposefully ignore the fact that applicant's 1981 specification clearly distinguished the associated "instruct and information signals" as being separate/distinct entities with respect to the "programming" (i.e. the radio/TV shows) into which these associated "instruct and information signals" were embedded:

> "One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the operation of a television studio automatically through the use of **instructions and information signals embedded in programing** either supplied from a remote source or sources or prerecorded" (emphasis added)
> [lines 32-37 of column 3][44]
>
> "Signal processor, 71, has means, described above, **to identify and separate the instruction and information signals from their associated programing** and pass them, along with information identifying the channel source of each signal, externally to code reader, 72." (emphasis added)
> [lines 3-7 of column 11]
>
> "The cable head end facility contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct **to remove signals from the programing** as required, and signal generators, 82, 86, and 90, also known in the art, that controller/computer, 73, can instruct **to add signals to programing as required**" (emphasis added)
> [lines 36-42 of column 12]
>
> "One particular advantage of these methods for monitoring programming is that, by locating the **identifier signals in the audio and/or video and/or other parts of the programing** that are conventionally recorded by, for example, conventional video recorders, ..." (emphasis added)
> [lines 25-29 of column 16]

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[44] Citations have been obtained from US Patent #4,694,490.

"Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets **by Passing Instructions and Information Signal that are Embedded in Television and Radio Programing Transmissions to Such External Equipment**" (emphasis added)
[Lines 34-38 of column 17]

"Signal processor apparatus have the ability **to identify instruction and information signals in one or more inputted television and radio programing transmissions**" (emphasis added)
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"Microcomputer, 205, **is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission**....These [embedded instruction] signals instruct microcomputer, 205, to generate several video graphic overlays..." (emphasis added)
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"At this point, **an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission**" (emphasis added)
[lines 60-63 of column 19]

17) Applicant clearly failed to carry his original 1981 disclosure forward into the instant 1987 disclosure [45]. Because of this, applicant has forfeited his right to now claim any subject matter that was set forth in the disclosure of his originally filed 1981 parent application, but was not carried forward into the disclosure of his originally filed 1987 parent application [46]. Thus, APPLICANT IS CLEARLY WRONG when he alleges that he can secure a 1981 priority date for that which is now claimed by showing "possession" of that which is now claimed via the original disclosure of his 1981 parent application (i.e. NOT for the subject matter that was left behind!). Specifically, not only must applicant show that he possessed the subject

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[45] The examiner notes that applicant failed to incorporate the original disclosure from his 1981 parent application into the original disclosure of his 1987 parent; i.e. the 1981 disclosure was neither formally copied into the 1987 disclosure nor was the 1981 disclosure "incorporated by reference" into the 1987 disclosure. The original 1987 disclosure simply replaced the 1981 disclosure as "THE INSTANT DISCLOSURE" from which all section 112 issues must be analyzed.

[46] As evidenced by testimony given in ITC investigation #337-TA-392, even applicant and/or his counsel seemed unsure as to exactly what subject matter from applicant's 1981 parent ("if any") made it into applicant's 1987 disclosure.

matter that is now claimed with respect to the original 1981 disclosure but, more importantly [47], applicant must first show possession of the same claimed subject matter with respect to the instant 1987 disclosure. Stated another way, to secure priority, applicant must be able to show that he did not forfeit his right to claim the subject matter possessed in his originally filed 1981 parent application by showing, *independently* [48], that he possessed this same subject matter via the originally filed disclosure of his present application too (i.e. with 1987 disclosure).

18) Applicant is only entitled to claim subject matter which was set forth within the originally filed 1987 disclosure of his present application in accordance with ALL of the requirements of section 112-1. Specifically, the examiner refutes applicant's allegations that the original disclosure of his 1981 parent application can be used in place of the instant 1987 disclosure to meet one or more of the section 112-1 requirements (namely, to establish "possession" of that which is now claimed). It is only after proper section 112 support (i.e. including "possession") has first been established for the pending claims from the disclosure of the present application (the 1987 disclosure), that there is even a need to consider applicant's 1981 parent application at all. Simply put, if the pending claims are not supported under section 112-1 by applicant's present disclosure as originally filed, then the pending claims themselves fail to comply with the

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[47] "More important" in the sense that applicant is prohibited from now claiming anything that is not fully supported in accordance with all of the requirements of section 112-1 by the present disclosure (e.g. the disclosure that was originally filed by applicant in 1987). Specifically, the present claims fall under section 112-1 if they are not fully supported by the present 1987 disclosure even if they were, by some remote chance, fully supported by the disclosure of the earlier 1981 parent.

[48] If applicant had formally/properly incorporated the written description from his 1981 parent application into his originally filed 1987 disclosure, then there would be no need for these "independent" showings; i.e. applicant could have established "possession" via the originally filed disclosure of his 1981 application alone. It is only because applicant failed to formally/properly incorporate the written description from his 1981 parent into his originally filed 1987 disclosure, that such "independent" showings of "possession" are needed; i.e. because the actions taken by applicant have in fact caused the forfeiture of his right to now claim that subject matter from his 1981 disclosure which was not carried forward into the 1987 application.

requirements of section 112-1 and no further questions need be asked [49]. Again, because applicant failed to formally/properly incorporate his 1981 disclosure into his 1987 disclosure, applicant is prohibited from relying on his 1981 disclosure to supplement his present 1987 disclosure (i.e. at least as far as complying with the requirements of section 112-1 is concerned). Stated another way, because applicant's 1981 parent application was never formally incorporated into applicant's present 1987 disclosure, it does not constitute part of applicant's 1987 disclosure, i.e. the *instant disclosure*, from which all section 112-1 support for the currently pending amended claims must be derived.

19) As was noted above, applicant does not believe that "common subject matter" is a requirement for priority under section 120.

> ***"[Section] 120 does not require an applicant to demonstrate that the disclosures relied upon under §120 have anything in common besides their ability to separately comply with §112-1 with respect to the claims for which priority is sought. Accordingly, the Examiner's focus on comparing the support from the two applications for similarity or common subject matter is improper and irrelevant because all applicants are required to do is satisfy §120 is show that each disclosure meets the requirements of §112-1 for a given claim." (emphasis added)***
> [Page 141 of applicant's response filed on 1/28/2002 in application S.N. 08/470,571]
>
> ***"Accordingly, the law requires a two part test in which the applicant separately demonstrates § 112 support for each application. In the FOA, the examiner distorts this straightforward test by imposing a third element of the test whereby the § 112 support from each application consists of 'common subject matter.'"***
> [see the last 10 lines on page 137 of the response filed on 1/28/2002 in SN 08/470,571].

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[49] At least with respect to the issue of "adequate written description".

Being such, applicant does not even pretend that the subject matter that is now being claimed in his many applications represents "common subject matter" between the instant 1987 CIP specification and the past 1981 parent specification. Instead, applicant is happy to allege the benefit of section 120 priority for that which is claimed based only on alleged "correlated subject matter" between his 1987 and 1981 specifications; e.g. NOTE:

a) That Appendix C of applicant's response filed 6/7/2000 sets forth alleged "correlations" between respective 1981 and 1987 disclosures; and

b) That the claim by claim showing of alleged 1981 and 1987 section 112 claim support in Appendix A of applicant's response filed 6/7/2000 seem to regurgitate many of the alleged "correlations".

The examiner, on the other hand, believes that "common subject matter" is in fact a requirement of section 120. Thus, the examiner maintains that applicant's allegations pertaining to the existence of "correlated subject matter" are irrelevant to the issue of section 120 priority because "common subject matter", not "correlated subject matter", is required under section 120. [50]

An extreme example of just how far applicant has been willing to distort section 120 in an effort to obtain the 1981 priority date for ones of the pending amended claims can be found in the claim chart for claim 123 within APPENDIX A of applicant's response filed 6/7/2000 in SN 08/470,571. In this claim chart, applicant alleges that the recitations of claim 123 find section 112-1 support via the "Super Discount Supermarkets" embodiment of the instant 1987 disclosure while alleging that this claimed 1987 "Super Discount Supermarkets" embodiment is entitled to the 1981 filing date of the parent application based on the 1981 "Wall Street Week" embodiment. The examiner disagrees. Specifically, the examiner maintains that the 1987 "Super Discount Supermarkets" embodiment and the 1981 "Wall Street Week" embodiment do not

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[50] See part "A)" of "SECTION I".

constitute "common subject matter" and therefore the claimed 1987 "Super Discount Supermarkets" embodiment is not entitled to the 1981 filing date of the 1981 "Wall Street Week" embodiment as alleged.

20) In lines 3-7 on page 11 of the supplemental response filed 5/06/2002 in SN 08/470,571, applicant states:

> ***"the starting point for determining whether an applicant is entitled to priority under section 120 is what is being claimed. Without identifying precisely what is being claimed, it is impossible to seriously undertake an analysis of whether sufficient support exists in both applications thus entitling applicants to a 1981 priority date".*** [51]

The examiner was a bit surprised that applicant raised this issue after all of the section 112-1 requests which have been made by the Office throughout the present prosecution in hopes of getting applicant's clarification as to *precisely what it is* that applicant claims. In fact, the Office continues to struggle in its efforts to make such determinations for the 10,000 or so pending amended claims. In the past, when applicant has been asked to identify "*precisely what is being claimed*", applicant has declined [52] to provide such showings instead opting to take the positions:

> A) That it is the examiner's job, not applicant's, to read and understand the 557 pages of applicant's current 1987 CIP specification in order to determine "precisely what it is being claimed" via applicant's 10,000 or so pending claims; and

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[51] The examiner agrees with applicant's position noting that, without being able to identify precisely what it is that is being claimed, it is impossible to seriously undertake many other examining related activities too .

[52] A notable exception being the most helpful claim charts of alleged "dual" section 112 support which applicant has, only on a few occasions, been willing to kindly provide [e.g. APPENDIX A in the amendment filed 6/7/2000 in 08/470,571].

B) That at least some of the limitations of applicant's 10,000 or so pending claims are actually directed to subject matter that is not described within in the instant 1987 CIP specification.

"the [examiner's] assumption that 'all limitations of the currently pending claims are necessarily directed to that which is described in the present 1987 disclosure' is mistaken and wholly unsupported." [53]

[lines 8-10 on page 144 of the amendment filed in 08/470,571 on 1/28/2002].

Hence applicant does not wish to cite, or indeed is unable to cite, section 112-1 support from the instant CIP disclosure for these limitations [e.g. often times out of an expressed fear that a court, at some later date, might actually hold the scope/meaning of these limitations as being directed to subject matter that was actually disclosed within the instant 1987 CIP specification].

In regard to the section 112-1 issue that has now been raised by applicant, the following positions continue to be taken by the present examiner:

A) It has always been a desire of the Office to determine "precisely what it is" that applicant now claims. Being that it still remains so unclear as to "precisely what it is" that applicant now claims, clarification on the part of applicant is once again formally requested for the 10,000 or so pending claims. For the record, the current examiner has found applicant's claim charts of alleged "dual" section 112-1 support to be the most helpful form of aid that applicant has provided to date because it at least attempts to match each claimed limitation to the specific teachings in the specification(s) that they are allegedly directed; [54] and

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[53] Contrary to applicant's position, the examiner maintains that a pending claim must necessarily be directed to that which is described in the instant 1987 specification. This is not to say that the resulting scope of the pending claim is limited only to that of the 1987 specification to which it must necessarily be directed.

[54] The process of showing a limitation-to-disclosure match for each limitation of each claim should be an easy task for applicant, if not a trivial one, being that the currently pending claims must be "*clearly anticipated*" by the teachings of applicant's instant disclosure.

B) The examiner continues to adopt the positions expressed by Judge Luckern at the ITC:

> **1) "that the specification of the '277 patent [the 557 pages of the instant 1987 specification] is difficult to understand, as it is dealing with many possible systems";**
>
> **2) "that despite complainant's [i.e. the current applicant's] attempts to point to the specification of the '277 patent [the 557 pages of the instant 1987 specification] as illustrative of some claim elements, said specification has not been helpful in connecting individual claim language to distinct statements in the specification of the '277 patent that is supposed to provide an explanation of the claimed systems in issue";**
>
> **3) "that complainant's [i.e. the current applicant's] assertions in many instances of where support in the specification of the '277 patent [the 557 pages of the instant 1987 specification] can be found for claimed elements 'reads like the directions to a treasure hunt. There's a piece here, there's a piece there, it's in there somewhere.'"; and**
>
> **4) " that the specification of the '277 patent [the 557 pages of the instant 1987 specification] and the claims in issue 'are like ships passing in the night in the same ocean, but not necessarily sailing in the same direction.'"**
> **[SEE: 1997 ITC Lexis 307, *258 (part I of II)]**

Once again, the examiner hereby requests applicant's help in determining "precisely what it is" that applicant now claims.

21) The examiner notes that the "SPAM" technology, on which the "more sophisticated" systems of applicant's present 1987 disclosure are based, is vastly different from the "cuing-type signal" technology on which the "primitive" systems of applicant's 1981 parent application were based; e.g. the ability of SPAM to carry and distribute "software" being but just one of the more notable differences. Clearly, the "more sophisticated" 1987 alleged inventions that are now *necessarily being claimed* are not entitled to the 1981 filing date of their 1981 "primitive" ancestors; i.e. applicant is not allowed to transport his "more sophisticated" 1987 alleged inventions back in time to the 1981 filing date of his different, albeit sometimes "correlated", "primitive" 1981 alleged inventions.

22) The issues cited above illustrate a further dilemma that the examiners have faced when trying to read and understand that which is now being claimed by applicant. Specifically, terminology which might seem definite when one looks to the instant 1987 disclosure alone, becomes confusing and indefinite when read in light of applicant's responses; responses in which applicant has applied newer 1987 interpretations/definitions to the claims in order to establish section 112-1 support and has applied older and different 1981 interpretations/definitions to the same claims in order to obtain the 1981 priority date for the recitations (this approach is evident throughout appendix A of applicant's last response). Thus, at times, it seems to be the record itself that has, or that has at least contributed to, making the meaning and scope of the claims' recitations so unclear. It must also be noted that the claim recitations themselves are often contorted in the attempt to craft them to read independently on different teachings from the two disclosures [55]. Not only does this process results

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[55] For example, applicant's claims now recite "downloadable processor instructions" which has no antecedent basis in either of the originally filed 1987 and 1981 disclosures. Yet it appears that this recitation could, quite properly, be read on the originally described "program instruction sets" (e.g. downloaded software) of applicant's instant 1987 disclosure. However, when one looks at appendix A of applicant's last response, one finds that applicant has attempted to read the recitation not on the originally described "program instruction sets" of the instant disclosure, but instead on respective (and different) commands/instructions from the 1981 and 1987 disclosures both of which functioned only to trigger actions/operations on the receiver side. Applicant resorts to this interpretation apparently out of recognition that the "program instruction sets"/software of the instant 1987 disclosure has no equivalent in the 1981 disclosure. What results from this process is a claim which looks like it is literally directed to the downloading of software that was described only in the 1987 disclosure, and yet has been afforded the 1981 effective filing of a parent application in which such a feature was not disclosed (i.e. effectively transporting the 1987 "downloading of software" feature back in time to the

in claim limitations that are difficult to read in that they do not quite fit teachings from either disclosure, but more importantly, the effort involved in this process is wasted effort because the subject matter being claimed/referenced in the two disclosures is not "common subject matter"; e.g. the claims are not entitled to the 1981 filing date even if it could be shown that they can be read on respective (but different) subject matter from the two disclosure (a situation that is also quite evident from appendix A of applicant's last response).

Even so, given a record in which applicant continues to argue that his pending claims are entitled to the 1981 priority date because they can be read in different ways on the 1981 and 1987 disclosures, a situation is created in which the "broadest reasonable meaning" of a claim's limitations takes on one meaning when defined by the file history itself (e.g. when based on applicant's attempt to read each claims' limitations, improperly, onto two completely different disclosures), and takes on a different meaning when defined, properly, from the originally filed 1987 disclosure by itself. Should the examiner apply the "prior art" according to the interpretations afforded by applicant's 1987 disclosure alone (as is proper), or should the examiner apply the "prior art" according to the interpretations created by applicant via his improper reliance on different subject matter from the different 1981 and 1987 specifications? No matter how you cut it, the result is confusion!

23) The following position taken by Judge Rich demonstrates that "continuity of disclosure", needed to establish the benefit of priority under section 120, requires continuity of "common subject matter" in a form that meets all of the requirements of section 112-1; e.g. even continuity of "best mode".

> **"It must be understood that the introduction of a new best mode disclosure would constitute the injection of 'new matter' into the application and automatically deprive the applicant of the benefit of the earlier filing date of the**

1981 date of the parent application in which it was not disclosed).

parent or original application for any claim whose validity rests on the new best mode disclosure".
TRANSCO [38 F.3d 551; 32 U.S.P.Q.2D (BNA) 1077]

24) At times, applicant seems to be of the opinion that *only* the "enablement" requirement of section 112-1 applies to the issue of "continuity". At other times, applicant seems to be of the opinion that *only* the "description" requirement of section 112-1 applies to the issue of "continuity". On its face, one of these two positions must be wrong (i.e. they are mutually exclusive). In reality, both positions are wrong. As evidenced above, *ALL* of the requirements under section 112-1 apply to the issue of "continuity" (e.g. even "best mode"). Being such, applicant is only entitled to the benefit of an earlier filing date for claims that are directed to "common subject matter" for which "continuity" has been maintained between the present and the earlier filed application. "Continuity of common subject matter" exists between applications only when there is:

A) Continuity of "written description" between applications for the subject matter being claimed (as defined under section 112-1);

B) Continuity of "enablement" between applications for the subject matter being claimed (as defined under section 112-1); *and*

C) Continuity of "best mode" between applications for the subject matter being claimed (as defined under section 112-1).
[note sections 14 and 15 above]

Being such, none of applicant's currently pending amended claims are entitled to the priority date of applicant's 1981 parent application in that the claims are not directed to "subject matter" [56] for which there is has been:

a) the required continuity of "written description" between applications;

b) the required continuity of "enablement" between applications; *and*

c) the required continuity of "best mode" between applications. [57]

25) It is understood that CIP practice allows an applicant to file a new application containing additional/new subject matter while preserving the applicant's right to claim (and the right to the earlier filing date for) subject matter which was previously disclosed in the parent application. But an applicant's right to claim subject matter from the parent application is only

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[56] The "subject matter" currently being claimed corresponds to the metes and bounds of the pending amended claims as defined by the instant 1987 CIP specification from which they depend. Obviously, for reasons that have been addressed throughout the record, this 1987 "subject matter" currently being claimed is different from the 1981 "subject matter" which would have been claimed had the metes and bound of these same claims been defined by the past 1981 parent specification instead; i.e. evidencing the lack of continuity in "common subject matter" with respect to that which is claimed.

[57] e.g. applicant has argued that he was under no obligation to update his earlier filed disclosure with his "new best mode" when originally filed the present disclosure. The examiner strongly agrees. However, to maintains continuity between applications, applicant was required to at least carry forward the "old best mode" from of his earlier filed application into his originally filed present disclosure. Applicant failed to do this and therefor has not maintained "continuity of disclosure". For example, as was noted in part "13" of this paragraph, the "old best mode" of applicant's 1981 parent application was based exclusively on primitive 1981 cuing technology while the "new best mode" of applicant's present application was based exclusively on the more sophisticated 1987 "SPAM" technology (i.e. extended Teletext technology). In view that the primitive 1981 cuing technology was not carried forward into the present 1987 application, e.g. applicant's new 1987 disclosure literally replaced applicant's earlier filed 1981 disclosure in its entirety, the "old best mode" was in fact left behind (i.e. it had to be!). For this reason alone, the pending amended claims are not entitled to the 1981 priority date of applicant's parent application. Again, the pending amended claims are necessarily directed to the systems/methods of applicant's present 1987 disclosure which is based on the more sophisticated "SPAM" technology". Accepting applicant's claim to a 1981 priority date for these pending amended claims would allow applicant to transport claims which are necessarily directed to the 1987 disclosure/technology back in time to the 1981 date of the earlier disclosure/technology. Using this scheme, applicant would be able to improperly transport his new 1987 "best mode"/technology back in time to the 1981 date of his "old best mode"/technology.

preserved for that subject matter of the parent application which has actually been carried forward (e.g. *incorporated*) into the disclosure of the CIP. Any and all subject matter from the parent application that is not carried forward into the disclosure of the CIP cannot be legally claimed within said CIP; i.e. the right to claim subject matter that is left behind is lost/forfeited with respect to said CIP application. To prevent such a loss/forfeiture, it is common for an applicant to draft the disclosure of his CIP application so that it literally incorporates the entire disclosure of the parent application, e.g. either physically or "by reference", thereby literally carrying forward all of the subject matter from the parent application into the CIP application and in doing so:

A) Preserving applicant's right to claim any/all of the subject matter from the parent within said CIP application; and

B) Preserving applicant's right to the filing date of the parent application for any/all claims which are directed to the subject matter of the parent application that has been carried forward into the CIP application.

In contrast to the common CIP practice described above, when filing his 1987 CIP disclosure, the present applicant elected to draft an entirely new specification and elected not to formally incorporate the disclosure from his 1981 parent application in its entirety. In fact, when filing his 1987 CIP disclosure, applicant elected to draft the entirely new specification in a way which makes it difficult to impossible to determine if any of the subject matter from his 1981 parent was carried forward into the disclosure of his CIP [58]. Today, faced with the fact that subject matter which was not carried forward (i.e. *incorporated*) into the present disclosure has been lost/forfeited, applicant takes a leap of faith by suggesting that all of the subject matter from his 1981 parent application somehow/miraculously found its way into the new disclosure of his 1987 CIP. Clearly, this is not true. In fact, when one studies the two disclosures in detail, one actually finds that little to none of the subject matter from the 1981 parent made it

[58] For example: the 1987 CIP appears to have injected a "new best mode disclosure" by literally replacing the 1981 inventions with new 1987 inventions which, by itself, refutes all claims of priority to the 1981 filing date.

into the 1987 CIP disclosure in a form that constitutes "common subject matter". For example, even the subject matter from the two disclosures which looks similar at first glance, is based on vastly different transmission technologies, different scopes/meaning/interpretations, and on a new "best mode" [e.g. note Appendix II of the Office action mailed 8/27/01 in SN 08/470,571]. Being such, it does not appear that any of applicant's currently pending amended claims are entitled to the 1981 date of applicant's parent application.

26) In the past, applicant seems to have suggested that even if one were to find that applicant's 1981 disclosure had not been carried forward into applicant's later filed 1987 disclosure, one/applicant could still rely on said 1981 disclosure to provide an understanding of the later filed 1987 disclosure with respect to issues under section 112. The examiner notes that only "prior art" can be used for such purposes. Therefor applicant's 1981 can only be used to clarify/supplement his 1987 disclosure if it is found to be "prior art" with respect to the 1987 disclosure. But if the 1981 disclosure is "prior art" for applicant's suggested purpose (i.e. for the purpose of understanding the later filed 1987 disclosure), then it must be "prior art" for issues under sections 102 and 103 too. Thus, for applicant to suggest that his 1981 disclosure be used as "prior art" for the purpose of understanding his 1987 disclosure seems to put applicant, at least potentially, on a very slippery slope; i.e. because if applicant's position were ever *legally* accepted, then applicant's 1981 disclosure would *legally* become "prior art" against the 1987 disclosure for sections 102 and 103 issues too. [59]

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[59] For the record: applicant's 1981 disclosure does not constitute "prior art" with respect to applicant's 1987 disclosure and therefor cannot serve as "prior art" for any purposes. Thus, applicant's 1981 disclosure cannot be used to supplement ones understanding of applicant's 1987 disclosure, with respect to issues under section 112-1, as seems to have been improperly suggested by applicant in the past. Specifically, with respect to section 112 issues, applicant's 1987 disclosure *stands alone*.

27) The examiner notes that many of applicant's pending claims recite the following receiving station structures: a) a receiver; b) a signal detector; c) a processor; and d) an output device. Appendix A of the response filed on 6/7/2000 in SN 08/470,571 shows that:

a) the recited "receiver" refers to nothing more that --a TV tuner--;
b) the recited "signal detector" refers to nothing more than a decoder 203 which extracts and error corrects embedded information from the VBI of TV programming;
c) the recited "processor" refers to nothing more than microcomputer 205; and
d) the recited "output device" refers to nothing more than a "TV monitor".

The examiner maintains that all of these recited structures are found within a conventional CPU/MP/computer implemented Teletext receivers. For example, note:

a) the TV tuning element (2);
b) the extracting and decoding circuitry 8 and 11;
c) the processing element (13); and
d) the TV monitor/display (6),
of BETTS [GB 1,556,366].

Such further highlights the direct correlations that exists between the "SPAM" distribution system of applicant's alleged invention and the "Teletext"distribution systems of the "prior art". Again, the examiner believes that applicant's "SPAM" is, for all intents and purposes, synonymous with conventional "Extended Teletext" [note part "5)" of this section];

28) Applicant's originally filed instant disclosure clearly taught away from the "interactive" ultimate receiver station configuration which has been claimed during the present prosection [note claim 56 as presented in the amendment filed 6/7/2000 and 7/13/2000 in 08/470,571]. Namely, as originally described, one of the key advantages that was allegedly offered by applicant's alleged inventions was the fact that the "ultimate receiver stations" produced their respective personalized audio/video presentation

"automatically" and without any manual input from the viewer; e.g. whereby the complex processing that was involved within the system remained hidden from, and transparent to, the viewer/user; SEE:

A) lines 27-34 on page 11 of applicant's instant disclosure as originally filed;

B) lines 18-20 on page 91 of applicant's instant disclosure as originally filed;

C) lines 13-34 on page 427 of applicant's instant disclosure as originally filed;

D) etc,...

Despite this original teaching, applicant has subsequently attempted to introduce pending amended claims into the record which, according to applicant's own allegation (see the support for claim 56 as was set forth in APPENDIX A of the amendment filed on 6/7/2000 in SN 08/470,571), recite an "interactive" implementation of the originally disclosed non-interactive "ultimate receiver stations". The section 112-1 problem is immediately apparent [also note the arguments set forth in latest Office action of SN 08/470,571].

29) As originally described, it appears that the "ultimate receiver stations" of applicant's alleged invention produced the combined image of applicant's figure 1C by (apparently) additively mixing the images of figures 1A and 1B in their entirety; i.e. this fact seems to explain why the "line" of figure 1A had to be produced "on a background color that is transparent when overlaid on a separate video image" as was described in applicant's originally filed disclosure [see lines 9-14 on page 25 of applicant's instant disclosure]. Despite this original teaching, applicant now attempts to introduce claims which recite a process in which the respective images are now combined in less than their entirety and/or in which one portion of one image is "replaced" by a portion of another. The section 112-1 problem is immediately apparent [note the latest Office action in SN 08/470,571].

30) In the first two lines under the heading *"a. Independent Claim 56 and Dependent Claims Thereto"* on page 287 of the response filed 1/28/2002 in SN 08/470,571, applicant alleges that the publication date of the applied Gunn et al article was never established by the Office. This allegation is untrue. The following is noted:

a) This Gunn et al. article was originally submitted by applicant for consideration within voluminous IDS citations. However, as with many of these citations, applicant never provided the Office with information regarding the publication date of the article;

b) The Gunn et al. article has been applied by the Office against many of applicant's pending claims, and while applicant never provided the Office with the article's publication date, the Office was able to establish the date in question and notified applicant of it accordingly [note: the PTO- 892 of paper #2 in the present 08/470,571 record; the PTO-892 of paper #20 in SN 08/447,502; etc,...];

c) Again, the publication date for this Gunn et al. article, e.g. an article that was submitted by applicant for consideration against the pending amended claims, is March 26-28 of 1980. This date is, by any standard, valid "prior art" against all of applicant's pending claims.

31) etc,...

SECTION V: Section 112-2 issues:

Claims 45-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following is noted:

1) The term "said information transmission" in line 2 of claim 45 has multiple antecedent basis and is confusing/indefinite because it is not clear if it refers to:

a) the recited "information transmission" that is received at the transmitter station [e.g. line 11 of claim 43];

b) the recited "information transmission" that is transmitted from the transmitter station [e.g. line 18 of claim 43];

c) or to some other "information transmission."

Similar clarification is needed for claim 48.

SECTION VI: Section 112-1 issues:

Claims 2-18, 20-30, 33-49, and 51-60 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In related ITC investigation No. 337-TA-392, the Administrative Law Judge found:

A) "that the specification of the '277 patent [the 557 pages of the instant 1987 disclosure] is difficult to understand, as it is dealing with many possible systems";

B) "that despite complainant's [the current applicant's] attempts to point to the specification of the '277 patent [the 557 pages of the instant 1987 disclosure] as illustrative of some claim elements, said specification has not been helpful in connecting individual claim language to distinct statements in the specification of the '277 patent that is supposed to provide an explanation of the claimed systems in issue";

C) "that complainant's [the current applicant's] assertions in many instances of where support in the specification of the '277 patent [the 557 pages of the instant 1987 disclosure] can be found for claimed elements 'reads like the directions to a treasure hunt. There's a piece here, there's a piece there, it's in there somewhere.'"; and

D) " that the specification of the '277 patent [the 557 pages of the instant 1987 disclosure] and the claims in issue 'are like ships passing in the night in the same ocean, but not necessarily sailing in the same direction.'"

[SEE: 1997 ITC Lexis 307, *258 (part I of II)]

The examiner continues to adopt these same positions in regard to the pending amended claims currently at issue. The following represent specific examples of

such section 112-1 problems for which appropriate clarification by applicant is required:

A) WITH RESPECT TO CLAIM 2:

1) It is not clear where the disclosure as originally filed described the "plurality of signals" that are received in line 4. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the "portion" of the plurality of signals that is recited in line 4. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the "two media" of line 6. Clarification is needed.

4) It is not clear where the disclosure as originally filed described the "first medium" that is stored in line 7. Clarification is needed.

5) It is not clear where the disclosure as originally filed described the "first portion of said multimedia presentation" that is recited in line 8. Clarification is needed.

6) It is not clear where the disclosure as originally filed described the "second medium" that is received in line 9. Clarification is needed.

7) It is not clear where the disclosure as originally filed disclosed the "content" of the second medium that is "determined" in line 9. Clarification is needed.

8) It is not clear where the disclosure as originally filed described the "presentation" of line 10 that is "coordinated" under "computer control" based on the step of determining a "content" of the second medium. Clarification is needed.

9) It is not clear where the disclosure as originally filed described the "viewer" of line 13. Clarification is needed.

10) It is not clear where the disclosure as originally filed described the "listener" of line 13. Clarification is needed.

11) It is not clear where the disclosure as originally filed described the "content" of the first medium that is recited in line 14. Clarification is needed.

12) It is not clear where the disclosure as originally filed described the "predetermined relationship" that is recited in line 15. Clarification is needed.

13) It is not clear where the disclosure as originally filed described the recited "method of outputting a multimedia presentation" which comprised:

a) the recited step of "receiving" that is recited in lines 4-6;

b) the recited step of "storing" that is recited in lines 7-8;

c) the recited step of "determining" that is recited in line 9;

d) the recited step of "coordinating" that is recited in lines 10-12; and

e) the recited step of "outputting" that is recited in lines 13-15.

Clarification is needed.

B) WITH RESPECT TO CLAIM 3:

It is not clear where the disclosure as originally filed described the "computer" of line 2 which stored said 'first medium". Clarification is needed.

C) WITH RESPECT TO CLAIM 4:

It is not clear where the disclosure as originally filed described the "computer" of line 2 which performs the recited step of "determining". Clarification is needed.

D) WITH RESPECT TO CLAIM 5:

It is not clear where the disclosure as originally filed described "each of the plurality of signals" of lines 1 and 2 that are "received" from an "external transmitter station". Clarification is needed.

E) WITH RESPECT TO CLAIM 6:

1) It is not clear where the disclosure as originally filed described the "signals" of line 3 that are originated from the recited "intermediate transmitter station" of line 2. Clarification is needed;

2) It is not clear where the disclosure as originally filed described a step/process in which the recited "receiver station" was "programmed" to process said "signals" which were originated by said "intermediate transmitter station". Clarification is needed.

F) WITH RESPECT TO CLAIM 7:

It is not clear where the disclosure as originally filed described the "content" of line 1 which explains the significance of a content of the first portion of the multimedia presentation. Clarification is needed;

G) WITH RESPECT TO CLAIM 8:

It is not clear where the disclosure as originally filed described the recited step for "causing" a "first selective transfer device" to communicate audio to an audio output device, wherein the audio explains the significance of the content of a first portion of a multimedia presentation. Clarification is needed;

H) WITH RESPECT TO CLAIM 9:

1) It is not clear where the disclosure as originally filed described the "further information for output" that is recited in lines 2. Clarification is needed;

2) It is not clear where the disclosure as originally filed described the "plurality of selective transfer devices" that are recited in line 3. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the recited step for "causing" the "plurality of selective transfer devices" to communicate "further information" to further output devices. Clarification is needed;

I) WITH RESPECT TO CLAIM 11:

1) It is not clear where the disclosure as originally filed described the "digital data channel" that is recited in lines 2. Clarification is needed;

J) WITH RESPECT TO CLAIM 12:

1) It is not clear where the disclosure as originally filed described the recited "first medium" that is received in a "digital data channel." Clarification is needed;

K) WITH RESPECT TO CLAIM 13:

1) It is not clear where the disclosure as originally filed described the "identifier" that is recited in line 2. Clarification is needed;

2) It is not clear where the disclosure as originally filed described the recited step of "determining" which includes a step of "processing" said "identifier". Clarification is needed.

L) WITH RESPECT TO CLAIMS 14-16:

1) It is not clear where the disclosure as originally filed described a step in which "said content" of "said second" medium was "identified" by the processed "identifier" wherein said identified content includes:

a) audio; and

b) video.

Clarification is needed;

M) WITH RESPECT TO CLAIMS 17 and 18:

1) It is not clear where the disclosure as originally filed described a step of "storing" the second medium at the receiver station based on said step of determining a "content" of the second medium.

N) WITH RESPECT TO CLAIM 20:

1) It is not clear where the disclosure as originally filed described the "receiver station" of line 2 that is "adapted to process a plurality of signal." Clarification is needed.

2) It is not clear where the disclosure as originally filed described the "source" of lines 5 that is "external" to said receiver station. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the "identifier" of line 6. Clarification is needed.

4) It is not clear where the disclosure as originally filed described the "first of said plurality of signals" of line 6 which include said "identifier." Clarification is needed.

5) It is not clear where the disclosure as originally filed described the recited step of "processing" said "first of said plurality of signals" to provide the "first medium of said multimedia presentation" and said "identifier" [e.g. lines 7-8]. Clarification is needed.

6) It is not clear where the disclosure as originally filed described the "processor instruction" of line 11 that is received separately from said "identifier." Clarification is needed;

7) It is not clear where the disclosure as originally filed described the step for "controlling" a receiver station to respond to a received "processor instruction"

based on the step of identifying a "content" of a first medium, wherein said "content" of the first medium was identified via and "identifier" that was received separately from said processor instruction [note lines 10 and 11]. Clarification is needed.

8) It is not clear where the disclosure as originally filed described the step for "responding" to the received "processor instruction" based on an ***implied*** step in which a "content" of the second medium was also "identified" [note lines 12 and 13]. Clarification is required.

O) WITH RESPECT TO CLAIM 21:

1) It is not clear where the disclosure as originally filed described the recited "first selective transfer device" of line 2 wherein said "first selective transfer device" was controlled to transfer said "***first medium***" to and output device. Clarification is needed;

1) It is not clear where the disclosure as originally filed described the recited "first selective transfer device" of line 2 wherein said "first selective transfer device" was controlled to transfer said "***second medium***" to and output device. Clarification is needed;

P) WITH RESPECT TO CLAIM 22:

1) It is not clear where the disclosure as originally filed described the recited step of "controlling" the "first selective transfer device" wherein the said step of controlling comprises an ***implied*** step of "originating" said second medium. Clarification is needed.

Q) WITH RESPECT TO CLAIM 23:

1) It is not clear where the disclosure as originally filed described the recited "plurality of selective transfer devices" of line 2, wherein a second one of the "plurality of selective transfer devices" are caused to "store said first medium." Clarification is needed.

R) WITH RESPECT TO CLAIM 24:

1) It is not clear where the disclosure as originally filed described the recited "at least two different sources" of line 4. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited "remote transmitter" of line 7. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the recited "control signal" of line 7. Clarification is needed.

4) It is not clear where the disclosure as originally filed described the recited "receiver station" of lines 7 and 8. Clarification is needed.

5) It is not clear where the disclosure as originally filed described the "content" that is identified in lines 9 and 10 based on the "control signal" that is received at a receiver station from a remote transmitter station. Clarification is needed.

6) It is not clear where the disclosure as originally filed described the step of "coordinating" the presentation of the first medium with the presentation of the second medium based on the step in which the "content" of said first medium was identified based on said "control signal." Clarification is needed.

S) WITH RESPECT TO CLAIM 25:

1) It is not clear where the disclosure as originally filed described the recited "speaker" and "printer" which comprise the first and second output devices of claim 24 to which are outputted the first and second mediums of claim 24. Clarification is needed.

T) WITH RESPECT TO CLAIM 26:

1) It is not clear where the disclosure as originally filed described the recited "plurality of media" that is recited in line 2. Clarification is needed.

2) It is not clear where the disclosure as originally filed described:

a) the "one" of the "plurality of media" that is processed by the receiver station as is recited in line 2; and

b) the "two" of the "plurality of media" that are processed by the receiver station as is recited in lines 6 and 7.

Clarification is needed.

3) It is not clear where the disclosure as originally filed described the recited "different sources" that are recited in line 5. Clarification is needed.

4) It is not clear where the disclosure as originally filed described the recited step of "identifying" a content of a first and a second one of the "plurality of media" based on the step of processing at least two of said plurality of media as is recited in lines 8 and 9. Clarification is needed.

5) It is not clear where the disclosure as originally filed described the recited step for "outputting said multimedia presentation based on said step of identifying" that is recited in line 10, wherein said step of identifying operates to identify a content of a first and a second one of the "plurality of media" based on the step of processing at least two of said plurality of media. Clarification is needed.

6) It is not clear where the disclosure as originally filed described:

a) the recited "sequential" presentation of line 11;

b) the recited "simultaneous" presentation of line 11;

U) WITH RESPECT TO CLAIM 27:

1) It is not clear where the disclosure as originally filed described the recited "storage device" of line 2. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited step of storing "said at least two of said plurality of media" at the receiver station as is recited in lines 2 and 3, wherein:

a) "said at least two of said plurality of media" are processed at the receiver station to output a multimedia presentation [note lines 6 and 7 of claim 26]; and

b) "contents" of "said at least two of said plurality of media" are identified based on said processing.

Clarification is needed.

V) WITH RESPECT TO CLAIM 28:

1) It is not clear where the disclosure as originally filed described the recited "portion of said multimedia presentation" that is recited in line 2. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited step of "originating" of lines 1 and 2, wherein said step of originating the portion of said multimedia presentation based on the step of storing at least two of said plurality of media. Clarification is needed.

W) WITH RESPECT TO CLAIM 29:

1) It is not clear where the disclosure as originally filed described the "series of discrete video images" of line 4. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the "processor" of line 3 which creates the "series of discrete video images." Clarification is needed.

3) It is not clear where the disclosure as originally filed described the "control signal" of line 3 which "programs a processor." Clarification is needed.

4) It is not clear where the disclosure as originally filed described the recited step of "processing" the "control signal" which was used to "program" the processor. Clarification is needed.

5) It is not clear where the disclosure as originally filed described the "video image of said series of discrete images" of line 7 that is based on a step of identifying a content of a first medium. Clarification is needed.

6) It is not clear where the disclosure as originally filed described the "output device" of line 10. Clarification is needed.

X) WITH RESPECT TO CLAIM 30:

1) It is not clear where the disclosure as originally filed described the "identifier" of line 3 that is received from a "remote transmitter station." Clarification is needed.

2) It is not clear where the disclosure as originally filed described the ***implied*** step of "processing" the received identifier of line 2, wherein this ***implied*** step of "processing" is comprised within a step of identifying a content of a first medium. Clarification is needed.

Y) WITH RESPECT TO CLAIM 33:

1) It is not clear where the disclosure as originally filed described the "first signal" of line 3 that is "received from a remote transmitter station." Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited step of "outputting said first signal at said receiver station" [note line 4]. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the "user response" of line 3 that is received based on the step of outputting said "first signal." Clarification is needed.

4) It is not clear where the disclosure as originally filed described:

a) the "content" that is "identified" in line 6;

b) the "content" that is "compared" with stored data in lines 7 and 8. Clarification is needed.

5) It is not clear where the disclosure as originally filed described the "data" of line 7 that is stored at said receiver station. Clarification is needed.

6) It is not clear where the disclosure as originally filed described the step of "tuning said receiver station to receive a second signal" of lines 9 and 10, wherein said step of tuning is based on a step in which an identified content of a first signal was compared with data stored at the receiver station based on a user's response. Clarification is needed.

Z) WITH RESPECT TO CLAIM 34 and 36:

1) It is not clear where the disclosure as originally filed described the "information" of line 2 that is transmitted, by telephone, from said receiver station based on the step of receiving a user response. Clarification is needed.

A2) WITH RESPECT TO CLAIM 35:

1) It is not clear where the disclosure as originally filed described the "portion of said user response" that is recited in line 2. Clarification is needed.

B2) WITH RESPECT TO CLAIM 37:

1) It is not clear where the disclosure as originally filed described the "portion of the plurality of signals" of lines 2 and 3 that is received by "at least one receiver" from an external "source." Clarification is needed.

2) It is not clear where the disclosure as originally filed described the "storage device" of line 5. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the "first portion of a multimedia presentation" of line 7. Clarification is needed.

4) It is not clear where the disclosure as originally filed described the "content of the second medium" that is implicitly "determined" in line 11. Clarification is needed.

5) It is not clear where the disclosure as originally filed described the "at least one processor" of line 7 that is "operatively connected" to "at least one receiver" and to a "storage device", wherein said at least one processor coordinates the presentation of first and second mediums of a multimedia presentation based on an ***implied*** step of determining a content of the second medium. Clarification is needed.

6) It is not clear where the disclosure as originally filed described the "at least one output device" of line 12 that is "operatively connected" to "at least one receiver" and "at least one of":

a) said "at least one processor"; and

b) said "storage device."

Clarification is needed.

7) It is not clear where the disclosure as originally filed described the "portion of the plurality of signals" of lines 2 and 3 that is received by "at least one receiver" from an external "source." Clarification is needed.

8) It is not clear where the disclosure as originally filed described:

a. the "viewer" of line 14; and

b. the "listener" of line 14.

Clarification is needed.

9) It is not clear where the disclosure as originally filed described the "predetermined relationship" that is recited in lines 15 and 16. Clarification is needed.

C2) WITH RESPECT TO CLAIM 38:

1) It is not clear where the disclosure as originally filed described the "identifier" of line 2 that is transmitted from the external "source." Clarification is needed.

2) It is not clear where the disclosure as originally filed described the "detector" of line 4 that detects the "identifier" that is transmitted from the external "source." Clarification is needed.

D2) WITH RESPECT TO CLAIM 39:

1) It is not clear where the disclosure as originally filed described the "multichannel signal" of line 2. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the "converter" of line 3 that is "operatively connected" to "at least one receiver." Clarification is needed.

E2) WITH RESPECT TO CLAIM 40:

1) It is not clear where the disclosure as originally filed described the "first controlled device" of lines 1 and 2 for causing said "converter" to select said "second" medium. Clarification is needed.

F2) WITH RESPECT TO CLAIM 41:

1) It is not clear where the disclosure as originally filed described the "second storage device" of line 2 that is "operatively connected" to the "converter" for storing said "second medium." Clarification is needed.

G2) WITH RESPECT TO CLAIM 42:

1) It is not clear where the disclosure as originally filed described the "second controllable device" of line 2 that is "operatively connected" to the "at least one processor" for causing "said second storage device" to store "said second medium." Clarification is needed.

H2) WITH RESPECT TO CLAIM 43:

1) It is not clear where the disclosure as originally filed described the "receiver station" of line 1 that is "enabled" to output a multimedia presentation. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the "first medium" of lines 2 and 3 which is "stored" at the receiver station. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the "content of the second medium" that is recited in lines 4 and 5 that is "determined" at the receiver station. Clarification is needed.

4) It is not clear where the disclosure as originally filed described the "transmitter station" of line 11. Clarification is needed.

5) It is not clear where the disclosure as originally filed described the "information transmission" of line 11 that is literally:

a) ***"adapted"*** to cause the receiver station to determine the content of the second medium;

b) ***"adapted"*** to coordinate presentation of a first portion of said multimedia presentation with said presentation of said second medium based on a process in which the content of the second medium is determined; and

c) ***"adapted"*** to output the multimedia presentation based on coordinating said presentation of said 'first portion" with the presentation of said second medium.

It is also not clear where the disclosure as originally filed described the recited receiving step in which such an ***adapted*** "information transmission" was actually "received" at a "transmitter station" as is now recited in lines 11-17 Appropriate clarifications are needed.

6) It is not clear where the disclosure as originally filed described the "specific time" of line 19. Clarification is needed.

I2) WITH RESPECT TO CLAIM 44:

1) It is not clear where the disclosure as originally filed described the "first identifier" of line 2. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited step of transmitting said "first identifier" as is recited in lines 3. Clarification is needed.

J2) WITH RESPECT TO CLAIM 45:

1) It is not clear where the disclosure as originally filed described the recited including step in which the "first identifier" is actually "included" in "said information transmission". Clarification is needed.

K2) WITH RESPECT TO CLAIM 46:

1) It is not clear where the disclosure as originally filed described the "second identifier" of line 2 that serves as the basis for processing a portion of the first medium. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited including step in which the "second identifier" was transmitted. Clarification is needed.

L2) WITH RESPECT TO CLAIM 47:

1) It is not clear where the disclosure as originally filed described the "particular time" of lines 2 and 4. Clarification is needed.

M2) WITH RESPECT TO CLAIM 48:

1) It is not clear where the disclosure as originally filed described the "processor instruction" of line 2 which is received at the receiver station "separately from" the "first identifier." Clarification is needed.

2) It is not clear where the disclosure as originally filed described the including step of line 4 wherein the "processor instruction" was actually included in "said information transmission." Clarification is needed.

N2) WITH RESPECT TO CLAIM 49:

1) It is not clear where the disclosure as originally filed described the "specific time" that is recited in line 3. Clarification is needed.

O2) WITH RESPECT TO CLAIM 51:

1) It is not clear where the disclosure as originally filed described the recited "receiver station" of line 2 that is:

a) "adapted" to receive a plurality of signals;

b) "adapted" to store a first medium;

c) "adapted" to determine the content of a second medium;

d) "adapted" to coordinate the presentation of a first portion of a multimedia presentation with the presentation of the second medium based on the determined content of the second medium; and

a) "adapted" to output said multimedia presentation based on the coordination of the presentation.

Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited "transmitter apparatus" of line 8. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the recited "receiver" of line 9. Clarification is needed.

4) It is not clear where the disclosure as originally filed described the "first of said plurality of signals" of lines 9 and 10 that is:

a) "adapted" to cause the receiver station to determine the content of the "second medium";

b) "adapted" to cause the receiver station to coordinate the "presentation of a first portion of a multimedia presentation with the presentation of a second medium based on the determined content of the second medium; and

c) "adapted" to cause the receiver station to output the multimedia presentation.

Clarification is needed.

5) It is not clear where the disclosure as originally filed described the recited "first of said plurality of signals" that is received by the "receiver" in line 9. Clarification is needed.

6) It is not clear where the disclosure as originally filed described a the recited "transmitter" of line 16 that transmits said "first of said plurality of signals." Clarification is needed.

7) It is not clear where the disclosure as originally filed described a the recited "specific time" of line 17. Clarification is needed.

P2) WITH RESPECT TO CLAIM 52:

1) It is not clear where the disclosure as originally filed described the recited "plurality of signals" of line 2 that is transmitted from said "transmitter" and received by said "receiver station." Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited "apparatus" of line 2 which comprised:

a) the recited "signal generator" of line 3;

b) the recited "second receiver" of line 3.

Clarification is needed.

3) It is not clear where the disclosure as originally filed described the recited "second of said plurality of signals" of lines 3 and 4. Clarification is needed.

Q2) WITH RESPECT TO CLAIM 53:

1) It is not clear where the disclosure as originally filed described the recited "single information transmission" of line 2." Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited "combiner" of line 3. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the recited "multiplexer" of line 3. Clarification is needed.

R2) WITH RESPECT TO CLAIM 54:

1) It is not clear where the disclosure as originally filed described the recited "first processor" of line 3 which outputs the recited "first identifier" which is processed

by the receiver station in order to determine the content of said "second medium." Clarification is needed.

S2) WITH RESPECT TO CLAIM 55:

1) It is not clear where the disclosure as originally filed described the recited "receiver station" of lines 1 and 2 which processed "a portion" of the first medium based on the second identifier. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited "selective transfer device" of line 3 for communicating both the first and second identifiers to the "transmitter". Clarification is needed.

T2) WITH RESPECT TO CLAIM 56:

1) It is not clear where the disclosure as originally filed described the recited "controller" of line 3. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited "different times" of line 5. Clarification is needed

U2) WITH RESPECT TO CLAIM 56:

1) It is not clear where the disclosure as originally filed described the recited "transmitter station" of line 2. Clarification is needed.

2) It is not clear where the disclosure as originally filed described the recited "receiver station" of line 2. Clarification is needed.

3) It is not clear where the disclosure as originally filed described the recited "different sources" of line 3. Clarification is needed.

4) It is not clear where the disclosure as originally filed described the recited "at least two of said plurality of media" of line 4 that are processed by the receiver station in order to output the multimedia presentation. Clarification is needed.

5) It is not clear where the disclosure as originally filed described the recited "content of a first of the plurality of media" and the recited "content of a second of the plurality of media" that are identified by the receiver station. Clarification is needed.

6) It is not clear where the disclosure as originally filed described the recited "processing" of at least two media that is recited in line 6 which serves as a basis for identifying "contents" of at least two media. Clarification is needed.

7) It is not clear where the disclosure as originally filed described the recited "instruction" of line 9. Clarification is needed.

8) It is not clear where the disclosure as originally filed described the recited step of "receiving" two of the plurality of media and the instruction at the transmitter station [e.g. it is not clear where the disclosure as originally filed actually described the step that is now recited in lines 11 and 12 of claim 57]. Clarification is needed.

9) It is not clear where the disclosure as originally filed described the recited step of "transmitting" two of the plurality of media based on the received instruction [e.g. it is not clear where the disclosure as originally filed actually described the step that is now recited in lines 13 and 14 of claim 57]. Clarification is needed.

V2) WITH RESPECT TO CLAIMS 58-60:

CLAIMS 58-60 require similar clarifications as cited above.

SECTION VII: (Preface to the Rejection of CLAIMS Based on Prior Art Applied Under Sections 102 and 103).

A. "DISCRETE SIGNALS" OF TELETEXT PRIOR ART:

When applying "prior art" against pending amended claims, it is both proper and fair for the examiner to draft a rejection based on the ordinary level of skill in the art that existed at the time of applicant's alleged invention. Being such, when applying the prior art of record against the pending amended claims, it is both proper and fair for the examiner to assume that one of ordinary skill in the art would have understood the way in which "standardized" Teletext transmission systems operated to format and distribute "pages" of Teletext data through TV networks. Namely, the examiner maintains that it should NOT be necessary for the examiner to provide teachings in order to explain/evidence the "basics of Teletext"; e.g. Teletext 101.

However, applicant continues to submit arguments which misrepresent the way in which "standardized" Teletext systems operated to convey Teletext data through conventional TV networks. Via such arguments, applicant not only imposes an unrealistically low level of skill onto section 102 and 103 issues, but applicant effectively places a heavy burden on the examiner to provide an education in what was already well known; e.g. to try to ensure that the teachings/showings of the applied Teletext "prior art" are considered in the context that they would have been read and understood by those of ordinary skill in the art at the time of applicant's alleged invention. For example, if a piece of applied Teletext "prior art" refers to Teletext "pages", there should be no need for the examiner to explain what such a Teletext "page" is, what it comprised, and how it conveyed its data/information. One of ordinary skill in the art would have most certainly known such facts! However, by "*playing dumb*" and alleging that Teletext "pages" were not comprised of "discrete signals", applicant has forced the examiner to provide explanations/showings which are (i.e. should be) unnecessary. This adds an appearance of complexity to rejections made under section 102 and 103 where there should be none.

Here, it is interesting to note that much (if not most) of the "prior art" which has been submitted for consideration by applicant during the present prosection is in fact Teletext "prior art", thereby indicating that the examiner is not the only person who recognizes the relationship that clearly exist between "extended" Teletext packet systems and the "SPAM" message packet system of applicant's own claimed invention(s). In submitting such prior art for consideration, applicant appears to be aware of these relationships too.

For clarity of the record:

The examiner maintains that one of ordinary skilled in the Teletext transmission art would have understood that substantially all (if not all) "standardized" Teletext transmission systems operated by:

1) Breaking each complete displayable or non-displayable form of Teletext information down into a plurality of discrete "information portions" that can be conveyed via the available bandwidth;

2) Utilizing "discrete packet signals" to carry these created discrete information portions through a given TV network by embedding each of the "discrete packet signals" into a respective video line interval of distributed TV programming; and

3) Recovering desired ones of the complete displayable and non-displayable forms of Teletext information on the receiver side of the system via a Teletext decoder which functioned:

a) to receive the distributed TV signals containing the embedded "discrete Teletext packet signals";

b) to separate the embedded "discrete Teletext packet signals" from the received TV signals;

c) to decode the separated "discrete Teletext packet signals" and to extract those "information portions" therefrom which correspond to a respective complete displayable or non-displayable form of Teletext information desired by the receiver side of the system;

d) to organize (e.g. re-organize) the extracted information portions so as to recover the desired complete displayable or non-displayable form of Teletext information; and

e) to use the recovered complete displayable or non-displayable form of Teletext information at the receiver side to:

1. Instruct the receiver side of the system as to how to "locally generate" a displayable Teletext image when the recovered information represents a displayable image;

2. Trigger equipment of the receiver side of the system to take certain action when the recovered information represents equipment control signaling;

3. Load a computer/microprocessor at, or within, the receiver side of the system when the recovered information represents "Telesoftware";

4. Identify the TV program and/or the TV network of the programming currently being received; and

5. ETC,...

In the response filed on 1/28/02 in SN 08/470,571, applicant refutes the fact that one of ordinary skilled in the art would have had such a basic understanding of "prior art" Teletext systems. Applicant goes so far as to characterize the examiner's position concerning the inherent existence of "discrete signals" within standardized Teletext transmission systems as only being "hypothetical" in nature [e.g. lines 4-9 on page 356 of the amendment filed in SN 08/470,571]. The examiner could not disagree more. Hence, via "APPENDIX B" of this Office action, the examiner attempts to establish a "floor" below which applicant's erroneous characterizations/misunderstandings/misrepresentations of the conventional Teletext "prior art" should not be allowed to sink.

B. "SPAM" OF APPLICANT'S ALLEGED INVENTION REPRESENTS LITTLE MORE THAN APPLICANT'S OWN VERSION OF AN "EXTENDED" TELETEXT TRANSMISSION SCHEME (AND APPLICATIONS THEREOF):

As best understood by the examiner, applicant's instant 1987 disclosure described a television distribution system in which digitally encoded "SPAM message" packets were generated by a SPAM signal source and embedded, preferably, into the vertical blanking interval (VBI) of TV programming that was provided from a TV studio (i.e. the network/originating TV station). The TV programming along with its embedded SPAM message packets were then distributed/transmitted from a network/originating TV station, via a television distribution network, to various "receiver stations" which were situated throughout the distribution network; i.e. wherein the term "receiver station" was used by applicant in a way that encompasses both "intermediate TV broadcast stations" and "ultimate household receiver stations". At ones of the receiver stations, ones of the "SPAM message" packets were received (i.e. extracted from the TV programming), identified, decoded, and processed or outputted by

SPAM signal receiving/decoding circuitry. In the preferred embodiment, the SPAM signal receiving/decoding circuitry was implemented using software driven processors.

As also described in applicant's 1987 disclosure, the SPAM message packets that were distributed by applicant's television distribution system carried information pertaining to a wide variety of control, monitoring, and messaging functions. More specifically, the information carried by the SPAM message packets could be used to: 1) to distribute display information to ones of the receiver stations; 2) to distribute monitoring information to ones of the receiver stations; 3) to distribute program identification codes to ones of the receiver stations; 4) to distribute cuing/triggering signals to ones of the receiver stations; 5) to distribute computer software to ones of the receiver stations; 6) to distribute commands to ones of the receiver stations; etc,...

The following is noted:

1) In the past, the examiner argued that applicant's SPAM message packets comprised little more than applicant's own version of conventional packetized Teletext data. At that time, applicant disagreed with the examiner's position arguing that term "Teletext" referred ***only*** to the transmission of digitally coded character/graphics codes. Strictly speaking, applicant was correct. What the examiner should have stated was that applicant's SPAM message packets comprise little more than applicant's own version of conventional digitally encoded "insertion/ancillary signaling"; i.e. conventional "insertion/ancillary signaling" to "Teletext data" was known to have belonged. While the examiner is willing to accept/entertain applicant's strict interpretation of the term "Teletext", the examiner nonetheless points out that it was notoriously well known in the art to have "extended" the use of conventional Teletext data packets within conventional Teletext distribution systems to carry information/data other than digitally coded character/graphics codes; i.e. to have carried ancillary data other than "Teletext data" as strictly defined by applicant (e.g. computer programs/software, *e.g. Telesoftware,* being but one example of these know Teletext packet "extensions") [SEE Appendix B attached hereto]. Applicant's SPAM packets appear to be little more than applicant's own version of such an "extended" Teletext system; e.g. a fact which seems self evident when one compares the content and packet structure of applicant's own "SPAM" messages shown in figures 2E-2K of applicant's instant disclosure with the content and packet structure of conventional extended Teletext systems (e.g. such as that which was discussed in

APPENDIX B of this Office action). Being such, it appears that the arguments previously presented by applicant merely focussed on the technicality those data packets of an "extended" Teletext distribution system which carry *other types of information* are not, strictly speaking, Teletext data packets; i.e. they do not carry character/graphics codes. So what!

The fact remains that the generation and embedding of digitally encoded packetized data within the VBI of distributed TV programming, e.g. in the form of digitally encoded "insertion/ancillary signals" including packetized "Teletext data", was notoriously well known in the art at the time of applicant's alleged invention. It remains the examiner's position that the generation and embedding of SPAM message packets into the VBI of distributed TV programming, as described in applicant's own 1987 disclosure, represents applicant own variation on this notoriously well known theme. The examiner is not to saying that applicant's own variation/application/implementation of such insertion/ancillary systems are necessarily unpatentable based solely on this fact. However, the examiner is again stressing the point that the applied prior art of record, e.g. particularly the "Teletext" prior art, is far more closely related to applicant's alleged invention than applicant is willing to admit. the terminology used throughout applicant's claims and disclosure suggest. Likewise, it is believed that the prior art of record, e.g. particularly the "Teletext" prior art, is also far more closely related to applicant's alleged invention than applicant has ever been willing to acknowledge [60]. In view of this, the examiner maintains that extreme care is needed as one attempts to decipher the scope/meaning of applicant's pending claims in the search of recited differences that do more than give an appearance or impression of patentability. To this point, the following is noted:

1) Many of applicant's claims recite various "discrete signals". As set forth in Appendix A of applicant's response filed on 6/7/2000 in SN 08/470,571, all of the various "discrete signals" recitations are allegedly supported solely by the fact that the SPAM signals of his 1987 disclosure comprised: discrete words, discrete packets, discrete sequences of packets, discrete header portions, and discrete information portions. The examiner maintains that, by giving such a broad meaning to the recited "discrete signal"

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[60] Obviously the reason so much Teletext "prior art" art has been made of record by all involved!

terminology, the recited "discrete signal" terminology does little to nothing to overcome/avoid the applied prior art of record because the digitally encoded "insertion/ancillary signals", e.g. packetized "Teletext data" of the applied prior art, implicitly comprised: discrete words, discrete packets, discrete sequences of packets, discrete header portions, and discrete information portions too [see APPENDIX B attached hereto]. Hence, the various "discrete signals" recitations of the claims appear to be nothing more than a *straw man*.

2) Many of applicant's claims recite pluralities of ***separate*** steps for embedding, transferring, transmitting, and receiving ***separately*** recited "discrete signals", "instructions", "instruction signals", and "control signals". However, when specifying where these ***separate*** steps allegedly derive support from his 1987 disclosure [see Appendix A of applicant's latest response], applicant points to the ***same*** disclosed "step"(?) in which the SPAM messages themselves were generically described as being originated , embedded, transferred, transmitted, and then received. Thus, based on applicant's citation of alleged support from Appendix A of applicant's latest response, it appears to be applicant's position that all of these separately recited steps from applicant's claims were obviously/implicitly described in his 1987 disclosure by the described generation, embedding, transferring, transmitting, and receiving of the SPAM messages themselves. Specifically, applicant appears to allege that any step/process which was described as having been performed on the SPAM messages themselves was also, implicitly, performed *separately* on each component thereof (wherein the SPAM messages themselves comprised different discrete signals, different instruction signals, different instructions, and different control signals). More specifically, it appears to be applicant's position that because the disclosure described the generation, embedding, transferring, transmitting, and receiving of SPAM messages, said disclosure implicitly described the generation, embedding, transferring, transmitting, and receiving of the different discrete signals, different instruction signals, different instructions, and different control signals which comprised the SPAM messages [e.g. note that Appendix A of applicant's last response alleges that support for

many of the separately recited steps and signals (i.e. instructions and control signals) is derived the same step of processing the same "second series of instructions"]. Overlooking the issue as to whether this kind of ***implied*** support meets the "immediately discernible" description requirement of section 112-1 (in the examiner's opinion, it does not), it is evident that **separately** reciting the same disclosed step/process numerous times in a single claim does little to nothing to overcome/avoid the applied prior art of record because the digitally encoded "insertion/ancillary data"of the applied prior art, e.g. packetized "Teletext data", also obviously/implicitly comprised different instructions, different control signals, different instruction signals, and different discrete signals and therefor, following applicant's own reasoning and justification, also obviously/implicitly comprised **separate** steps of generating ,embedding , transferring , transmitting , and receiving each of the insertion/ancillary signal components. Again, reciting pluralities of **separate steps** which simply describe the same steps of processing and transmitting generic SPAM message packets constitutes another *straw man* (i.e. albeit, a convoluted and confusing *straw man*);

3) Many of applicant's claims recite that each receiver station "includes a receiver, a signal detector, a processor, and an output device." The examiner maintains that such structure is part of any/all TV receivers and is also part of any/all digitally encoded insertion/ancillary signal receivers/decoders; i.e. any/all TV receivers and insertion/ancillary signal receivers/decoders must have comprised circuitry for receiving the transmitted/broadcasted signals, circuitry for demodulating/detecting the transmitted/broadcasted signal, circuitry for processing the demodulated signals; and circuitry for outputting/displaying data/information based on the received signals. Thus, the examiner maintains that these recitations also constitute nothing more than *straw men* [for example, see "EXAMPLE #20" in the second paragraph under the heading "SECTION v" of this Office action]

4) Many of applicant's claims include words or phrases which initially appear to be significant but, upon close inspection, add

nothing of substance to the claim(s). For example: the recitation of "at a particular place and time" (i.e. any signal that is received will be received at a particular place and time); the recitation of a "target" processor (i.e. any processor which receives information directed to it is at least *targeted* by that information); the recitation of "before a specific time" (i.e. all signals must be transmitted from the transmission side before "some specific time" at which they are received on the receiver side); etc,... Simply more *straw men*!

C. APPLICANT'S CURRENTLY PENDING CLAIMS ARE *NOT* ENTITLED TO THE 11/3/81 FILING DATE FOR REASONS WHICH HAVE BEEN FULLY ADDRESSED ABOVE AND PREVIOUSLY.

SECTION VIII: Section 103 issues:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

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A) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baer [US #4,034,990] in view of Jeffers et al. [US #4,247,106].

I. The showing of Baer (an overview):

As is shown in figure 3, Baer disclosed a "video gaming" system comprised of a remote transmitter station (@ 10, 34, and 36) and at least one receiver station (@ 12, 14, 20, 24, 26, 28, 29, 38, and 40). The transmitter side of the system included a remote source of video signal (@10) for providing at least one analog TV signal comprised of "second" video graphic images. These "second" video graphics images represented complex video backgrounds that included a plurality of "second" video graphic symbols/icons. These "second" video graphics images were also encoded with "identifiers" for identifying certain characteristics of the background symbols/icons [e.g. note lines 19-48 of column 2].

The receiver side of the system disclosed by Baer included circuitry receiving circuitry (@ 38 and 40) for receiving said at least one analog video signal from the remote transmitter station. The receiver side of the system also included decoding circuitry (@ 13) for extracting the "identifiers" from the received analog video signal. These extracted identifiers were provided to control circuitry (@ 24) which, in coordination thereto, locally generated "first" video graphic images based on user inputs from input devices (26 and 28). These locally generated

"first" video graphic images comprised "first" video graphic symbols/icons which were then overlaid on top of the "second" video graphic images (@ 12) in an "interactive"/"coordinated" manner. Namely, the "first" graphics images were overlaid on top of the "second" graphics images to produce a combined presentation in which the "first" graphic symbols/icons interacted with identified ones of the "second" graphic symbols/icons.
It should be noted that the reason the complex background images were provided via a remote "external" analog video signal source in such video gaming systems was due to the fact that an enormous amount of programming/processing power was needed on the receiver side of the system if/when such complex background images were to have been locally generated within logic/control circuitry (24) instead. Specifically, generating the complex video graphic backgrounds via an external and/or remote analog video signal source, instead the local logic circuitry (24), greatly reduced the amount of programming/processing power that was required of the local logic circuitry; i.e. be it implemented with dedicated logic circuitry or a programmable computer. [61]

II. The showing of Baer (a closer look):

As is shown in figure 3, the "video gaming" system disclosed by Baer comprised:

A) Said remote transmitter station (@ 34) for receiving an externally provided video graphic signal from a remote video signal source (10) and for passing this received video signal to a transmitter (37) for transmission over the air or through a CATV distribution system [note lines 52-60 of column; and

B) At least one receiver station (12, 14, 20, 26, 28, 29, 38, 40) for outputting a "multimedia presentation" by interactively overlaying "**a first portion**" of the multimedia presentation over a second portion of the multimedia presentation, wherein:

1) said first portion of the multimedia presentation comprised the locally generated graphic symbols/icons which were provided via game controller (24); and

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[61] Also note:
1) the cover page of Matsushita [JP 55-26792];
2) lines 24-34 of Kanamara et al. [US 4,580,779]; and
3) figure 3 and lines 1-15 in column of Baer et al. [US 4,359,223].

2) the second portion of the multimedia presentation comprised the composite analog video signal that was transmitted via the transmitter station.

Said receiver station comprised:

1) circuitry (e.g. 38, 40) for "**receiving**" the composite analog video signal from the transmitter station;

2) circuitry (e.g.14,24) for detecting, decoding, and "**determining a video content**" of the received analog video signal based on detected "identifiers" which were encoded within the analog video signal;

3) circuitry (e.g. 12,29,24, 26, 28) for **coordinating** the presentation of the locally provided "video graphics data" with the presentation of the analog video signal based on said determined content; and

4) circuitry (e.g. 12, 30) for outputting the multimedia presentation.

III. Differences:

Claim 2 differs from the showing of Baer only in that:

1) Baer did not explicitly state that his game control circuitry (24) comprised a software driven computer (e.g. as opposed to dedicated logic circuitry); and

2) Baer did not state that his game control circuitry (24) was programmed via software signaling that was provided to it from some external software signal source.

IV. Obviousness:

The examiner believes that the control circuitry (24) in Baer most likely comprised a software driven computer. However, even if the game control circuitry (24) in Baer happened to be implemented using dedicated logic circuitry, it would have at least been obvious to have replaced such dedicated logic circuitry with a software driven computer given the fact that such a modification represented nothing less than a known, desirable, and obvious upgrade of technology [e.g. as per the teachings found in lines 9-34 of column 1 in Jeffers et al.]. Such a desirable upgrade of technology advantageously allowed different

video games to have been selected and played by the user simply by loading new software into to the computer.

As to the mechanism by which the gaming software was to have been changed, Jeffers et al. also evidenced the obviousness of having enabled it to be externally downloaded to the receiver station, via a digital data channel, from a gaming software database located at the TV transmitter station (e.g. such as a CATV head end) [e.g. lines 35-56 in column 1 of Jeffers et al.]. The examiner maintains that it would have been obvious to have "further" modified the system disclosed by Baer to have included this software downloading feature/enhancement that was described in Jeffers et al..

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THE FOLLOWING IS NOTED:

In the system disclosed by Baer, as modified by the teachings of Jeffers et al., the computer gaming "software" constituted a first type of media or medium which was downloaded to the receiving stations, via a digital channel medium, in order to have programmed ones of the receiving stations' computers with the processing instructions which were required to have locally generated the video graphic symbols/icons media which, when overlaid onto a different analog TV signal media in coordination with the "identified" images contained there within, created the combined "multimedia"[62] presentations which was displayed at the respective receiver stations.

B) CLAIMS 3-6, 11-14, 16, 17, 20-24, 26, 29, 30, 37-39, 43-46, 48, 49, 51, 52, and 54-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baer [US #4,034,990] in view Jeffers et al. [US #4,247,106], for the same reasons that were set forth for claim 2 above.

[62] e.g. comprising computer/software/logic generated symbols and icons overlaid onto analog TV images.

C) CLAIMS 53, and 57-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baer [US #4,034,990] in view Jeffers et al. [US #4,247,106], for the same reasons that were set forth for claim 52 above, and further in view of Teletext's "Telesoftware" as discussed in the publication "TELESOFTWARE-VALUE ADDED TELETEXT" by Hedger.

The examiner takes "Official Notice" that it was notoriously well known in the art to have downloaded gaming "software" to the receiving stations, e.g. as described in Jeffers et al., via the standard "pages" of a conventional Teletext service. In fact, at the time of applicant's alleged invention, the "Telesoftware" terminology had already been coined by those of ordinary skill in the art specifically for the purpose of referring to this process of downloading computer "software", e.g. including video gaming software, via standard Teletext pages of standard Teletext services [SEE: lines 34-40 in the first column on page 558 of Hedger; lines 18-22 in the first column on page 560 of Hedger; lines 42-47 in the second column on page 561 of Hedger; lines 1-37 in the first column on page 562 of Hedger; lines 1-22 in the second column on page 562 of Hedger; lines 13-26 in the first column on page 565 of Hedger; etc,...]. The examiner maintains that it would have been obvious to have downloaded the video game "software" to the receiver stations in the modified system of Baer via Teletext's "Telesoftware", wherein:

1) The Teletext pages containing the "Telesoftware" video games would necessarily have been transmitted from the transmitter station under control of the Teletext "page" transmission schedule **"instructions"** which were inherently held within the Teletext system's database computer [note lines 42-47 on in the second column on page 561 of Hedger];

2) The Teletext pages containing the "Telesoftware" video games could obviously have been transmitted in vacant lines of the analog video background signals to which each was related thereby forming a single combined transmission signal [note lines 3-7 in the first column on page 558 of Hedger]; and

3) The Teletext page or pages containing the "Telesoftware" video game which was to be played at the receiver station would necessarily have been decoded at said receiver station, e.g. in the manner of all Teletext pages, via the computer controlled Teletext decoder of the receiver station so as to extract and assemble all portions of the gaming software to be played that were contained within in the discrete packet signals of the respective Teletext page or pages [e.g. note: lines 34-40 of the first column on page 558 of Hedger; lines 1-6 in the first column on page 562 of Hedger; lines

7-37 in the first column on page 562 of Hedger; and lines 1-22 in the second column on page 562 of Hedger].

D) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuzaki et al. [JP # 56-116385] in view of article "'Touch-Tone' Teletext: A Combined Teletext-Viewdata System" by Robinson et al.

I. The showing of Fukuzaki et al.:

Fukuzaki et al. illustrates a conventional TV receiving device comprised:

1) receiving circuitry (@ 1 and 2 of figure 1) for **"receiving a plurality of signals"** from at least one external TV transmission signal source (not shown in the figures), wherein the received signals included:

A) A standard analog TV signal which inherently included an analog video signal component and an analog audio signal component; and

B) Embedded digital signals representing pages of Teletext data;

2) computer/controlled storing circuitry (@ figure 2) "**for storing first mediums**" comprised of respective "**portions**" of the received digital signals, wherein each "portion" corresponds to a respective page of the received Teletext data;

3) processing circuitry (@ 4) for processing a "**a second medium**" comprised of the analog TV signal;

4) said computer controlled storing circuitry (@ figure 2) for "**coordinating a presentation**" of one of the first stored medium portion (i.e. a selected one of the stored Teletext pages) with the presentation of the second medium (i.e. the analog TV signal) based on a page selection input which was provided from the user (@ keyboard 9); and

5) circuitry (@ 5 and 6 of figure 1) for outputting a multimedia presentation to the user wherein the multimedia presentation, e.g. at least inherently, comprised the video component of the received analog TV signal, the audio component of the analog received analog TV signal, and overlaid character/graphic images representing the user selected page of stored Teletext data.

II. Differences:

Claim 2 differs from the showing of Fukuzaki et al. only in that claim 2 recites a step for determining "content" of the "second medium" to which the recited step of "coordinating" is responsive.

III. Obviousness:

The publication by Robinson et al. shows that it was well known in the art for broadcasted TV programing to have included a "content" which referred the viewer to specific program related Teletext pages which could be viewed by the viewer in order to obtain further detailed information relating to subject matter covered by the TV programming [note lines 20-29 in the first column on page 300]. The examiner maintains that it would have been obvious to one of ordinary skill in the art for the TV receiver of Fukuzaki et al. to have received conventional analog TV programming of the type described in Robinson et al. and, in response to "content determined" thereof, to have selected and displayed the referenced Teletext pages having a content related thereto.

E) CLAIMS 3, 5-16, 20-24, 26, 29, 30, 37, 43, and 51-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuzaki et al. [JP # 56-116385] in view of article "'Touch-Tone' Teletext: A Combined Teletext-Viewdata System" by Robinson et al. for the same reasons that were discussed for claim 2 above. The following is noted:

With respect to claims 7-10, and 15: As noted above, Robinson et al. evidenced the fact that it was known/conventional for TV news programs to have referred their viewers to program related Teletext pages which provided further details of the news stories being reported on [e.g. lines 20-29 in the first column on page 300]. The examiner maintains that it would have at least been obvious for the news caster to have referenced these Teletext paper verbally; e.g. via the audio component of the analog TV signal.

F) Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazawa et al. [JP 62-60378].

I. The showing of Nakazawa et al.:

As is shown in figure 1, Nakazawa et al. disclosed a multimedia display system which comprised:

1) A MODEM (@23) which operated during an initialization step to "**receive**"/download a "**first signal**" from a "**remote videotex transmitter station**" (@22), wherein the first signal comprised "Telesoft" representing a TV program schedule/guide menu;

2) Circuitry (15,16,25, 26) for "**outputting the first signal**" representing TV program schedule/guide menu for display on CRT device (3);

3) A keyboard (@2) for **"receiving a user response"** based on the outputted first signal, wherein said inputted user response represented a TV program code corresponding to a desired TV program listed within the displayed TV program schedule/guide menu;

4) A memory 16 containing information (e.g. figure 3) for "**identifying**" TV program "**content**" of said first signal;

5) Searching circuitry (@17) for searching the information contained in memory 16 (e.g. that of figure 3) using the program code which was inputted by the user by, e.g. *at least obviously*, "**comparing**" a "**content**" that was identified by the information that was contained in memory 16 with the user entered program code; e.g. wherein, once entered, the user entered code was inherently been "**stored**" is some manner [i.e. implicit in the fact that the entered code was held and used by the system as opposed to being immediately lost after entering];

6) A tuning circuitry (@ 12 and 13) for **"tuning the system to receive a second signal"** based on comparing step performed during the searching process wherein the second signal represents said desired TV program which was listed within the displayed menu; and

7) circuitry (@ 15 and 3) for outputting a combined multimedia comprised of the displayed videotex TV program "menus" and the desired/selected/displayed TV programming.

G) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazawa et al. [JP 62-60378]. Note:

1) The discussion of Nakazawa et al. with respect to the limitations of claim 33 above; and

2) That, with respect to the limitations of claim 2:

a) That the TV programming menu data of figures 3 and 8, e.g. that which is downloaded to the receiver from an external videotext server, constitutes the "**first medium**" of claim 2;

b) That the stored videotext menu data, e.g. the "first medium", is displayed and is used to "**determine/identify content**" of analog TV programming signals which are being received by antenna (11), wherein the one of the received analog TV programming signals which is being passed by the tuner (12) constitutes the recited "**second medium**" of claim 2.

H) CLAIMS 3, 5-6, 11-18, 26-28, and 37-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazawa et al. [JP 62-60378] for the same reasons which were set forth for claim 2 above.

With respect to claims 17, 18, 27, 28 and 47: The examiner maintains that it would have been obvious to one of ordinary skill in the art to have provided a conventional "controlled" VCR at the receiver station which was described by Nakazawa et al. in order to have allowed the selected TV programming which was currently being received to have been recorded too. Here, it is important to note that there is nothing in these claims which requires the operation of the VCR to have been actually been "controlled" by the recited processing so as to have performed this recording "automatically" (i.e. the claims only require that the "content" of the programming which is being recorded by the controlled VCR to have been of a content which had been "determined" by the menu/system first].

I) Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakazawa et al. [JP 62-60378] in view of Reiter et al. [US #4,751,578].

Nakazawa et al. disclosed a multimedia display device as was set forth above with respect to claim 33. The following is noted:

1) It is presently unclear as to whether the components of the multimedia presentation in Nakazawa et al., e.g. namely the program "menus" and the selected TV programming, are displayed simultaneously or sequentially via the switching circuitry (15 of figure 3). In any event, Reiter et al. has been cited to evidence the fact that using simultaneous and sequential display methods for displaying such multimedia components were notoriously well known and obvious alternative [e.g. note lines 18-21 of column 3 of Reiter et al.]; and

2) In the system disclose by Nakazawa et al., the TV program scheduling information was conveyed to the receiver via videotex "Telesoft" data which was transmitted to the receiver via conventional phone lines. Reiter et al. evidences the fact that it was notoriously well known and obvious to have transmitted such schedule information by many other ways/methods [note lines 29-56 of column 4 in Reiter et al.].

J) CLAIMS 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over conventional audience metering devices/system as exemplified by Weinblatt [US Patent #4,695,879] and Nakazawa et al. [JP 62-60378].

I. The showing of Weinblatt:

The examiner takes "Official Notice" that the need to have monitored the TV viewing habits of individuals and individual households was notoriously well known in the art. As is exemplified by Weinblatt (note figures 1), such monitoring systems were known to have comprised: 1) circuitry for detecting and storing information pertaining to the TV channels/programs being viewed by a given TV receiver at any given time; and 2) a modem (16) for automatically transmitting the stored information from the receiver location to a remote collection site via the phone lines. The examiner maintains that the recitations of claims 34-36 appears to be directed to, and met by, such conventional TV monitoring system structure/operation.

II. The showing of Nakazawa et al.:
As is shown in figure 1, Nakazawa et al. disclosed a conventional TV receiver. For reasons set forth above, the limitations of claim 33 are met by this conventional TV structure.

III. Obviousness:
The examiner maintains that it would have been obvious to one of ordinary skill in the art to have used a conventional TV monitoring system, e.g. of the type which was illustrated by Weinblatt, to have monitored the use of a conventional TV receiver of the type disclosed in Nakazawa et al.; e.g. to have used the monitoring system and the TV receiver for the conventional uses for which they were respectively intended!

K) CLAIMS 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Zaboklicki [DE 2904981] as translated by both the PTO and Applicant (applicant's translation being the cleaner and more easily understood version thereof).

I. PREFACE:
The examiner takes Official Notice that the term "Telesoftware" was originally coined specifically for the purpose of referring to "computer software/programs" which were conveyed/downloaded through a TV transmission network via standard Teletext pages of a standard Teletext service [63]. The term "Telesoftware" was unquestionably used within the Zaboklicki document in this conventional fashion; e.g. as is evident by the fact that "56" in figure 3 of Zaboklicki is identified as a "Teletext decoder" which comprises circuitry ("40") for extracting and outputting "Telesoftware"
[SEE: the descriptions for elements "3", "40", "41", "56" under the heading "List of Reference Numbers" *which appears in both of the obtained translations of record].*

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[63] SEE the publication "TELESOFTWARE-VALUE ADDED TELETEXT" by Hedger (e.g. the first column of page 560).

II. The showing of Zaboklicki (summarized):

In Zaboklicki, a plurality of "interactive" multimedia presentation were transmitted from a central transmitter station to a plurality of receiving stations wherein each of these transmitted "interactive" multimedia presentations was comprised of downloaded "Telesoftware" and a "pool" of multimedia programming segments/"fragments". These multimedia programming segments/"fragments" clearly included:

1) repetitively transmitted moving picture segments/"fragments" carried via normal TV channels;

2) repetitively transmitted audio segments/"fragments" carried via normal radio channels;

3) repetitively transmitted pages of Teletext character/graphic carried as part of a standard program related Teletext service; and

4) locally retrieved video signal provided from storage devices located within each of the receiving stations.

In operation, viewers at respective ones the receiver stations chose the "interactive" multimedia presentation that they wished to view. At that point, the computer within their receiver station received, loaded and ran a "Telesoftware" computer program which was associated with the selected "interactive" multimedia presentation. This running "Telesoftware" provided the computer at each receiving station with the intelligence it needed to control the station to have sequentially selected, identified, extracted, and presented a series of segments/"fragments" from the respective "pool" of multimedia programming segments/"fragments" based on the inputs/responses entered by respective viewers. In this way, each receiver station was capable of generating its own "unique" multimedia presentation, based on its own viewer's "unique" inputs/responses, while simultaneously receiving the same "pool" of multimedia programming segments/"fragments" as the other receiving stations. And because all of the receiving stations received the same "pool" of multimedia programming segments/"fragments"at the same time, an unlimited number of receiving stations could each produce a "unique" versions of a given multimedia presentation without costing the TV network any additional bandwidth. Namely, the Zaboklicki "interactive" system configuration was advantageous over the "prior art" of its time in that it allowed all of the receiver stations to receive and work-off the same multimedia "transmission" thereby minimizing the bandwidth that was required to

convey the multimedia "transmission" to the plurality of receiver stations while, at the same time, allowing each station to independently assemble a selected group of the received segments/"fragments" into a version of the multimedia presentation that was "uniquely" tailored specifically to the user's inputs (as well as the user's rate of input); i.e. an enhanced ability provided by the intelligence programmed into each of the receiving stations via the computer software that was downloaded to the stations as "Telesoftware".

III. Zaboklicki (as applied against claims 24 and 25):

In Zaboklicki, each of the receiving stations comprised:

1) A computer (e.g. @6,7,39, and 40 of figure 3) that received "Telesoftware" and program segment/"fragment" identifiers from a circuitry (@40 of figure 3) of a Teletext decoder (@56 of figure 3), wherein this received signaling gave the computer the "know how" to sequentially select, find, extract, and output segments/"fragments from the provided "pool" of segments/"fragments which created a uniquely tailored/**"coordinated**" interactive multimedia presentation at the receiving station in question. This "signaling" corresponds to the **"control signal"** that is recited in claim 24.

2) Means for **receiving** the "pool" of multimedia program segment/"fragment" which, as noted above, included different **media** including standard **television-type programming** and non television-type programing such as **Teletext character graphic image data**; and

3) A **printer** (@ element 37 of figure 3) and, at least *obviously*, a **speaker** (e.g. needed to display the audio/radio output selected by element 43 of figure 3) for presenting respective portions of the multimedia presentations to the viewer.

L) CLAIMS 2-16, 20-23, 26, 29, 30, 33-40, 43-46, 48, 49, and 51-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Zaboklicki [DE 2904981] for the same reasons that were set forth for claims 24 and 25 above.

M) CLAIMS 17, 18, 27, 28, 41, 42, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Zaboklicki [DE 2904981] for the same reasons which were set forth for claims 2-16, 20-23, 26, 29, 30, 33-40, 43-46, 48, 49, and 51-60 above, further in view of Haefner et al. [DE 2,550,624].

1) In the system disclosed by Zaboklicki, at least the selected Teletext pages were stored within RAM 44 of Teletext decoder 54 during the presentation process. However, the selected TV and/or audio/radio programming was not stored during the presentation process (i.e. as appears to be claimed).

2) Haefner et al. disclosed an "interactive" multimedia presentation system similar to that which was disclosed by Zaboklicki in that Haefner et al. also recognized the advantage which was provided by giving each receiver station the intelligence that was needed to create a unique multimedia presentation from a common "pool" of multimedia programming segments/fragments [NOTE: the table which appears at the top of page 8 of the translation; lines 5-10 on page 8 of the translation; lines 3-15 on page 12 of the translation; etc,...]. However, unlike Zaboklicki, Haefner et al. recognized that large bandwidth savings could be achieved by downloading and storing the entire "pool" of multimedia segments/fragments at the receiver station location whereby the locally provided intelligence would be responsible for assembling the tailored presentation by selectively retrieving ones of the stored segments/fragments [NOTE: the table which appears at the top of page 8 of the translation; lines 5-10 on page 8 of the translation; lines 3-15 on page 12 of the translation; etc,...].

3) In view of the Haefner et al. showing, the examiner maintains that it would have been obvious to one of ordinary skill in the art to have modified the receiver station structure disclosed by Zaboklicki with local storage devices into which the entire "pool" of program segments/fragments could be downloaded and selectively retrieved under control of the computer.

SECTION IX: other issues:

>The examiner notes that the art of record has been applied to the extent of the examiner's understanding in view of the extensive section 112 issues cited above.

2) Any inquiry concerning this communication should be directed to **David E. Harvey** whose telephone number is **(703) 305-4365.** The examiner can normally be reached Monday-Friday between the hours of 9:30 AM and 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Andrew Faile, can be reached at (703) 305-4380.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose number is (703) 306-0377.

DEH 4/02

DAVID E. HARVEY
PRIMARY EXAMINER

APPENDIX A- ["standardized" Teletext (exemplified)]

A. 3/26/81

Attachment C

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UK TELETEXT SYSTEM

525 LINE 60 FIELD SYSTEMS APPLICATIONS

The characteristics of broadcast signals according to the UK Teletext System are defined in the form of a set of decoder response levels. Some features are common to all levels and other features apply optionally.

Decoders responding at level 1 provide a set of 96 alphanumeric characters and two sets of mosaic graphic characters, these latter including 32 alphanumeric characters. A full range of serial display attributes, that include seven display colours are available.

Optional features applicable to all levels include the designation of linked pages for automatic storage and a page confidence check. Further optional features are the designation of an initial page to be selected automatically at switch-on and information related to equipment control rather than display. It is envisaged that this data would apply to a Television Network or Channel generally and not only to the teletext service.

Decoders responding at level 2 include the full ISO character repertoire, additional serial and the full range of parallel attributes. Off text area display attributes are defined on a full screen and full row basis. Means are provided to redefine the national option characters in the primary character set on a page or magazine basis. A smoothed mosaic graphics set and a large range of pastel colours are included.

Level 3 introduces Dynamically Redefinable Character Sets (DRCS) and associated redefinable display colours from a very large range. Such down loaded character sets may be used to extend the character sets of level 2 or to display a complete page.

Page addresses are reserved for levels 4 and 5 that employ respectively alphageometric and alphaphotographic coding. These levels will be fully defined when agreement concerning the coding procedures has been acheived.

Page addresses have also been reserved for the transmission of Telesoftware. This concept includes computer programmes and similar data not for direct display.

CONTENTS

Sections	1. to 10.	Characteristics applicable to all levels.
	11.	Response of decoders at level 1.
	12. & 13	Optional features applicable to all levels.
	14.	Response of decoders at level 2.
	15. & 16	Response of decoders at level 3.
	17.	Response of decoders at level 4.
	18.	Response of decoders at level 5.
	19.	Telesoftware.

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UK TELETEXT SYSTEM

525 LINE 60 FIELD SYSTEM M APPLICATION

Characteristics of Broadcast Signals

1. TV Lines Usable as Data Lines	Subject to availability.
1.1. When Multiplexed with a TV Picture Signal	Lines 10 to 16 of both fields.
1.2. When Not Multiplexed With a TV Picture Signal	Any, except field sync and equalising pulse periods. See also Section 13.2.2.
2. Data Identification	Clock Run-in and Framing Code in appropriate time slot, see section 9.
3. Signalling Method	Binary NRZ.
4. Signal Levels 0 level 1 level	Nominal Values currently proposed: Black level ±2% 70(±6)% of the difference between black level and peak white level.
5. Bit Rate	Currently proposed value: 364 x nominal fH, 8/5 x FSc (5.727272 Mbits/s)
6. Data Timing Reference Point	Peak level of penultimate 1 of clock run-in.
7. Spectrum of Data Pulse	Skew symetrical about 0.5 x bit rate, substantially zero by 4.2 MHz.
8. Data Line Content	290 bits as 37 bytes of 8 bits each.
9. Synchronism	See figure 1.
9.1. Clock Run-in (bit sync)	Bytes 1 & 2, begins 10101010....even parity.
9.2. Framing Code (byte sync)	Byte 3, 11100100, even parity.
10. Addressing	See figures 1 and 2.
10.1. Packet Numbers in Form X/T/Y For All Data Lines.	Bytes 4 & 5 Hamming protected. 2 binary digits for magazine number X 1 binary digit for tabulation T, 0 corresponds left hand side of display and 1 corresponds to right hand side of display. 5 binary digits for display row number Y. 256 unique packets available.
10.2. Page Header Data Lines	Packet numbers X/0/0
10.2.1. Page Number	Bytes 6 & 7 Hamming protected, 256 available.
10.2.2. Page Sub-Code	Bytes 8, 9, 10, 11 Hamming protected, 8192 available. Byte 9, bit 8 is control bit C4 and byte 11 bits 6 and 8 are respectively control bits C5 and C6, see Section 11.

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11. Response of Decoder at Level 1	Decoder responds to: a) Packet numbers X/0/0 to X/T/23. See Note below. b) Pages 00 to 99 coded BCD. c) 3200 Page Sub-Codes. The four digits of the Page Sub-Code can take values in the ranges 0 to 3, 0 to 9, 0 to 7 and 0 to 9, respectively. d) optionally packet numbers X/T/27(and the contents of packet number X/T/24 and X/T/25) and packet number 4/1/30.
11.1. Control Bits in Page Header	Active on being set to 1. C4 to C14, bytes 12 and 13 contain C7 to C14 Hamming protected see Section 10.2.2. for C4 to C6.
11.1.1. C4 Erase Page	Always followed by a 16 ms interval before transmission of further data.
11.1.2. C5 News Flash	All information to be boxed.
11.1.3. C6 Sub-Title Page	All information to be boxed.
11.1.4. C7 Suppress Header	Header to be suppressed (display of clock time optional).
11.1.5. C8 Update Indicator	Following data may be limited to include only the updated part of the page.
11.1.6. C9 Interrupted Sequence	Associated page is not in numerical order of page sequence.
11.1.7. C10 Inhibit Display	Data not to be displayed
11.1.8. C11 Magazine Serial	Magazines transmitted one at a time in sequen
11.1.9. C12, C13, C14 Basic Character Set Select.	No response.
11.2. Page Display	
11.2.1. Rows Displayed	Up to 24. When tabulation bit (see Section 10 is set to 0 data packets 0 to 23 correspond t the left hand side of display rows 0 to 23. With the bit rate of Section 5, 32 character spaces are included. When the tabulation bit is set to 1, the data packet number corresponds to the first row number of a group of right hand sides of display rows. With the data rate of Section 5 the right hand sides of four display rows, ea including 8 character spaces are carried by t packets. In order to preserve the integrity o packets carrying the page header, the right hand sides of rows 0 to 3 have the packet numbers X/1/1 and there is no response to packets numbered X/1/0.
11.2.2. Character Spaces in Rows 1 to 23	40, transmitted in 2 sections, each left to ri
11.2.3. Character Spaces in Page Header, Row 0	32, transmitted in 2 sections, each left to ri
11.3. Character Bytes	7 bits plus odd parity define a display or control character occupying a character space.

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11.4. Character Sets for Display	a) 94 alphanumeric characters plus SPACE and DELETE, see figure 3. b) 63 contiguous mosaic graphics characters, plus SPACE and 32 alphanumeric characters. c) 63 separated mosaic graphics characters, plus SPACE and 32 alphanumeric characters. See figure 4 for mosaic character set. Selection between a), b) and c) is by means of control characters, see Section 11.5.
11.5. Control Character Set, 'spacing controls' Including Display Attributes	Set of 32 control characters, 5 unallocated for level 1, which affect the display attributes The receiver defaults to certain attributes at the start of each row. Some control characters have effect immediately, others at the following character-space. Certain control characters have complementary forms. See figure 5.
11.5.1. Foreground Colour	White, yellow, cyan, green, magenta, red or blue. It is invoked by selection of alphanumeric or mosaic display mode, 7 pairs of control characters, see figure 5.
11.5.2. Background Colour of a Character Space - Black Background New Background	Invoked by the control character 'black background'. This control character causes the foreground colour then obtaining to be adopted as the background colour.
11.5.3. Contiguous Mosaic Graphics	Mosaic blocks adjoin one another.
11.5.4. Separated Mosaic Graphics	Each mosaic block is surrounded by a border of the background colour.
11.5.5. Hold Mosaic	A held mosaic character is displayed in place of a SPACE corresponding to a control character. The held character is defined only during the mosaic mode. It is the most recent character with bit 6 = 1 in its code, providing that there has been no intervening change in alphanumerics/mosaics or normal/double height display modes. It is displayed in the original contiguous or separated mode.
11.5.6. Conceal	Following characters are to be displayed as SPACE until 'revealed' by a decoder or user operation.
11.5.7. Flash	Following characters are to be displayed normally or as SPACE in alternation, under the control of a timing device in the decoder.
11.5.8. Boxing	Part of a page to be inset into the normal television picture. Protection against false operation is provided by double transmission of the control characters, with the effect taking place between them.
11.5.9. Double Height	Characters are to be stretched vertically to occupy in addition the corresponding character space in the display row with the next higher address, that row displays the same background colour as the previous row.

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12. Ancilliary Text Related Data	Optional Features.
12.1. Linked Pages Related to a Given Page and Intended for Automatic Storage in the Decoder Memory	Data carried by packet X/0/27 See figure 2.
12.1.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive as Sections 9 and 10.
12.1.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection Codes 0000 to 0011 designate linked page function and are used repetitively as sequence labels for a number of packets X/0/27. There is no response to other codes.
12.1.3. Linked Page Addresses	Bytes 7 to 36 used as 5 groups of 6 bytes. Each group of 6 bytes defines a linked page address.
12.1.3.1. Data Group Format Defining a Linked Page	6 bytes, see figure 2 for bit sequence: Relative Magazine Number.....3 bits Page Number.....8 bits Page Sub-Code.....13 bits Hamming Protection.....24 bits NOTE There is no response to the data in byte 37.
12.2. Basic Page Check Word	Data carried by packet X/1/27.
12.2.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive as Sections 9 and 10.
12.2.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection. Code 0000 designates basic page check word function
12.2.3. Basic Page Check Word	Bytes 7 and 8 contain a Cyclic Redundancy Check on the data in packets X/0/0 and X/T/1 to X/T/25. For check word generation see figure 13. No respons to bytes 9 to 37.
13. Broadcasting Service Data Packet	Packet 4/1/30 transmitted approximately once per second. See figure 2.
13.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive as Sections 9 and 10.
13.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection. First data bit set to 0 designates multiplexed function as in Section 1.1. First data bit set to 1 designates non-multiplexed function as in Section 1.2. Data bits 2, 3 & 4 set to 0 designate functions in Sections 13.3. and 13.4. There is no response to other codes.
13.3. Program or Network Label	Bytes 7 and 8 containing 16 bits data with at least one data transition included.
13.4. Initial Teletext Page for Storage in Decoder Without User Action	Bytes 9 to 14, see figure 2 for bit sequence: Relative Magazine Number.....3 bits Page Number.....8 bits Page Sub-Code.....13 bits Hamming Protection.....24 bits
13.5. Data for Equipment Control Includes Time and Date in UTC with Local Offset and Program Related Data	Bytes 15 to 37. Where appropriate the coding is to be the common codes of the basic character set, see Sections 11.4. and figure 3. For data format see figure 12.

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14. Response of Decoder at Level 2	Decoder responds as level 1 plus packets X/0/26 and X/0/28. See figure 2.
14.1. Control Bits in Page Header	As level 1, see Section 11.1.
14.1.1. C4 to C11	Response as level 1 see Sections 11.1.1. to 11.1.8.
14.1.2. C12, C13, C14 Basic Character Set Selection	Decoder displays text using selected basic character set as follows: 1) English, US version (see figure 3) — C12: 0, C13: 0, C14: 0 2) To be defined — C12: 0, C13: 0, C14: 1 3) To be defined — C12: 0, C13: 1, C14: 0 4) To be defined — C12: 0, C13: 1, C14: 1 5) To be defined — C12: 1, C13: 0, C14: 0 6) See Section 14.7. — C12: 1, C13: 0, C14: 1 7) See Section 14.7. — C12: 1, C13: 1, C14: 0 8) Reserved — C12: 1, C13: 1, C14: 1
14.2. Page Display	
14.2.1. Rows Displayed	As level 1, Section 11.2.1., exceptionally 24 complete rows, see Section 14.9.
14.2.2. Character Spaces in Rows 1 to 23	As level 1, see Section 11.2.2.
14.2.3. Character Spaces in Row 0 Page Header	As level 1, see Section 11.2.3.
14.3. Character Bytes	
14.3.1. Data Packets X/0/0 to X/T/24, X/0/27 & 4/1/30	As level 1, see Sections 11.3., 12. and 13.
14.3.2. Data Packets X/0/26	See Sections 14.4. and 14.6. and figure 2.
14.3.3. Data Packets X/0/28	See Section 14.4. and 14.7. and figure 2.
14.4. Character Sets for Display	a) Includes Full Latin Based repertoire of ISO a 7 basic alphanumeric character sets of 94 characters each plus SPACE and DELETE, selected by Control Bits as in Section 14.1. Each extendable by the data in packets X/0/26, see Section 14.6. and redefinable by the data in packets X/0/28, see Section 14.7. b) Contiguous mosaics as level 1, see Section 11.4. and Smoothed mosaics, see Section 14.6.16 c) Separated mosaics as level 1, see Section 11.4. and Smoothed mosaics, see Section 14.6.16. Selection between a), b) or c) is by means of control characters and the data in packets X/0/26, see Section 14.6. and the data in packets X/0/28, see Section 14.7.
14.5. Control Character Set for Spacing Controls Including Display Attributes	Set of 32 control characters, 1 unallocated for level 2. Action as for level 1, see Section 11.5., except as defined in Sections 14.5.1. to 14.5.5. See also figure 5.

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14.5.1. Foreground Colours	As level 1 plus black, see Section 11.5.1. and figure 5.
14.5.2. Underline Alphanumerics/ Separated Mosaic Graphics	Alphanumeric characters succeeding this control character are displayed underlined and mosaic characters are displayed in the separated mode as in Section 11.5.4. until the end of a display row of the receipt of a Cancel-Underline/ Contiguous Mosaic Graphics control character.
14.5.3. Cancel-Underline Alpha-numerics/Contiguous Mosaic Graphics	See Section 14.5.2.
14.5.4. Reduced Intensity	The background of alphanumeric characters and the foreground of mosaic characters are displayed at reduced intensity until the end of a display row or the second transmissio of the colour control character then obtaining. NOTE It is recommended that this control character should reduce the displayed luminance to a subjective level approximately 50% of that obtaining in the normal intensity mode.
14.5.5. Cancel Reduced Intensity	See Section 14.5.4.
14.6. Character Set Extension and Non-Spacing Control Characters Including Additional Display Attributes	Uses packet X/T/26 to over write any character-space. The original character and attribute condition is the editor defined fall-back for level 1 decoders.
14.6.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5, see Sections 9 and 10.
14.6.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection Codes 0000 to 1110, with the tabulation bit T as most significant bit, as sequence codes for a number of packets X/26 up to 30. Codes T 1111 have no response
14.6.3. Data Groups	Bytes 7 to 36 used as 10 groups of 3 bytes each, a, b and c. See figure 2 for bit sequence. a and b (6 bits for display address (5 bits for mode description (5 bits Hamming protection c (7 bits data (1 bit odd parity Byte 37 has no response.
14.6.4. Display Addressing	6 display address bits, as in Section 14.6.3. These provide 64 combinations. The decimal values 0 to 39 specify character spaces along a given display row and the decimal values 40 to 63 specify a particular display row. A character space is thus defined by a data group including a row address followed by one or more character position data groups.

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14.6.5. Full Screen Colour Including Borders Outside Normal Text Display Area (1)	Invoked when the Mode Description bits of any Row Address data group are set to 00000. Data bits 5, 6 and 7 activate respectively the primary colours red, green and blue. Thus, for example bit values 000 correspond to black and 110 to yellow. Data bit 4 invokes reduced intensity, bits 1 to 3 are set to 0.
14.6.6. Full Row Colour Including Borders Outside Normal Text Display Area (1)	Invoked when the Mode Description bits of the appropriate Row Address data group are set to 01000. Data bits 5, 6 and 7 activate respectively the primary colours red, green and blue. Thus, for example bit values 000 correspond to black and 110 to yellow. Data bit 4 invokes reduced intensity, bits 1 to 3 are set to 0.
14.6.7. Full Screen Pastel Colours Including Borders Outside Normal Text Display Area (1)	Invoked when the Mode Description bits of any Row Address data group are set to 00001. Data bits 1 to 3 and 5 define 16 pastel colours. Bit 4 invokes reduced intensity, see figure 8.
14.6.8. Full Row Pastel Colours Including Borders Outside Normal Text Display Area (1)	Invoked when the Mode Description bits of the appropriate Row Address data group are set to 01001. Data bits 1 to 3 and 5 define 16 pastel colours. Bit 4 invokes reduced intensity, see figure 8.
NOTE 1 Background colours when defined explicitly and foreground colours take precedence over Full Row colours and Full Row colours take precedence over Full Screen colours.	
14.6.9. Accented Characters from Supplementary Character Set	For display at a character-space addressed as in Section 14.6.4. The Mode Description bits set at the range of values 10000 to 11111 respectively define accents for column 4 of the code table figure 6 in ascending numerical order. The associated character from the primary character set of figure 3 is defined by the 7 data bits.
14.6.10. Special Characters from Supplementary Character Set	For display at a character-space addressed as in Section 14.6.4. The Mode Description bits are set at 01111. The 7 data bits define a character from columns 2, 3, 5, 6 or 7 from the supplementary character set of figure 6.
14.6.11. Alphanumerics, Normal Size with Colour and Flashing Attributes (2)	For normal size alphanumeric display at a character-space addressed as in Section 14.6.4. The Mode Description bits are set to 00000. Data bits 1, 2 and 3 activate respectively the foreground primary colours red, green and blue. Thus for example bit values 000 correspond to black, 110 to yellow and 111 to white. Bit 4 activates Flashing. Bits 5, 6 and 7 define the background colour in the same manner as in the case of bits 1, 2 and 3 for the foreground colour.

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14.6.12.	Alphanumerics, Double Height with Colour and Flashing Attributes (2)	As Section 14.6.11. except the Mode Description bits are set to 00001. Characters to be stretched vertically as in Section 11.5.4.
14.6.13.	Alphanumerics, Double Width with Colour and Flashing Attributes (2)	As Section 14.6.11. except the Mode Description bits are set to 00010. Characters to be stretched horizontally to occupy in addition the next character-space.
14.6.14.	Alphanumerics, Double Size with Colour and Flashing Attributes (2)	As Section 14.6.11. except the Mode Description bits are set to 00011. Characters to be stretched vertically and horizontally as in Sections 14.6.12. and 14.6.13
14.6.15.	Block Mosaics, Normal and Contiguous with Colour and Flashing Attributes (2)	For normal (not smoothed) mosaic display at a character-space addressed as in Section 14.6.4. The Mode Description bits are set to 00110. Data bits 1, 2 and 3 activate respectively the foreground primary colours red, green and blue. Thus for example bit values 000 correspond to black, 110 to yellow and 111 to white. Bit 4 activates Flashing. Bits 5, 6 and 7 define the background colour in the same manner as in the case of bits 1, 2 and 3 for the foreground colour.
14.6.16.	Block Mosaics, Smoothed and Contiguous with Colour and Flashing Attributes (2)	As Section 14.6.15. except the Mode Description bits are set to 00111. For the smoothed mosaic graphics character set see figure 9.
14.6.17.	Underline Alphanumerics or Separated Mosaics (3)	Activated at a character-space addressed as in Section 14.6.4. Invoked by the Mode Description bits set to 00110 and Data bit 1 set to 1.
14.6.18.	Boxing (3)	Activated at a character-space addressed as in Section 14.6.4. Invoked by the Mode Description bits set to 00110 and Data bit 2 set to 1.
14.6.19.	Conceal (3)	Activated at a character-space addressed as in Section 14.6.4. Invoked by Mode Description bits set to 00110 and data bit 3 set to 1.
14.6.20.	Reduced Intensity Foreground and Background (3)	Acitvated at a character-space addressed as in Section 14.6.4. Invoked by Mode Description bits set to 01100 and Data bit 4 set to 1 for foreground and Data bit 5 set to 1 for background.
14.6.21.	Pastel Colours in Foreground and Background and Flashing	Activated at a character-space addressed as in Section 14.6.4. Invoked by the Mode Description bits set to the range 01000 to 01011. The Mode Description bits and the Data bits define 16 foreground and background colours and the associated Flashing attribute. See figure 7.

NOTE 2 The effect of these attribute controls persists to the end of a row or until overridden by a further attribute control

NOTE 3 see page 9.

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14.6.22. Termination Marker	Since more than one packet X/0/26 may be needed to display a given page, a terminator is provided by setting the Mode Description bits to 11111 in the final row address data group of the final packet X/0/26
14.6.22.1. Packet X/0/26 and X/0/28 Check Word	The two data bytes that follow a packet X/0/26 termination marker contain a Cyclic Redundancy Check on the data in packets X/0/26 and X/0/28. The process of generating the check word is identical to that of Section 12.3.3., using the data in packets X/0/26 followed by X/0/28. The sequence is completed by assuming the presence of the character SPACE (2/0) repeated as necessary. When only a packet X/0/28 carries data, only the termination marker and the C.R.C. check word will be carried by packet X/0/26.
NOTE 3 These attribute controls are mutually additive and are associated with an attribute invoked as in Sections 14.6.11 to 14.6.16. Their effect is as in NOTE 2 and they may also be over-ridden by a transmission of the data group with the corresponding data bit set to 0.	
14.7. Basic Character Set Dynamic Redefinition	In addition to the fixed alphabets 1 to 5 listed in Section 14.1.2. the 10 blank positions in the code table of figure 3 may be redefined on a page or magazine basis using the data contained in packet X/0/28. In the packet associated function packets X/0/28 follow packet X/0/0 of the page in transmission sequence of that magazine. In the magazine based function it may follow any packet of that magazine. Page Header Control bits C12, C13 and C14 set respectively to 1, 0 and 1 invoke page associated function. Page Header Control bits C12, C13 and C14 set respectively to 1, 1 and 0 invoke magazine associated function.
14.7.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive, as in Sections 9 and 10.
14.7.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protection Magazine associated function designated by data bits set to 0000. Page associated function designated by data bits set to 0010.
14.7.3. Data Groups	Bytes 7 to 36 used as 10 groups of 3 bytes each, a, b and c: a and b (11 bits data (5 bits Hamming protection c (4 bits data (4 bits Hamming protection
14.7.3.1. Character Code Table Addressing	The sequence of 10 data groups defined in Section 14.7.3. represents a sequence of 10 data words each containing 7 + 7 bits. Each word redefines one of the blank positions in the code table of figure 3, in columns, top to bottom, from position 4/0 to position 7/14 proceeding in time along the packet X/0/28.

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14.7.3.2. Character Coding	The allocation of the data bits of Section 14.7.3. is as follows: Bit 1: always set to 0. Bits 2 to 8: represent a character from the primary set of figure 3. Bits 9 to 14: represent a character from the supplementary set of figure 6. When this represents an accent it is combined with the character from the primary set defined by bits 2 to 8. When a special character from the supplementary set is defined, bits 2 to 8 are set to represent the character SPACE (2/0). NOTE There is no response to byte 37 of packet X/0/28 in this mode.
14.8. Pastel Colours Dynamic Redefinition Page Associated	The 16 pastel colours of Sections 14.6.6., 14.6.7 and 14.6.21. may be redefined on a page basis using the data contained in packet X/0/28. Packets X/0/28 follow packets X/0/0 of the page in transmission sequence of that magazine.
14.8.1. Clock Run-in, Framing Code and Packet Address	Bytes 1 to 5 inclusive, as in Sections 9 and 10.
14.8.2. Designation Code	Byte 6, 4 bits data plus 4 bits Hamming protectio Designated by data bits set to 0011.
14.8.3. Data Groups	Bytes 7 to 36 used as 15 groups of 11 bits data plus 5 bits Hamming protection.
14.8.4. Display Colour Coding	The sequence of 15 data groups provides 16 data words of 9 bits each. Each data word defines one 8 possible levels respectively, of the 3 primary colours, red, green and blue. The first 8 data words in time sequence, replace group A of the colours defined in figure 7, the second 8 data wo replace the colours of group B in figure 7. NOTE There is no response to byte 37 of packet X/0/28 in this mode.
14.9. Additional Row Display	This mode of operation has been defined to accomodate the need to transmit and display pages having a non-standard format.
14.9.1. Invocation	Control bit C7 in the page header packet X/0/0 (suppress header) set to 1.
14.9.2. Response of Decoder	Displays packets X/T/1 to X/T/24 in the normal pa area. For enhanced modes (see Section 14.6.4.), t address code carrying the decimal value 40 define display row 24.
15. Response of Decoder at Level 3	Decoder responds to packets as level 2 plus additional codes in the hexadecimal range, permit a set, or a pair of co-defined sets of characters to be down loaded into the decoder. A range of colour controls can be down loaded with the characters.
15.1. Range of Colours	See Section 16.
15.2. Range of Colour Controls	See Section 16.
15.3. Full Page Application	These pages can not be acquired by level 1 and level 2 decoders.

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15.3.1. Access Page Per Magazine	Page A0.
15.3.2. Page Sub-Codes	Any except 3F7F.
15.3.3. Format of Packets Carrying Page A0	As level 2.
15.3.4. Down Loading Procedure	Uses data contained in Page A0, page sub-code 3F7F, see Section 16.
15.3.5. Display Procedure	User selects magazine X, page A0, and any page sub-code except 3F7F.
15.3.5.1. Decoder Action	a) If a packet X/0/0 of page A0, page sub-code 3F7F immediately follows packet X/0/0 of page A0 including the selected page sub-code, load the DRCS as in Section 16. b) If a) above does not apply, then await the next packet X/0/0 of page A0, page sub-code 3F7F If the magazine associated function bit C4 in this packet is set to 1, load the DRCS as in Section 16. c) If the page associated function has been invoked the sequence of packets as e) below follows immediately and they are acquired. d) If magazine associated function has been invoked the sequence of packets as e) below follows the transmission of packet X/0/0 of page A0 with the selected page sub-code and they are acquired. e) The first packet X/T/26 is now transmitted. In the row address groups of these packets, bit 4 set to 1 indicates magazine associated functio and set to 0 indicates page associated function. This bit has no meaning when the DRCS mode is no invoked. The mode description bits of a characte space address group set to 00100 invokes the first of two or a single DRCS and set to 00101 invokes the second of two co-defined DRCS. Other Mode Description bits have the same meaning as a level 2. f) The data in packets X/T/1 to X/T/23 is then displayed using the DRCS for the display rows defined by packets X/T/26 as in e) above. g) Further packets X/T/26 may be transmitted to provide non-spacing and off display area attributes. The character-space function of packet X/T/26 is as level 2 and can overwrite th DRCS with primary or supplementary set character In addition to the functions as in level 2, the basic character set is invoked by transmission of the NUL accent character (4/0).
15.4. Character Set Extension Using DRCS	Uses packet X/T/26 to overwrite any character position of the basic page as in level 2, but with characters from a DRCS, also a range of colour controls.
15.4.1. Down Loading Procedure	Uses data contained in page A0, page sub-code 3F7F, see Section 16.

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15.4.2. Display Procedure	User selects magazine X, and a page that includes DRCS characters.
15.4.2.1. Decoder Action - DRCS Acquisition	a) Following packet X/0/0 of the selected page, there follows the packets X/T/26. In the row address groups of these packets, mode bit 4 set to 1 indicates magazine associated function and set to 0 indicates page associated function. This bit has no meaning when the DRCS mode is not invoked. The character-space Mode Description bits are set to 01101 for a single DRCS or the first of two, or are set to 01110 for the second of two co-defined DRCS. b) If a packet X/0/0 of page A0, page sub-code 3F7F immediately follows the final packet X/T/26 of a given page and C4 is set to 0 indicating page associated function, then load the DRCS as in Section 16. c) If b) above does not apply and Mode bit 4 is set to 1 as in a) above, await the next packet X/0/0 of page A0, page sub-code 3F7F. If C4 in this packet is set to 1, indicating magazine associated function, load the DRCS as in Section 16.
15.4.2.2. Decoder Action - Display	A second transmission of packet X/0/0 of the selected page now precedes the transmission of packetsX/T/1 to X/T/23 of that page. To over-write using packet X/T/26 at a character-space addressed as in Section 14.6.4. The Mode Description bits are set to 01101 for a single or first of a pair of DRCS; they are set to 01110 for the second of a pair of co-defined DRCS. The 7 data bits define a character for display from the DRCS.
16. Dynamically Redefinable Character Sets -Down Loading Procedure	Carried by a page A0, page sub-code 3F7F, using packets X/0/0 to X/0/25. The sequence of packets is repeated as necessary, see Section 16.3.3.
16.1. Clock Run-in and Framing Code	See Section 9.
16.2. Addressing	
16.2.1. Packet Numbers X/0/0 to X/0/25	Bytes 4 and 5 Hamming protected. 2 binary digits for magazine number X. 1 binary digit set to 0. 5 binary digits for packet sequence numbers 0-25.
16.3. Packets X/0/0	
16.3.1. Page Number	Bytes 6 and 7 Hamming protected, coded with page number A0.
16.3.2. Page Sub-Code	Bytes 8,9,10,11 Hamming protected and coded 3F7F. The included control bit C4 is set to 0 to invoke page associated function. When C4 is set to 1 magazine associated function is invoked. The included control bits C5 and C6 are set to 0. See Section 10.2.2.
16.3.3. Page Sequence and Colour Sequence Codes	Byte 12, 4 bits data and 4 bits Hamming protection.
16.3.3.1. Colour Sequence Code	Byte 12, data bit 1. When set to 0, all Mode controls and colours for downloading are in the first packet X/0/0 of the sequence as in Section 16.3.4. When set to 1, the first 16 bytes of 32 are in the first packet X/0/0 as above and the second 16 bytes are in the second packet X/0/0 of the sequence as in Section 16.3.5.

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16.3.3.2. Page Sequence Code	Byte 12, data bits 2 to 4. The bit combinations 000 to 111 are used as sequence codes for the series of pages A0, page sub-code 3F7F.
16.3.4. Mode and Colour Data First Packet X/0/0	Bytes 13 to 34: a) Mode Controls.....2 or 3 bytes b) Colours to be Down Loaded.....0/16 bytes c) Start Control.....1 byte d) Address in Columns 2-7 of Code Table of First Character to be Down Loaded.....2 bytes
16.3.5. Colour Data Second Packet X/0/0	Bytes 13 to 30: a) Colours to be Down Loaded, second half of 32 bytes when required..16 bytes b) Address in Columns 2-7 of Code Table of Next Character to be Down Loaded.....2 bytes
16.3.5. Third and Subsequent Packets X/0/0	Bytes 13 and 14: Carry Address in Columns 2-7 of Code Table of Next Character to be Down Loaded.....2 bytes
16.4. Packets X/0/1 to X/0/25 of Sequence of Pages A0, Page Sub-Code 3F7F	Bytes 6 to 37: a) Character Data....number of bytes depends upon mode b) Character Terminate Control.....1 byte c) Subsequent Characters in numerical order completing each column, each character followed by the Character Terminate Control as in b) above..as b) d) Termination of Down Loading Control.....1 byte
16.5. Character Sets Down Loadable	A set, or a pair of co-definable sets of 94 characters on a 12 or 6 dot per raster line matrix, depending upon the mode selected. The matrix has 10 or 5 raster lines vertically depending upon the mode selected.
16.6. Down Loading Codes	16 standard control codes, 64 dot pattern codes, 31 DRCS mode control and instruction codes. See figure 10.
16.7. Modes	Basic display attributes are as for non-DRCS operation. Colour colour controls and colours also down loaded.
16.7.1. Basic Mode High Definition	Display 12 dots per raster line, nominally 10 raster lines per matrix. Mode Controls 6/0, 6/3 Character Data 2 bytes per raster line. First byte specifies even numbered dots (0 to 10). Second byte specifies odd numbered dots (1 to 11). The code bits b1, b2, b3, b4, b5 and b7 correspond directly to the dot pattern. Each complete matrix is terminated by the code 7/4.

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16.7.2. Basic Mode Low Definition	Display 12 dots per raster line, defined in pairs [(0,1) to (10,11)], nominally 10 raster lines per matrix. Two low definition sets may be co-defined. Mode Controls Single low definition set or first of a pair of co-defined sets 6/0, 6/2, 6/4 Second of a pair of co-defined sets 6/0, 6/2, 6/5. Character Data 1 byte per raster line. Each bit specifies a pair of dots. Each complete matrix is terminated by the code 7/4. This mode is the fallback for decoders having only 6 dot DRCS capability.
16.7.3. Colour Mode	1 value of horizontal definition, 12 dots per raster line defined in pairs. 2 values of vertical definition, 10 raster lines per matrix for high definition or 5 raster lines per matrix for low definition. 2 methods of colour control, red, green and blue primary colours with two levels of intensity (see Section 16.7.3.1.) or 16 down loaded specified colours (see Section 16.7.3.2.).
16.7.3.1. Colour Using Three Primary Colours	Display 12 dots per raster line, defined in pairs as in Section 16.7.2. Activation of red, green and blue with normal or reduced intensity. Mode Control high definition 6/1, 6/3, 6/6. low definition 6/1, 6/2, 6/6. Character Data Dot patterns for compete matrix transmitted respectively for red. green, blue and intensity, i.e. four patterns for each compete matrix. The transmissions for red, green, blue and intensity are respectively preceded by one of the delimiter codes 7/0, 7/1, 7/2 or 7/3. Only those required are transmitted and the compete matrix is terminated by the control code 7/4.
16.7.3.2. Colour Using 16 Down Loaded Colours	Display 12 dots per raster line, defined in pairs as in Section 16.7.2. any one of 16 colours may be associated with any dot pair. For colour down loading procedure see Sections 16.7.3.3. and 16.7.3.4. Mode Controls high definition 6/1, 6/3 and 6/7 or 6/8, see Section 16.7.3.3. and 16.7.3.4. low definition 6/1, 6/2 and 6/7 or 6/8, see Section 16.7.3.3. and 16.7.3.4. Character Data Dot patterns for the complete matrix transmitted 4 times. The resultant 4 bits associated with each dot pair will thus have values in the range 0000 to 1111 in order to define one of the 16 colours. The transmissions define the 4 bits in order of decreasing significance and are preceded respectively by the delimiter codes 7/0, 7/1, 7/2 and 7/3. The complete transmission of the matrix is terminated by the control 7/4.

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	16.7.3.3. Colour Down Loading 16 Colours from a Set of 64	Display Each colour is defined by 1 of 4 levels of red, green and blue primary colours. Mode Controls as Section 16.7.3.2. using the codes 6/1, 6/3 and 6/7. Colour Data 16 groups of 6 bits define 1 of 4 levels for respectively red, green and blue primary colours. Bits b1, b2, b3, b4, b5 and b7 of the codes in figure 10 are used. The sequence of 16 groups of 6 bits correspond to the colours invoked in Section 16.7.3.2.
	16.7.3.4. Colour Down Loading 16 Colours from a Set of 4096	Display Each colour is defined by 1 of 16 levels of red, green and blue primary colours. Mode Controls as Section 16.7.3.2. using the codes 6/1, 6/3 and 6/8. Colour Data 16 groups of 12 bits define 1 of 16 levels for respectively red, green and blue primary colours. Bits b1, b2, b3, b4, b5 and b7 of the codes in figure 10 are used twice for each group. The sequence of 16 groups of 12 bits correspond to the colours invoked in Section 16.7.3.2.
17.	Response of Decoder at Level 4 Alphageometric Coding	Page addresses in the range A1 to FF and associated page sub-codes are reserved for this function. To be implemented when the coding details are specified. (1)
18.	Response of Decoder at Level 5 Alphaphotographic Coding	Page addresses in the range A1 to FF and associated page sub-codes are reserved for this function. To be implemented when the coding details are specified. (1)
19.	Telesoftware Transmission of Computer Programs and Similar Data Not For Display. Applicable to a Range of Levels to be Associated with Those Defined for Text and Similar Display.	Page addresses in the range A1 to FF and associated page sub-codes are reserved for this fuction. To be implemented when details are specified. (1)

NOTE 1 These digits are in the hexadecimal range.

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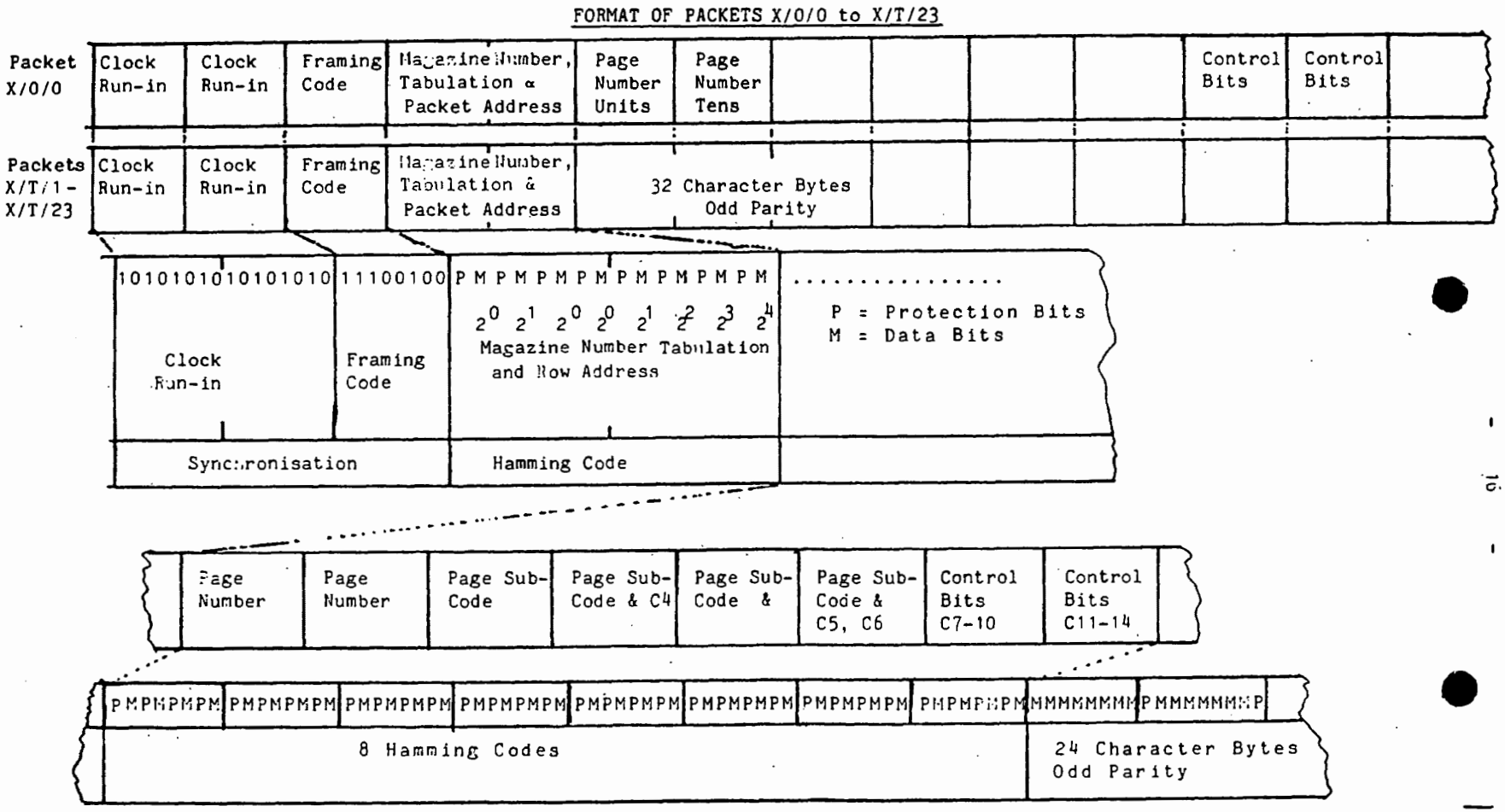

Figure 1

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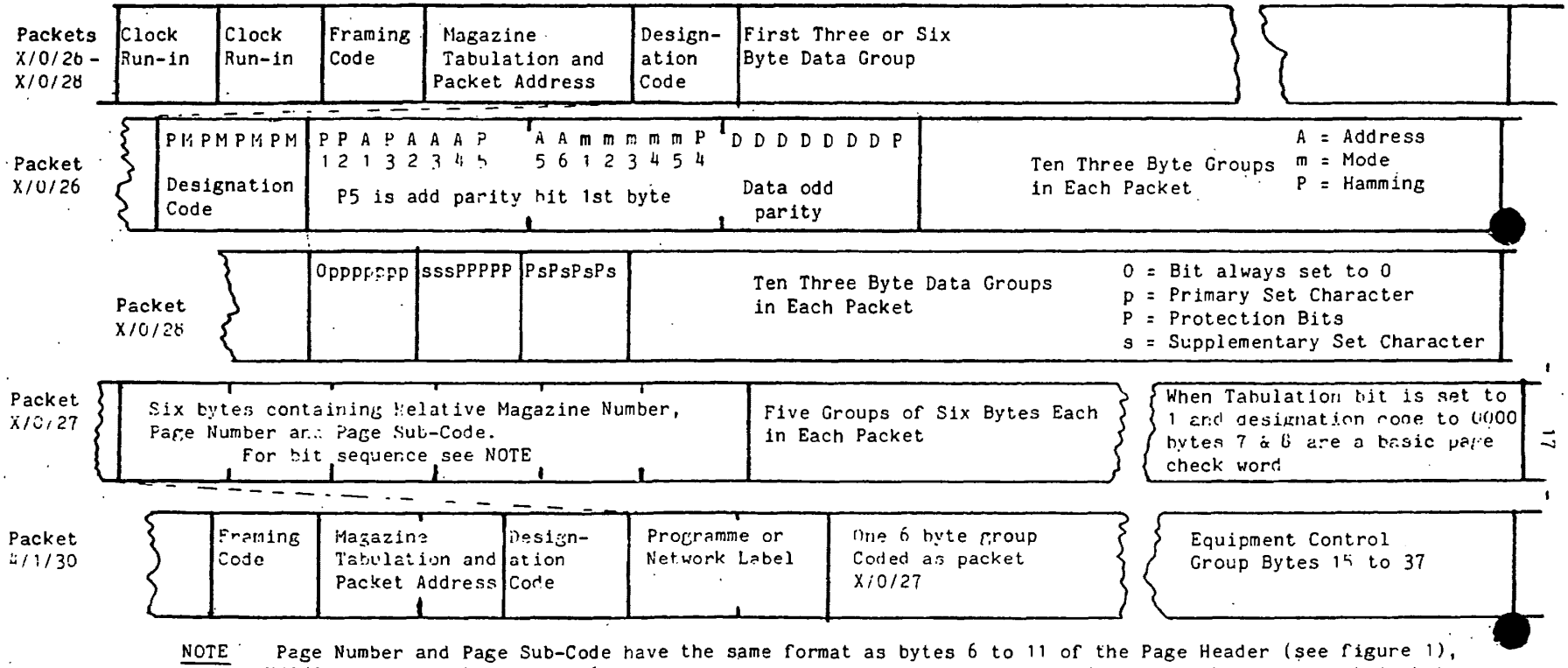
FORMAT OF PACKETS X/0/26 X/0/27 X/0/28 4/1/30



NOTE Page Number and Page Sub-Code have the same format as bytes 6 to 11 of the Page Header (see figure 1), packet X/0/0. The bits C4, C5 and C6 in this sequence are used to change the magazine number from that in bytes 4 and 5 of the packet X/0/27. Setting any of these bits to 1 complements the corresponding magazine number bit.

In all cases the LEAST SIGNIFICANT bit is transmitted first.

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	2	3	4	5	6	7
0	SP	0	(1)	P	(1)	p
1	!	1	A	Q	a	q
2	"	2	B	R	b	r
3	#	3	C	S	c	s
4	$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	'	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	i	y
10	*	:	J	Z	j	z
11	+	;	K	(1)	k	(1)
12	,	<	L	(1)	l	(1)
13	-	=	M	(1)	m	(1)
14	.	>	N	(1)	n	(1)
15	/	?	O	_	o	DEL

Figure 3

PRIMARY CHARACTER SET, COMMON CHARACTERS
(1) National Option variation, see Table on following page.
For 7 bit coding, bits 1-4 define row in ascending order and bits 5-7 define coloumns in ascending order.

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TABLE POSITION	ENGLISH U.S.USE
4/0	@
5/11	[
5/12	\
5/13	]
5/14	^
6/0	`
7/11	{
7/12	|
7/13	}
7/14	~

Figure 3 continued

PRIMARY CHARACTER SET, NATIONAL OPTION FOR U.S. USE.

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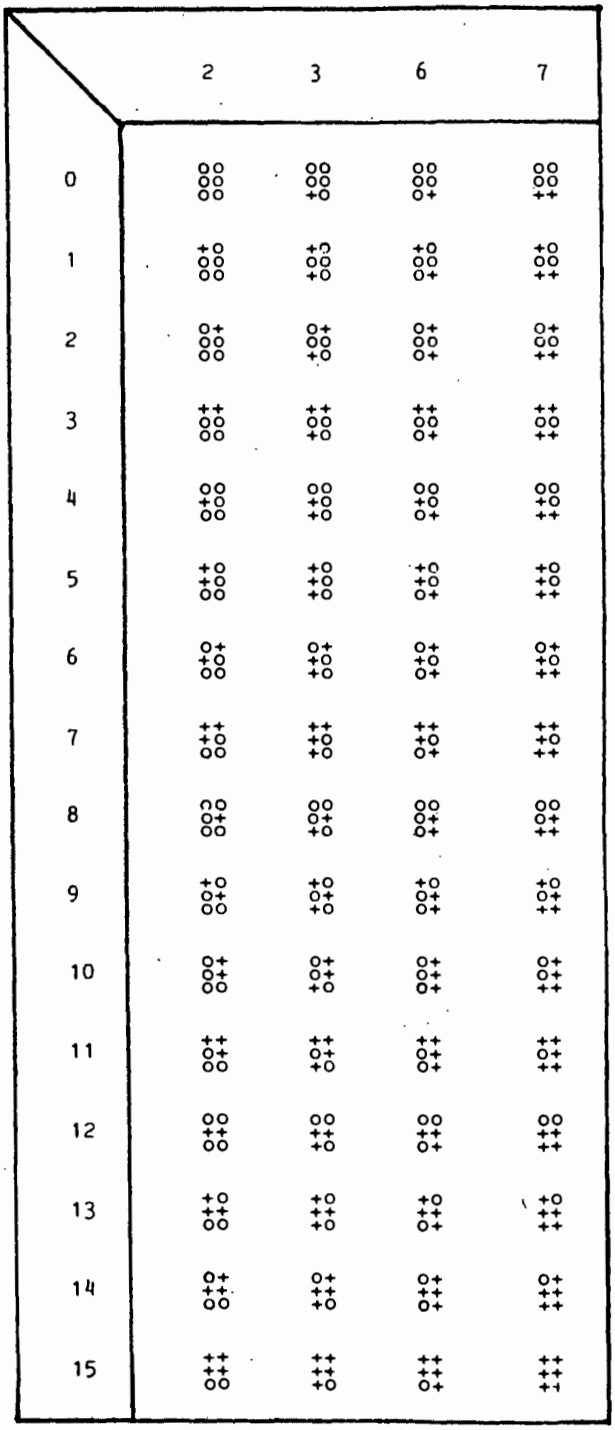

Figure 4

MOSAIC GRAPHIC CHARACTER SET

o= Background Colour
+= Foreground Colour

In the Mosaic Graphics Mode the Alphanumeric Characters from the Code Table of Figure 3 are included in Columns 4 & 5. Bit allocation is as figure 3.

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	0	1
0	(4)	(4)
1	Alpha Red	Mosaic Red
2	Alpha Green	Mosaic Green
3	Alpha Yellow	Mosaic Yellow
4	Alpha Blue	Mosaic Blue
5	Alpha Magenta	Mosaic Magenta
6	Alpha Cyan	Mosaic Cyan
7	Alpha White(1)	Mosaic White
8	Flash	Conceal(2)
9	Steady(1) (2)	Contig(1) Mosaic(2)
10	End(1) Box(2)	Separ Mosaic
11	Start Box(3)	(5)
12	Norm(1) Hght(2)	Blk (1) Bkgd(2)
13	Dble Hght	New Bkgd(2)
14	(4)	Hold Mosaic(2)
15	(4)	Release Mosaic(1)

TABLE POSITION	
0/	
0/	Reduced Intensity
1/0	Mosaic Black
1/9	Underline Stop & Contig Mc
1/10	Underline Start & Sep Mos

(1) Presumed at the start of each row.

(2) Action 'Set At', others are 'Set After'.

(3) Two consecutive codes are transmitted, action takes place between them.

(4) No action at level 1.

(5) No action at level 1 or 2.

Figure 5
CONTROL CHARACTER SET FOR SPACING ATTRIBUTES

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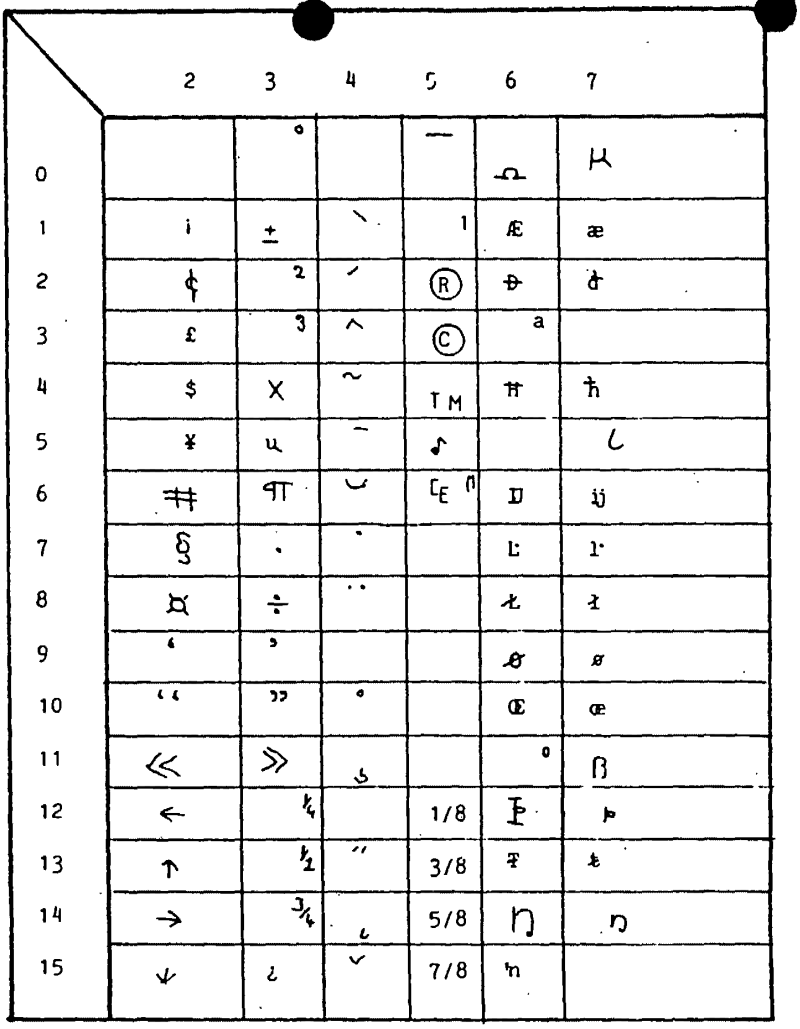

	2	3	4	5	6	7
0		°		—		
1	¡	±	`	¹	Æ	æ
2	¢	²	´	®	Đ	ð
3	£	³	^	©	ª	
4	$	×	~	™	Ħ	ħ
5	¥	µ	¯	♪		ı
6	#	¶	˘	₤	Ĳ	ĳ
7	§	·	¸		Ŀ	ŀ
8	¤	÷	¨		Ł	ł
9	'	¹			Ø	ø
10	‘	’	°		Œ	œ
11	«	»	˛		º	ß
12	←	¼		1/8	Þ	þ
13	↑	½	˝	3/8	ŧ	ŧ
14	→	¾	˙	5/8	Ŋ	ŋ
15	↓	¿	ˇ	7/8	ʼn	

Figure 6

SUPPLEMENTARY CHARACTER SET

Column 4 contains accents to be associated with characters from the Primary Character Set of figure 3.

Bit allocations are as figure 3

(1 This character represents the European Currency Unit and is proposed for inclusion at position 5/6.

The European Broadcasting Union has proposed that °/oo (per mil) be included. No position in the code table has been allocated.

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MODE BITS	FOREGROUND COLOUR GROUP	BACKGROUND COLOUR GROUP
01000	A	A
01001	A	B
01010	B	B
01011	B	A

DATA BITS b7 b6 b5 / b3 b2 b1	COLOUR REFERENCE NUMBER
0 0 0	1 A or B
0 0 1	2 A or B
0 1 0	3 A or B
0 1 1	4 A or B
1 0 0	5 A or B
1 0 1	6 A or B
1 1 0	7 A or B
1 1 1	8 A or B
	16 colours in all

The chromaticities of the colours are to be defined.
Bits b7, b6, b5 define the background colou
Bits b3, b2, b1 define the foreground colou
Bit b4 invokes flashing

Figure 7

INVOCATION OF PASTEL COLOURS IN FOREGROUND AND BACKGROUND

b5	b3	b2	b1	COLOUR REFERENCE NUMBER
0 = GROUP A	0	0	0	1 A or B
1 = GROUP B	0	0	1	2 A or B
	0	1	0	3 A or B
	0	1	1	4 A or B
	1	0	0	5 A or B
	1	0	1	6 A or B
	1	1	0	7 A or B
	1	1	1	8 A or B

The chromaticities of the colours are to be defined, but shall be the same as those of figure 7.
Bit b4 invokes reduced intensity.

Figure 8

INVOCATION OF PASTEL COLOURS FOR FULL SCREEN AND FULL ROW ATTRIBUTES

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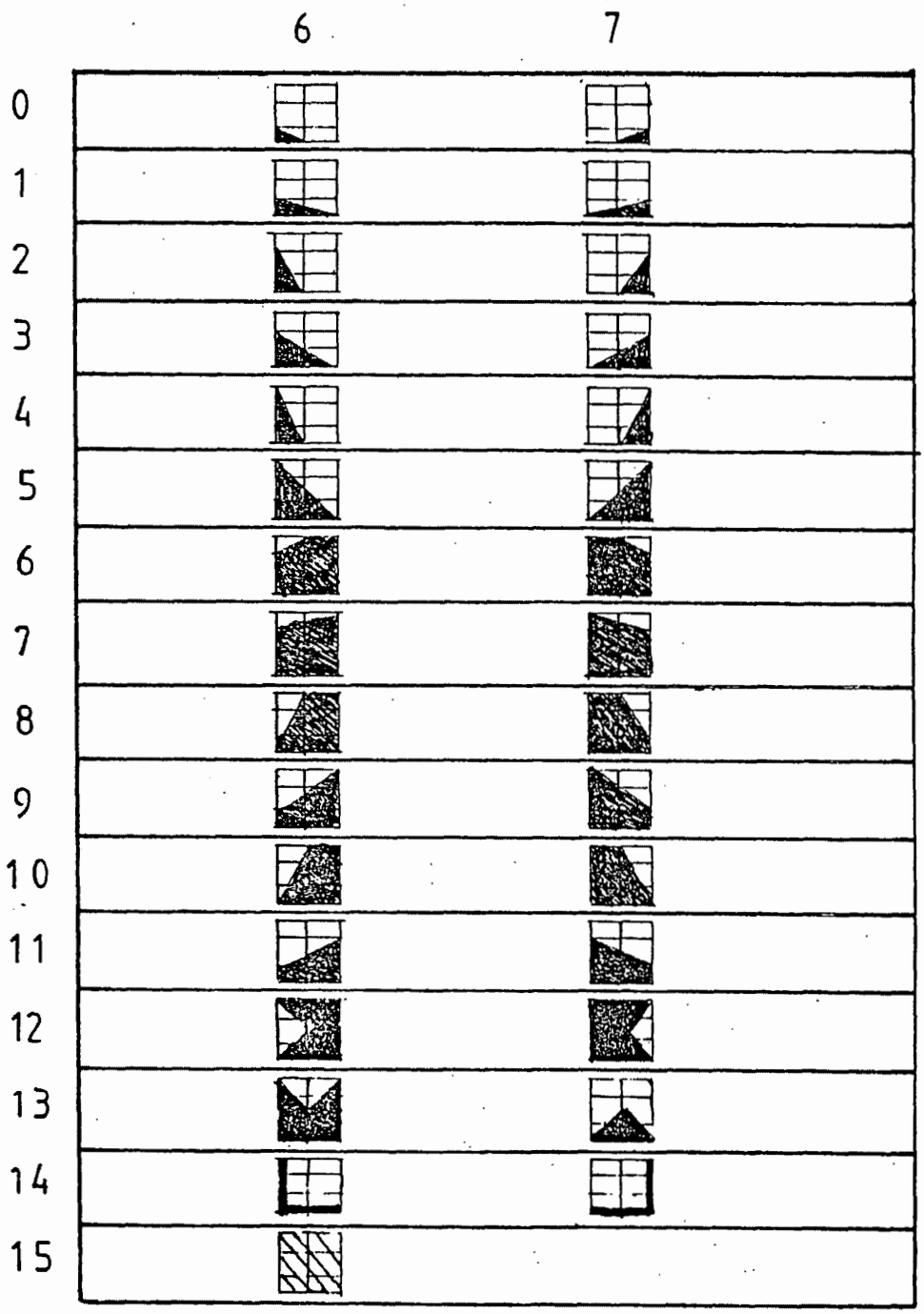

Figure 9 SMOOTHED MOSAIC GRAPHICS SET

Columns 2, 3, 4, & 5 are unallocated and the position 7/15 corresponds to the character DEL.
The character in position 6/15 invokes the illumination of alternate dots of a mosaic rectangle.
The horizontal component of the characters in positions 4/14 and 5/14 are invoked by the Separated Mosaic/Underline Alphanumeric Mode.

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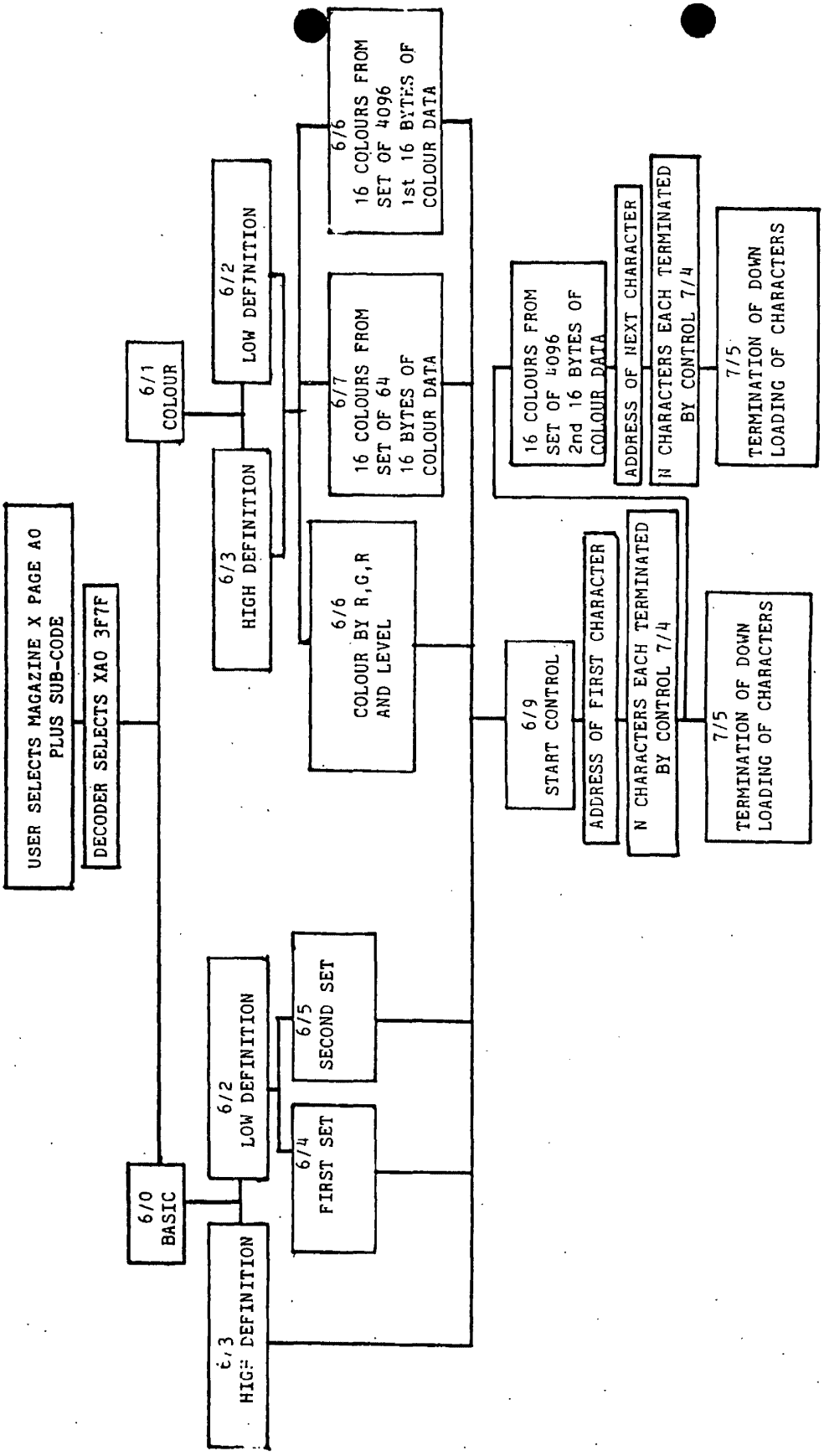

Figure 10

DOWN LOADING PROCEDURE FOR DRCS

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	0 & 1	2-5	6	7
0	(1)	(2)	BASIC MODE	COLOUR DELIMITER 1
1	(1)	(2)	COLOUR MODE	COLOUR DELIMITER 2
2	(1)	(2)	LOW DEFINITION	COLOUR DELIMITER 3
3	(1)	(2)	HIGH DEFINITION	COLOUR DELIMITER 4
4	(1)	(2)	FIRST SET	TERMINATE CHARACTER
5	(1)	(2)	SECOND SET	TERMINATE DOWN LOADING
6	(1)	(2)	COLOUR BY R,G,B & Lev.	(3)
7	(1)	(2)	16 COLOURS FROM 64	(3)
8	(1)	(2)	16 COLOURS FROM 4096	(4)
9	(1)	(2)	START CONTROL	(4)
10	(1)	(2)	(3)	(4)
11	(1)	(2)	(3)	(4)
12	(1)	(2)	(3)	(4)
13	(1)	(2)	(3)	(4)
14	(1)	(2)	(3)	(4)
15	(1)	(2)	(3)	(4)

(1) These columns reserved for standard control characters

(2) These columns contain character and colour codes for down loading

(3) These codes are reserved for future standardisation

(4) These codes are reserved for use in the Videotex service

For 7 bit coding, bits 1-4 define rows in ascending order
and bits 5-7 define columns in ascending order

Figure 11

CONTROL CODES FOR DRCS DOWN LOADING PROCEDURE

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Broadcast Service Data Packet Byte	Function	Bit Allocation
15 Local Time Zone	Undefined.	Bit 1
	Polarity, set to 1 when behind UTC (eg USA).	Bit 2
	Magnitude of offset from UTC in units of ½ hour.	Bits 3 - 7
	Undefined	Bit 8
16 Year Type and Day (1)	Set at 1 when this year or next year is leap year.	Bit 1
	Set at 1 when this year or last year is leap year.	Bit 2
	January 1st day of week.	Bits 3 - 5
	UTC day of week.	Bits 6 - 8
17 Week	Undefined.	Bits 1 and 2
	Week Number 1 to 53 according to ISO 2015.	Bits 3 - 8
18 Hours	Undefined.	Bits 1 and 2
	UTC Hours 10's.	Bits 3 and 4
	UTC Hours units.	Bits 5 - 8
19 Minutes	Undefined.	Bit 1
	UTC Minutes 10's.	Bits 2 - 4
	UTC Minutes units.	Bits 5 - 8
20 Seconds	Set to 1 during minute containing a leap second.	Bit 1
	UTC Seconds 10's.	Bits 2 - 4
	UTC Seconds units.	Bits 5 - 8

Figure 12 Time and Date Coding for Broadcast Data Packet

NOTE 1
Days of the week are numbered from Monday = 1 to Sunday = 7

A given packet time signal indicates the time at the occurence of the next such packet.

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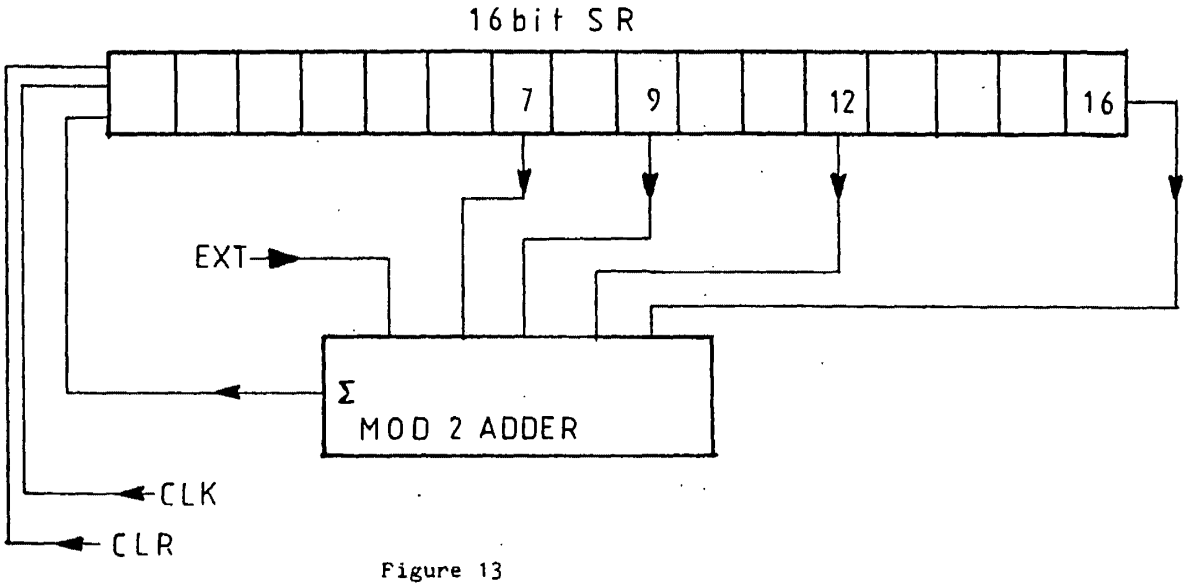

Figure 13

CHECK WORD GENERATION

In the example shown a 16 bit shift register has as input the modulo-2 sum of an external input and the contents of the 7th, 9th, 12th and 16th stages of the register. Initially the register is cleared to 'all zeros'. During a sequence of 8192 clock pulses the first 24 character bytes (192 bits) of the page header packet and the following character bytes of packets numbers with Y up to 25, in conventional transmission order form the external input. Any absent packets are considered to contain the character SPACE (2/0) throughout. At the end of this process the contents of the register are the Basic Page Check Word and it is transmitted along the register begining with the bit held in the 16th stage.

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DESIGNATION CODE	FUNCTION	DATA BITS 1 2 3 5 6 7 4				
ROW GROUP 00000	FULL SCREEN COLOUR	No Response	Red	Green	Blue	Reduced Intensity
ROW GROUP 00001	FULL SCREEN PASTEL COLOURS	16 Pastel Colours				Reduced Intensity
ROW GROUP 00100	NO RESPONSE					
ROW GROUP 00101	NO RESPONSE					
ROW GROUP 01000	FULL ROW COLOUR	No Response	Red	Green	Blue	Reduced Intensity
ROW GROUP 01001	FULL ROW PASTEL COLOURS	16 Pastel Colours				Reduced Intensity
ROW GROUP 01100	NO RESPONSE					
ROW GROUP 01101	NO RESPONSE					
ROW GROUP 10000	NO RESPONSE					
ROW GROUP 10001	NO RESPONSE					
ROW GROUP 10100	NO RESPONSE					
ROW GROUP 10101	NO RESPONSE					
ROW GROUP 11000	NO RESPONSE					
ROW GROUP 11001	NO RESPONSE					
ROW GROUP 11100	NO RESPONSE					
ROW GROUP 11101	NO RESPONSE					
ROW GROUP 11111	PACKETS 26 TERMINATOR	This code is followed by a 2 byte check digit on the data in packets "26" and packets "28".				
ROW GROUP XXX1X	DRCS MAGAZINE ASSOCIATED	The value of bit 4 in the designation code only applies when in the DRCS Mode, except for group 11111 above.				

Figure 14 PACKETS "26" DESIGNATION CODES ALLOCATION
ROW ADDRESS GROUPS

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DESIGNATION CODE	FUNCTION	DATA BITS 1 TO 7 INCLUSIVE
SPACE GROUP 00000	ALPHANUMERIC NORMAL	BITS 1, 2 & 3 respectively RED, GREEN & BLUE FOREGROUND BITS 5, 5 & 7 respectively RED, GREEN & BLUE BACKGROUND BIT 4 FLASHING
SPACE GROUP 00001	ALPHANUMERIC x 2 HEIGHT	
SPACE GROUP 00010	ALPHANUMERIC x 2 WIDTH	
SPACE GROUP 00011	ALPHANUMERIC x 2 SIZE	
SPACE GROUP 00100	1st DRCS LATCHING SHIFT	
SPACE GROUP 00101	2nd DRCS LATCHING SHIFT	
SPACE GROUP 00110	MOSAIC NORMAL	
SPACE GROUP 00111	MOSAIC SMOOTHED	
SPACE GROUP 01000 TO SPACE GROUP 01011	PASTEL COLOURS 4 CODES	BITS 1 to 7 inclusive with the 4 Designation Codes define 16 foreground and background colours
SPACE GROUP 01100	NON-SPACING ATTRIBUTES	BIT 1 SEPARATED MOSAIC/UNDERLINE ALPHNUMERICS, BIT 2 BOXING, BIT 3 CONCEAL, BIT 4 REDUCED INTENSITY FOREGROUND, BIT 5 REDUCED INTENSITY BACKGROUND, BIT 6 NO RESPONSE.
SPACE GROUP 01101	1st DRCS SINGLE SHIFT	BITS 1 TO 7 INCLUSIVE DEFINE THE DRCS CHARACTER
SPACE GROUP 01110	2nd DRCS SINGLE SHIFT	
SPACE GROUP 01111	SPECIAL CHARACTER FROM SUPPLEMENTARY SET	BITS 1 TO 7 INCLUSIVE DEFINE THE SUPPLEMENTARY SET CHARACTER
SPACE GROUP 10000 TO SPACE GROUP 11111	ACCENTS FROM SUPPLEMENTARY SET	BITS 1 TO 7 INCLUSIVE DEFINE THE ASSOCIATED PRIMARY SET CHARACTER

Figure 15 PACKETS "26" DESIGNATION CODES ALLOCATION
CHARACTER-SPACE ADDRESS GROUP

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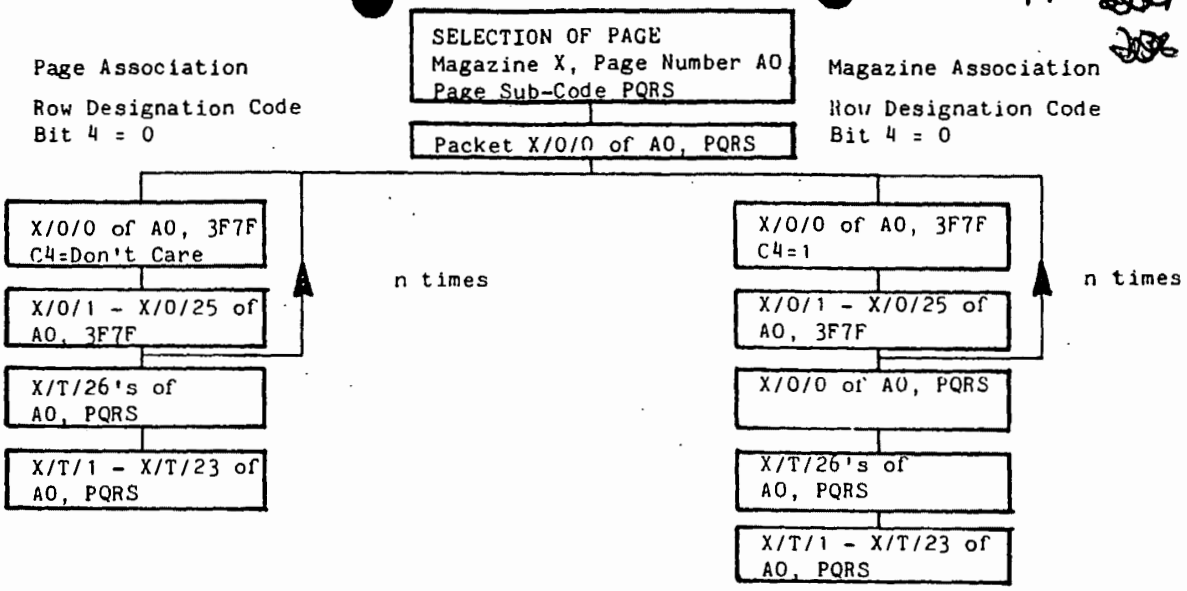

Figure 31 FULL PAGE DRCS DISPLAY PROCEDURE

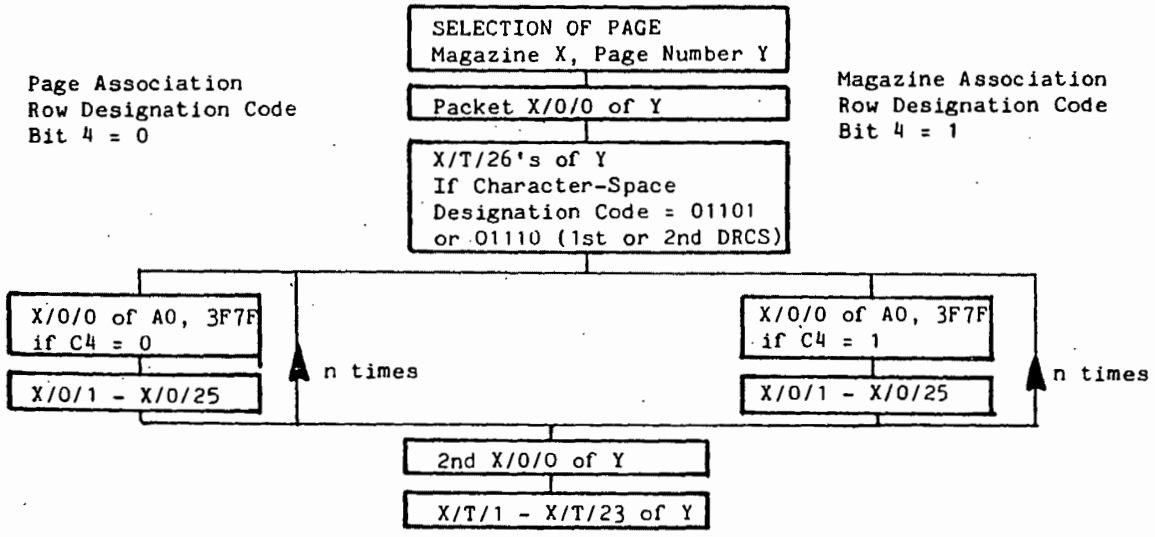

Figure 32 DRCS TO OVERWRITE BASIC PAGE

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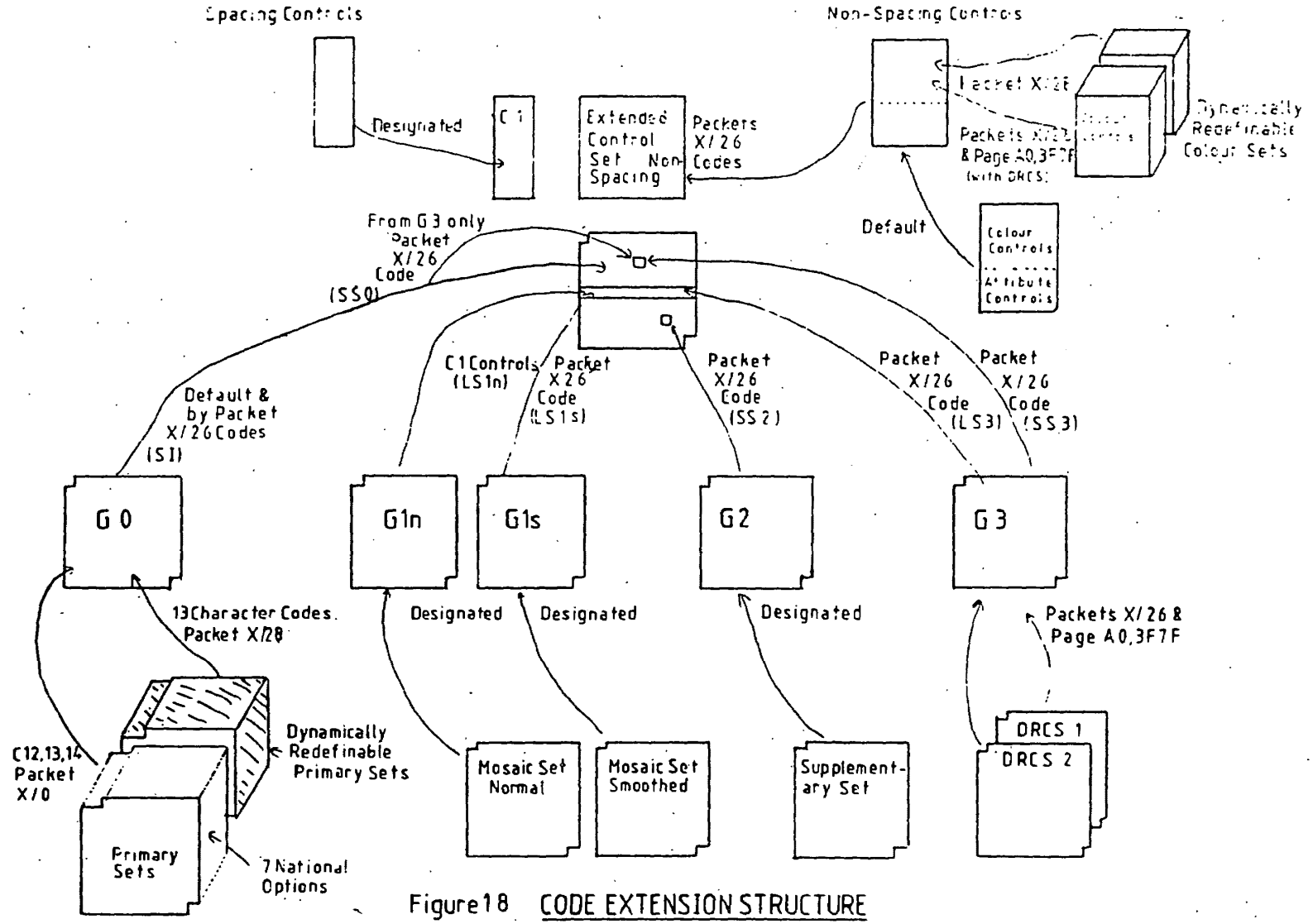

Figure 18 CODE EXTENSION STRUCTURE

A-33

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APPENDIX B- ["discrete signals" of "standardized" Teletext (exemplified)]

The publication contained within "Appendix A" of this Office action, has been cited because it exemplifies "standardized" Teletext form/practice. The following is noted:

1) As was notoriously well known in the art, on the transmitter side of a Teletext system, a Teletext editor generated the respective Teletext images/frames which were to be transmitted. Each of these images/frames was then encoded into a "series of instructions" which "series of instructions", when transmitted and selectively received at the receiver side of the system, was used by the decoder/receiver to locally generate/re-generate the respective Teletext image/frame for display thereat.[64]

2) As was notoriously well known in the art, in order to transmit the series of instructions, each series of instructions was first organized into a Teletext "page" format, wherein each formatted "page" was comprised of a plurality of "discrete Teletext packet signals". In the illustrated system of APPENDIX A, each Teletext "page" included the twenty-eight "discrete Teletext packet signals" having the structure shown on pages "A-17" and "A-18" of said Appendix A, wherein:

A) The first packet of each "page", e.g. packet "X/0/0" on page "A-17", was a header packet which carried various types of control signals associated with the respective "page";

B) The next twenty-four packets of each "page", e.g. packets "X/T/1" to "X/T/23" on page "A-17", were information packets each included various sync and address codes along with a 32 character byte information carrying portion for carrying a 32 byte "discrete portion" of the respective "series of instructions" of the respective Teletext image/frame; and

C) At least one of the remaining packets of each "page", e.g. packet 4/1/30, was an extension packet which, in the illustrated system, was used to convey:

---

[64] Note "APPENDIX E" attached hereto

1. Twenty-three bytes of an "equipment control group" for allowing the remote control/triggering/actuation of downstream network equipment(s);[65]
[SEE: the paragraph which begins "Optional features..." on the page labeled "A-1" of the publication; and "Equipment Control" in packet 4/1/30 on page labeled "A-18" of the publication]

2. A program/network label portions for allowing downstream equipment/receivers to identify the program/network being transmitted on the given channel currently being received
[SEE: figure 12 on the page labeled "A-28" of the publication; and "Program or Network Label" in packet 4/1/30 on page labeled "A-18" of the publication]

3. ETC,...

3) As was notoriously well known in the art, so formatted Teletext "pages" were the communicated through the television network:

A) by embedding each "discrete Teletext packet signal" of each page within a respective vacant line period of the TV programming being distributed by the TV network;

B) by communicating the television programming containing the embedded "discrete Teletext packet signals" through the network to a plurality of receiver stations;

C) by separating the embedded "discrete Teletext packet signals" from the communicated programming at each of the receiver stations;

D) by determining which ones of the separated "discrete Teletext packet signals" correspond to information packets of a desired Teletext page;

---

[65] While this document does not list the kind of downstream equipment which was to be controlled by this signal "group", the kind of equipment that could be controlled was in fact notoriously well known in the art [note "APPENDIX D" attached hereto].

E) by decoding those information packets of the desired Teletext page so as to obtain/recover the respective 32 byte information portions therefrom;

F) by organizing the obtained 32 byte portion back into the original sequence of instructions;

G) by executing the organized sequence of instructions so as to "locally generate" the desired Teletext image for display at the receiver station.

More specifically, with respect to the exemplified system:

A) Each transmitted Teletext image was represented by a series of instructions up to 768 character bytes long;

B) Because each vacant line period of a TV signal did not have the capacity/bandwidth to carry all 768 character bytes at one time, each series of instructions had to be divided up into a plurality of discrete portions/segments which could be carried within a respective plurality of vacant line periods. Specifically, each of the 768 bytes of each series was divided up into 24 portions/segments/rows which were 32 character bytes long (i.e. 24 x 32 = 768), and each of these so produced 24 portions/segments/rows was then inserted into a vacant line of a TV signal via a respective one of the 24 information bearing packets "X/T/1" to "X/T/23" shown on page "A-17" of Appendix A;

C) On the receiver side of the system: said information bearing packets "X/T/1" to "X/T/23" of a desired/selected Teletext page were then identified and decoded by a Teletext decoder so as to recover the respective discrete 32 byte portions/segments therefrom; these obtained 32 byte portions/segments were then organized/re-organized back into the original 768 byte "series of instructions" and stored in a display memory; and finally, this stored series of instructions was outputted from the display memory in order to instruct a character generator to "locally generate" the desired Teletext image that was to be locally displayed;

4) As was notoriously well known in the art, "series of instructions" representing non-displayable types of data/information, e.g. such as computer software (e.g. "Telesoftware"), were also be formatted into standardized Teletext "pages" and communicated through a TV network in a like manner; e.g. "extended Teletext" [66]. As exemplified by the system of Appendix A, it was explicitly recognized that the information packets "X/T/1" to "X/T/23" of given pages could be used to carry 32 byte "portions"/segments software (e.g. "Telesoftware") in place of the 32 byte "portions"/segments of data which represented displayable Teletext images/frames [SEE: the paragraph which begins "Page addresses have also been reserved for the transmission of Telesoftware..." on page "A-1" of the publication; and section "19." on page "A-16" of the publication; etc,...]. And unless the Telesoftware program comprised less than the 30-40 bytes that could be carried within one vacant TV line, e.g. it being rather doubtful that any computer program would/could be so short, the Telesoftware program was necessarily broken up into a plurality of discrete 30-40 bytes portions to be carried within a respective plurality of the discrete information packets too (e.g. in the same way as the character/graphic instructions were broken up and carried by said information packets as addressed above) [67]. Again, for applicant to suggest that Telesoftware/Teletext was not transmitted as a plurality of discrete signal portion/packets that had to be "organized"/re-organized back into a complete instruction sets on the receiver side of the system, is simply founded in an unrealistically low level of skill in the art. Such arguments represents nothing less than a huge misunderstanding and/or misrepresentation of Teletext "prior art".

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[66] Note the discussion in the first 12 lines under the heading "ORACLE and TV Transmission System" which begins in the last 6 lines of the second column on page 561 of the Hedger publication entitled "TELESOFTWARE-VALUE ADDED TELETEXT"].

[67] Indeed, Telesoftware programs were often so long that they had to be divided up into discrete 30-40 byte portions filling not just one page but a plurality of "linked" Teletext pages [note the first 6 lines on page 562 of the Hedger publication entitled "TELESOFTWARE-VALUE ADDED TELETEXT"]

APPENDIX C- **[The "cuing" technology of applicant 1981 parent *VS* the "SPAM" technology of applicant's instant "1987" CIP disclosure]**

THE 1981 CUING SYSTEM TECHNOLOGY:

Applicant's 1981 parent application first discussed "prior art" cuing technology in which *remote* devices were controlled by "cuing instructions" which were embedded within "header" and "trailer" portion of Radio or TV transmissions [note lines 58-68 of column 1 in US Patent #4,694,490]. In the context of applicant's 1981 disclosure, the terms "header" and "trailer" referred to those portions of a TV/Radio program transmission which immediately preceded and followed the TV or Radio programming itself. Because the prior art placed these "cuing instructions" in such "header" and "trailer" portions, e.g. portions separate from the programming itself, it was easy for such "cuing instructions" to have become lost during program switching and editing processes (note lines 1 and 2 of column 2 in US Patent #4,694,490). Applicant's 1981 "invention(s)" overcame this problem by inserting the "cuing instructions" into the program transmission itself wherein the "cuing instructions" could not become easily separated from the programming [note lines 5-30 of column 4 in US Patent #4,694,490].
As has been noted by the examiner throughout the present prosection, the record is simply overflowing with pre-1981 "prior art" which shows that it was known, conventional, and desirable to transmit such "cuing-type instructions" as digital codes within the programming whereby, as noted by applicant, they could not become easily separated from said programming:

A) The translation of the 1968 Japanese article "System and Apparatus For Automatic Monitoring Control Of Broadcast Circuits" by Yamane et al.;

B) The 1964 UK Patent Document #959,274 to Germany;

C) The 1971 article "The Vertical Interval: A General-Purpose Transmission Path" by Anderson;

D) The 1970 article "Vertical Interval Signal Applications" by Etkins;

E) The 1973 article "A System of Data Transmission in the Field Blanking Period of the Television Signal" by Hutt;

F) The 1973 article "Ad Hoc Committee on Television Broadcast Ancillary Signals" by O'Conner; and

G) The Australian Patent Document #74.619 to Hetrich ,

being among the more notable of this previously cited pre-1981 prior art.

As to the way in which applicant's 1981 inventions transported the "cuing instructions" within the programming, the 1981 disclosure set forth the following:

1) That the cuing instructions were digitally encoded so as to form respective "signal units";

2) That the bits from each of these "signal units" was carried within one or more "signal words" wherein the term "signal word" was explicitly defined only to be: a discrete appearance of a "signal" (with respect to time or location) within a TV or Radio program; and

3) That each of the "signal words" themselves was comprised of a string of bits which may or may not have included bits for identifying the beginning and end of the respective "signal words".

Significantly, the following "features" seem to have been common characteristics of applicant's 1981 inventions:

1) each of the transmitted "signal units" only appears to have comprised digitally encoded "information" which identified characteristics of the programming into which it had been placed/inserted, or an "instruction" or for identifying/"cuing" specific action or actions to be taken one or more "pre-programmed" receiver side devices; and

2) each of said receiver side devices was pre-programmed so as to known in advance where and when desired coded information would be broadcasted.

These "features" also appear to have been common characteristics to much of the pre-1981 prior art cited above; e.g. such as the cited 1973 publication by Hutt entitled "A System of Data Transmission in the Field Blanking Period of the Television Signal".

APPLICANT'S 1987 "SPAM" SYSTEM TECHNOLOGY:

While the "signal word" terminology and its 1981 definition have been ***cosmetically*** carried forward into disclosure of the 1987 CIP, it is believed that the introduction of the "SPAM" technology via the 1987 CIP disclosure represents a real and significant departure from the "signal word" transmission structure that was originally contemplated within the 1981 disclosure. Specifically, while the 1981 disclosure

appears to have fallen short from locking itself into a specific packetized transport structure, the 1981 disclosure clearly contemplated providing a packetized structure at the "signal word" level in that the 1981 disclosure indicated that the "signal words" themselves would have included bits for identifying respective "signal word" beginnings and ends (i.e. thereby defining "signal word" sized packets). In contrast, the 1987 "SPAM" technology formally introduced a packetized transport structure which included its own bits for identifying the beginning and end of respective "SPAM" message packets. However, these "SPAM" message packets clearly did not correspond to the packetized "signal words" contemplated by the 1981 disclosure. Rather, these SPAM message packets provide a transport mechanism which allowed "signal word"-like intervals to be used as a "digital pipe/channel" by which a continuous stream of SPAM message packets could be passed. No such pipe/channel and no such "SPAM" transport mechanism/stream was ever described or contemplated via the disclosure of applicant's 1981 parent; e.g. at best, only a packetized "signal word" structure seems to have been contemplated by the 1981 disclosure. This fact further evidences why the currently pending claims which are necessarily directed to the "SPAM" technology of applicant's 1987 CIP disclosure are not entitled to the 1981 priority date of applicant's parent application which had no such "SPAM" disclosures.

APPLICANT'S 1981 AND 1987 TECHNOLOGIES (COMPARED):

The pre-1974 cuing technology of the "prior art" listed above lacked a "universal"/standardized packetized transport structure which could be used to carry its many type of digitally coded discrete signals (note APPENDIX D of this Office action). The pre-1981 "extended Teletext" technology provided this previously missing universal/standardized packetized transport packet structure (note APPENDIX B of this Office action).

In a similar way, the cuing technology of applicant's 1981 parent disclosure also lacked a "universal" packetized transport structure which could be used to carry its many type of digitally coded discrete signals. Applicant's 1987 "SPAM" technology provided such a previously missing universal packetized transport structure. And because the currently pending amended claims include recitations which are necessarily directed to this 1987 "SPAM" packetized transport (i.e. those recitation which necessarily derive their required section 112 support therefrom), the currently pending amended claims are clearly not entitled to the 1981 priority date of the parent application which did not disclose such a "SPAM" transport mechanism.

It is important to note that the pre-1981 "universal"/standardized transport packet structure of "extended Teletext" systems not only predates the introduction of applicant's own 1987 universal "SPAM" transport packet structure, but it actually predates the cuing code technology of applicant's 1981 parent application too (i.e. 1981 cuing code technology which appears to be more closely related to the cuing technology set forth in pre-1974 "prior art" listed above). Being such, such the "discrete packet signal structure" and content that is "extended Teletext" constitutes "prior art" against any and all inventions that applicant has or can ever claim within the current chain of applications; e.g. no matter how one cuts the issue of priority under section 120!

APPENDIX D- **[Prior to 1981, it was notoriously well known in the art to have inserted/embedded digitally encoded "instruction", "control", "information", and "messaging" signals into the vacant lines intervals of distributed TV programming in order to have controlled the execution of a wide variety of functions performed by a wide variety of downstream machines and "equipment". The following lists, obtained from the pre-1981 "prior art"cited in APPENDIX C above, exemplify some of the functions which were known to have been controlled by such embedded cuing/data signals.]**

183 351 349

O'CONNOR (1973)

ATTACHMENT II

List of Ancillary Signal Functions
(In Addition to Test and Reference)

1. Network signalling for news breaks and special announcements.
2. Cueing to automatically start and stop equipment.
3. Continuous program log printout.
4. Unique identification of programs and/or commercials.
5. Program sound channel.
6. Emergency sound channel or second sound channel for non-English speaking minorities.
7. Subtitles for the deaf or for non-English speaking minorities.
8. Automatic operation of cable television non-duplication switchers.
9. Emergency action notification alerting.
10. Automatic operation of pre-set videotape recorders in schools.
11. Data transmission — closed circuit or for broadcast.
12. Facsimile transmission — closed circuit or for broadcast.
13. Precise time and frequency dissemination.

From SMPTE Reply Comments Doc 19314, Page 2, May 8, 1972

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FCC "Final Report" by Spangberg (1975)

The television distribution industry is continually looking for improved methods to upgrade and control the program materials, the video and aural signals, and further to distribute these signals at a lower cost. The distribution industry can be expected to use the added signalling capacity of the channels for the following functions as ways to improve their normal program broadcast operation:[9]

1. Network signalling for news breaks and special announcements.
2. Continuous program log printouts.
3. Unique identification of programs and/or commercials.
4. Program sound channels.
5. Automatic operation of cable television nonduplicating switchers.
6. Precise time and frequency dissemination.
7. Test and reference signals.
8. Network or channel identification for automatic receiver tuning.
9. Signals for control of automatic channel equalizers.
10. Program categories.
11. Quality rating of original signal.
12. Destination of transmission control.
13. Source synchronization.
14. Telemetry to and from remote transmitters.
15. Program coordination.
16. Network time signal.
17. Transmission of instructions and other information to subsidiary studios.
18. Selective user addressing.
19. Regional news and/or weather service distribution.
20. Listing of forthcoming programs, i.e., program guide.

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~~3998~~ 185
~~2-1-1~~

Etkin (1970)

Vertical Internal Applications

As the vertical data transmission systems will probably provide extra use of the broadcast spectrum without interfering with the existing services, it is logical that the use of some applications will require waivers or changes in the FCC Rules and Regulations.

The versatility of the present industry applications will be presented. Many applications include Broadcast, ETV and CATV uses.

1. **Communications link to affiliated network stations.** By employing an electronic generator at the point of network origin and at each affiliate, it is possible to establish a reliable continuous communications network. The affiliate should use a separate control room monitor upon which network messages would be seen. The network provided with a selective addressing unit could address an individual station, group of stations, or all stations, transmitting program log information, cueing information, routine messages or news flashes. News alarms could usually use the flashing feature of generator as a silent signal to alert control room personnel.

2. **Transfer of daily program logs.** Daily program logs made up at the controlling station could be transmitted to the affiliates by using the vertical interval system. The log information could be fed to a rotating magnetic memory device or a hard copy printer.

3. **News wire distribution.** News wire bandwidth requirements are determined so that several hundred circuits could be carried in the vertical interval of a single video signal.

It was recently shown that a AP News Wire could be carried over an RF system. The news wire was terminated at a city located on a news wire trunk line so that it could be turned over to private or common carrier TV microwave operators. Assuming that appropriate FCC waivers are obtained, interconnected TV stations and CATV systems subscribing to the service could be fed directly and radio stations could receive the signals from off-air pickups from TV stations. Readout would be displayed either by hardcopy from a printer or by means of an electronic character generator. It is most likely that CATV systems would also provide a continuous news feed to CATV subscribers.

TV stations and CATV systems employing character generators and magnetic storage equipments could possibly preview and edit the news copy, and then display the edited copy on a monitor from which the newscaster can obtain the latter-day "rip and read" copy and then deliver the news orally.

4. **Communications with TV station mobile units.** The TV station's transmitter could be used to transmit messages to mobile units. To achieve this each mobile unit would have to be equipped with a character generator for readout. The mobile units message transmission to the control room is performed similarly, by using the remote video link. Where the mobile microwave unit transmits to the station's transmitter site, the two-way data circuit can be maintained by using the common transmission facilities through a different horizontal line for each direction. The transmitter video input switcher operated by studio control is normally accomplished so as to provide for better coordination during remote pickups.

5. **Transmission of messages by ETV and ITFS systems.** Many statewide, regional and local educational distribution systems can be provided with advantage of the addressing flexibility of the vertical interval data transmission devices. They can selectively communicate with individual schools or groups of schools. The readout device can be character generator or hard copy.

6. **Central computer facility.** Various campuses having points of origin in an ETV system can establish two-way communications with a central computer facility.

7. **Identification** of program source. Vertical interval encoded signals can be used to identify the origination point of network programming or the source of video tape production.

8. **Unattended VTR's remote controlled.** Remotely located video tape recorders can be operated by the application of V. I. control for recording programming during otherwise dark periods. CATV systems being fed from regional microwave systems could record feature films and other program material at night, or other available time periods, using the same microwave facilities that are used for daytime carriage of regular programs. The use of this method could solve two of the most vexing problems in cable TV program distribution, dubbing and bicycling.

9. **Remote video switching.** Video input switching of intercity microwave systems can be remotely controlled by means of V. I. signals. TV stations and ETV systems can be controlled from either the point of origination or from the destination point.

10. **CATV non-duplication switchers remotely controlled.** Local and distant TV broadcast stations can remote, manual, or automatic control the non-duplication switchers. This provides for schedule changes of the programming hours. Other vertical interval application possibilities are: Insertion of test signals; Microwave fault alarm transmission; Remote control of metering and logging of TV transmitters; Regional news and weather service.

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Hutt (SLICE) 1973

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Programme source identification

The first application of the data system at the IBA is for labelling programme sources within the IBA programme network. The data signal is inserted along with insertion test signals (ITS) on the adjacent lines 19, 20, 332, 333, and the data signal when read out and displayed on an indicator denotes the sources of ITS and also programme. The system is currently demonstrating a solution to live programme identification and providing an extended test of the data system under operational conditions. No severe problems have yet been encountered. Some further possible uses of insertion data are:

- Source identification.
- Programme category.
- Destination of transmission.
- Quality rating of original signal.
- Switching and routing instructions.
- Source synchronization, OB genlock.
- Monitoring and service data.
- Telemetry to remote transmitters.
- Programme co-ordination.
- VTR frame numbering.
- Network time signal.
- Transmission of captions to special domestic receivers.
- Transmission of instructions and information to subsidiary studios, transmitters, displayed on monitors or print-outs.
- Communication with OB units.
- Message transmission for ETV distribution, selective user addressing.
- Verification of carriage of commercial material, using line 16 monitoring.
- Remote control of unattended VTRs.
- Regional news and/or weather service distribution.
- Domestic information service as with the proposed 'Oracle' service *(see page 61)*.

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Anderson (1971)

255
255 187

Abstract—Equipment is now available to utilize the vertical interval of the television signal to transmit digital information. A vertical interval (VI) encoder selects any line, 13 through 20, onto which is clocked the data originating from a character generator, computer or other digital device. At the receiving point, data are decoded for display in "real time" using a character generator, printed out in hard copy, or used to initiate electromechanical operations through proper interfaces.

Numerous applications exist for VI transmission: transmitting information to network affiliates, newswire distribution, remote computer access, centralized clock system control, remote control of VTR's and video switchers, and test signal transmission.

Introduction

HISTORICALLY the vertical blanking interval has been utilized by television networks and common carriers to transmit video test signals. Equipment is now available that further permits the addition of digital information from character generators, computers, and other sources onto the vertical interval.

Conclusion

We feel this system has real potential as a means of disseminating information by a network to affiliated stations. By having such equipment at the point of origin and at each affiliate, it is easily possible to establish a reliable, continuous communications network at minimal expense. Typically, the affiliate would be equipped with a separate control room monitor upon which network messages would appear. The network, by means of selective addressing, would address an individual station, group of stations or all stations, transmitting program log information, cueing information, routine messages or news flashes.

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FCC "Final Report" by Spangberg (1975)

Ancillary signals possibly could be used to facilitate the activities of a number of professions outside the television industry. Functions that could be performed are:

1. Starting and stopping of equipment automatically.
2. Automatic operation of preset video recorders in schools.
3. Providing precise time and frequency information.
4. Automatic vehicle location signals.
5. Stock market information.
6. "Newspaperlike" services (or facsimile).

The activities which may be of interest are:

- Educators who have the desire to record a television documentary being shown over the networks during the time period after school hours.
- Scientists and operating systems requiring extremely precise time and frequency information.
- Business operations needing immediate marketing or stock market information.

APPENDIX E- **[Each Teletext image is transmitted through a TV network as an encoded "series of instructions" which, when selected for reproduction, can instruct a Teletext decoder as to how to "locally generate" the desired image]**

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Teletext utilizes a number of the lines in the vertical blanking interval for the transmission of text and pictorial information in digital form for display on the television screen. The number of vertical blanking interval lines which may be used for teletext ranges from a minimum of one to a maximum of 12, with two lines proposed for use initially in the United States. The amount of digital teletext information which can be transmitted in a given amount of time increases in direct proportion to an increase in the number of lines used for teletext.

The first step in teletext service is the translation by a teletext editor of text, pictorial information and display attributes (such as color, flashing characters and so on) into a series of instructions to be transmitted to the teletext decoder. The instructions for each page in the teletext "library" are then broadcast continuously on a revolving basis by multiplexing the data into the vertical blanking interval. The user accesses a desired page of teletext information by entering the page number, e.g., by pressing the appropriate buttons on a control unit. The teletext decoder then selects the page from the revolving transmissions, stores the coded information in memory, processes that information to the extent necessary for a display, and produces the page on the television screen. Where captioning is transmitted, the decoder will superimpose the captioning over the normal television picture.

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209
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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Amendment of Part 73, Subpart E of the Federal Communications Commission Rules Governing Television Broadcast Stations to Authorize the Transmission of Teletext	)	RM No.

PETITION FOR RULEMAKING

The United Kingdom Teletext Industry Group, Bernard J. Rogers, Chairman, [1] pursuant to Section 1.401 of the Commission's Rules, files herewith, this request, that the Commission initiate a proceeding proposing the adoption of rules to allow television broadcast licensees to transmit teletext using the defined format British teletext system. [2]

We submit that teletext is ripe for rapid development in the United States and we urge the Commission to proceed as quickly as is reasonably possible to allow the use of this important technology in the United States. For this reason

1/ This group is comprised of representatives of the following bodies who are interested in the British teletext system and have endorsed the present submission: British Broadcasting Corporation; Independent Television Companies Association; Independent Broadcasting Authority; British Telecoms; Department of Industry; Logica, Ltd; Jasmin, Ltd; Mullard, Ltd; V.G. Electronics, Ltd; Texas Instruments (UK), Ltd; General Instrument Microelectronics (UK), Ltd; Aston, Ltd; GEC (UK) Ltd.

2/ The specific rules which we proposed for adoption are set forth at Attachment B to our Appendix.

[redacted] KC012283

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APPENDIX F- **[Receiver produced Teletext images (i.e. displayed *Teletext* derived subtitles) were understood by those of ordinary skill in the art as having been "locally generated" images].**

358-183 AU 233 8105 GB-1981-05 193
(BR 8006602) GB 2062401
(APR 1981) MAY 1981

(12) UK Patent Application (19) GB (11) 2 062 401 A

(21) Application No 8032846
(22) Date of filing 10 Oct 1980
(30) Priority data
(31) 7907598
8002410
(32) 15 Oct 1979
25 Apr 1980
(33) Netherlands (NL)
(43) Application published
20 May 1981
(51) INT CL³
H04N 5/44
(52) Domestic classification
H4F D22 D2B D42C6 D54 GJ
H4T 4R BRB
(56) Documents cited
None
(58) Field of search
H4F
H4T
(71) Applicants
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(54) Picture display device for displaying a mixed picture signal

(57) In a picture display device for displaying a mixed picture signal which signal comprises a conventionally received television picture signal and a locally generated signal, such as a teletext sub-title, a field deflection amplifier (1) is provided to which is connected an output stage comprising transistors (2, 3). To the junction of the emitters of these transistors a field deflection coil (4) is connected whose other terminal is connected through a capacitor (5) and feedback resistor (6) to earth, the junction of capacitor (5) and resistor (6) being connected through a feedback network (14) to a negative feedback terminal (1b) of amplifier (1). The junction of deflection coil (4) and capacitor (5) is connected through the collector-emitter path of a transistor (7), a resistor (8) and the collector-emitter path of a transistor (9) to earth, the transistors (7, 9) being of like conductivity type. The bases of transistors (7, 9) both receive drive signals from a teletext decoder circuit (10), that for transistor (9) being at picture frequency so that it conducts during alternate field periods whilst that for transistor (7) is at field frequency and causes that transistor to conduct in the presence of the local picture and box blanking signal from the decoder (10). When both transistors (7, 9) are conducting the field deflection current through field deflection coil (4) is modified such that the interlace in the picture is substantially eliminated in the presence of the locally generated signal. In this manner jitter in the display at the boundary between the portions of the picture is substantially reduced.

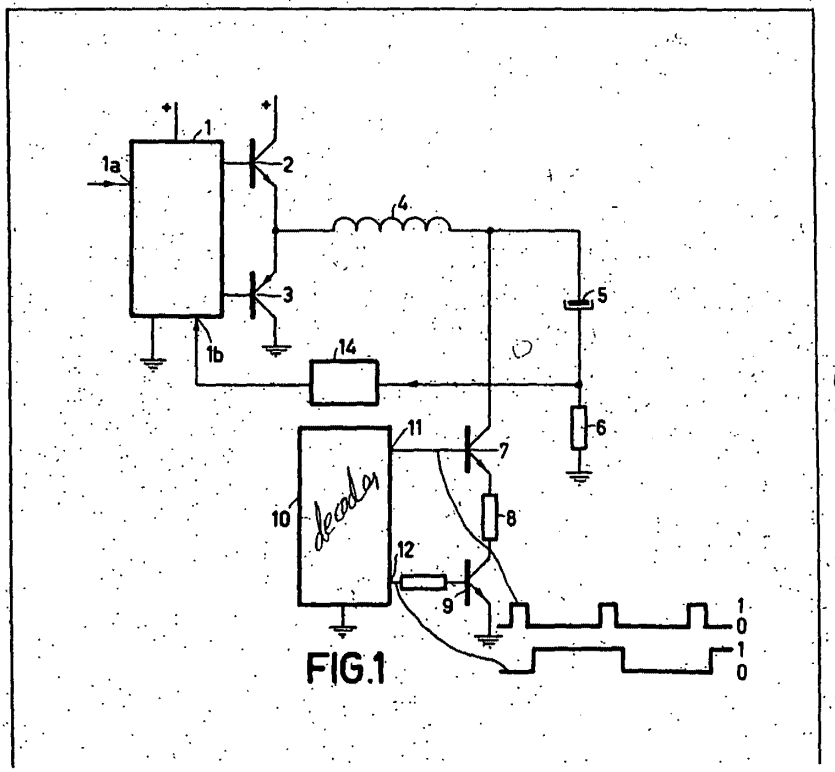

FIG.1

GB 2 062 401 A

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Notice of References Cited	Application/Control No. 08/487,526	Applicant(s)/Patent Under Reexam Harvey et al.	
	Examiner David E. Harvey	Art Unit 2614	Page 1 of 1

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		Document Number Country Code-Number-Kind Code	Date MM-YYYY[1]	Name	Classification[2]	
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	G					
	H					
	I					
	J					
	K					
	L					
	M					

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	N	2,550,624	5/1977	Germany	Haefner et al	----	----
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	T						

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	V	Hedger et al., "TELESOFTWARE-VALUE ADDED TELETEXT" IEEE Transactions on Consumer Electronics, Vol CE-26, August 1980
	W	
	X	

* A copy of this reference is not being furnished with this Office action. See MPEP § 707.05(a). [1] Dates in MM-YYYY format are publication dates. [2] Classifications may be U.S. or foreign.

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DE 2550,624

PTO 2001-959

CY=DE DATE=19770526 KIND=A1
PN=2550624

BROADBAND COMMUNICATION SYSTEM WITH SOUND, VISUAL, AND ALPHANUMERIC INFORMATION PROCESSING IN INTERACTIVE DIALOGUE

[Breitbandkommunikationssystem mit auditiver, visueller und alphanumerischer Informationsverarbeitung im Dialogverkehr]

[Inventor's name obscured]

Haefner et al.

UNITED STATES PATENT AND TRADEMARK OFFICE
Washington, D.C. January 2001

IEW) Translated by: Diplomatic Language Services, Inc.

Google Exhibit 1002, Page 4008 of 6435

PUBLICATION COUNTRY (19): DE

DOCUMENT NUMBER (11): 2550624

DOCUMENT KIND (12): A1
(13): APPLICATION (OFFENLEGUNGSSCHRIFT)

PUBLICATION DATE (43): 19770526

PUBLICATION DATE (45):

APPLICATION NUMBER (21): P2550624.5-35

APPLICATION DATE (22): 19751111

ADDITION TO (61):

INTERNATIONAL CLASSIFICATION (51): H04H 1/00; H04N 7/00; H04B 3/52

DOMESTIC CLASSIFICATION (52):

PRIORITY COUNTRY (33):

PRIORITY NUMBER (31):

PRIORITY DATE (32):

INVENTOR (72): [OBSCURED]

APPLICANT (71): [OBSCURED]

TITLE (54): BROADBAND COMMUNICATION SYSTEM WITH SOUND, VISUAL, AND ALPHANUMERIC INFORMATION PROCESSING IN INTERACTIVE DIALOGUE

FOREIGN TITLE [54A]: BREITBANDKOMMUNIKATIONSSYSTEM MIT AUDITIVER, VISUELLER UND ALPHANUMERISCHER INFORMATIONSVERARBEITUNG IM DIALOGVERKEHR

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Patent Claims /1*

1. Broadband communication system for interactive services with sound and/or visual information processing with utilization of the full bandwidth of a TV channel for individualized programming during the entire programming time by each subscriber, whereby the number of subscribers exceeds the number of the available channels and in which an interactive dialogue occurs in such a way that the subscriber receives sound, visual, and alphanumeric information and sends off alphanumeric, sound, or similar narrow band information via a return channel, characterized by the fact that, in a central exchange, where the individual programs are stored, a data processing facility is provided, each subscriber receives storage facilities for a small-scale data processing system to organize the interactive dialogue, and the transmission of the individual programs from the central exchange to each subscriber as well as the interactive dialogue occur in such a way that the sound, visual, and alphanumeric information is transmitted upon the request of each individual subscriber via a vacant channel to the storage facilities that are available with the subscriber and each subscriber can enter into an interactive dialogue through the input of alphanumeric and/or sound information with the small-scale data processing unit at his location and/or with the central data processing system, which respectively keep available alphanumeric and auditory information.

*Numbers in the margin indicate pagination in the foreign text.

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2. Broadband communication system in accordance with Claim 1, characterized by the fact that the transmission of the individual programs occurs during off-the-air times.

Broadband Communication System with Sound, Visual, and Alphanumeric Information Processing in Interactive Dialogue /2

The invention pertains to a broadband communication system for interactive services with sound and/or visual information processing with the utilization of the full bandwidth of a TV channel for individualized programming by each subscriber during the entire programming time, whereby the number of subscribers exceeds the number of the available channels and in which a dialogue occurs in such a way that the subscriber receives sound, visual, and alphanumeric information and sends off alphanumeric, sound, or similar narrow band information via a return channel.

Aside from large-scale community antennas and cable television systems, broadband communication systems with a return channel are known to the art which, in addition to the usual distribution of television and radio programs, also facilitate the transmission of messages in the opposite direction from any subscriber to the central exchange. As a result, these systems provide the prerequisite for their additional utilization through services which can be categorized as "collection through the central exchange," "distribution upon request," and "dialogue

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with the central exchange."

In their typical form, cable television systems are designed as mono-cable systems with tree configurations. They usually have a transmission frequency range from 47 to 300 MHz in the distribution direction, or 5 to 30 MHz in the collecting direction. The resulting capacity of up to approximately 30 television channels is of service in the distribution of programs (video and audio) from the central exchange to the connected subscribers. In most cases, the frequency multiplex process is employed for this purpose while a single tube coaxial cable is used.

Only a few channels can be provided for the collecting direction, /3
in order to avoid reducing the already scarce channel capacity in the distribution direction even further. On the other hand, the channel capacity of broadband communication systems cannot be increased significantly, especially if economic aspects are included in the considerations. To mention only a few examples, this applies to the use of multiple or multiple tube cables, as well as to the expansion of the transmission frequency range to the television bands IV/V (470 to 862 MHz), whereby, theoretically (if adjacent channels were operated) an additional 49 television channels could be utilized.

The present invention is based on the task of creating a broadband communication system that, above and beyond the mentioned expansion options, will offer an option of representing various individual programs with sound and/or visually presented information in a nonphysical manner to a number of subscribers that is greater than what would correspond with the available channel capacity. In this process,

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the individuality in the selection of programs, the starting time of the program, as well as the option of interrupting the program at any point, and the selection of the time of reentry into the program are to be guaranteed. In addition, an individualized interaction (interactive dialogue) between the subscribers and the central exchange is to be made possible in a liberal or formatted form with data, or in the event that the appropriate equipment is available on the part of the individual subscribers, also with sound and/or visual information.

On the basis of a broadband communication system of the type described at the beginning of the text, this task is accomplished in accordance with the invention in such a way that, in a central exchange, where the individual programs are stored, a data processing facility is provided, each subscriber receives storage facilities for a small-scale data processing system to organize the interactive dialogue, and the /4
transmission of the individual programs from the central exchange to each subscriber as well as the interactive dialogue occur in such a way that the sound, visual, and alphanumeric information is transmitted upon the request of each individual subscriber via a vacant channel to the storage facilities that are available with the subscriber and each subscriber can enter into an interactive dialogue through the input of alphanumeric and/or sound information with the small-scale data processing unit at his location and/or with the central data processing system, which respectively keep available alphanumeric and auditory information.

Thus, with a broadband communication system of such a design, the option that a multitude of subscribers can be offered a variety of

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programs for their individual selection is easily facilitated; and to be more specific, this is so because the part of the services which requires large bandwidth (transfer and processing of the dialogue or program parts consisting of moving and stationary images, as well as sound) is, with the option of a reproduction upon request, transmitted to storage facilities that are set up on the subscriber side or in common facilities that are used by multiple subscribers with the local intelligence for the control of processes and simple information processing capabilities, by utilizing channels which have been vacated coincidentally or on a regular basis outside of the usual air time. The storage facilities which exist on the subscriber side facilitate the supply and copying of the individual programs, e.g., during off-the-air times, while the processing of the program in the dialogue with the central exchange can be carried out without the use of a broadband channel in a time slot which is fixed in relation to the original program time or with a time-offset which can be selected by the subscriber. The program features are particularly comprised of programs for information purposes, such as advertisements of goods and services, or of programs from the educational field for the purpose of education, continuing education, and advanced education. These programs may completely, or in part, consist of moving images, and can also be equipped with a variety of program branches, whereby the program sequence following the program branch can either occur by free selection of the subscriber (e.g., educational programs with informative characteristics) according to his interests, or through the evaluation of a reply according to aspects of appropriateness (e.g., in educational programs) /5

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which is considered and interpreted in the program sequence.

The details of the invention for an exemplary system configuration will be explained in greater depth by means of the drawing. Shown are

Fig. 1, depicting the basic configuration of a central exchange in a broadband communication system in accordance with the invention;

Fig. 2, depicting a design example for a unit that is provided at the subscriber location.

The starting point for the broadband communication system which will be more closely described in the following text is a large-scale community antenna system of the type known to the art, or a cable television system, in which, aside from the local regular programs that are received from the television and radio broadcast service, additional system-internal programs are distributed which cannot be received in the respective location wireless. These types of installations can now be supplemented with various equipment, more specifically, with process control and information processing equipment, with storage equipment for service contents to the extent that they consist of data and/or alphanumeric characters (strings), as well as with storage facilities for service contents to the extent that they are comprised of moving/stationary images, or other image representations (e.g., graphics).

According to the desired or offered nature of these services, the design form of the broadband communication/cable television system or its equipment technology, as well as the additional state-of-the-art equipment that is used, these can basically exist in the following locations of the broadcast network:

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/6

Site / Additional Equipment	centrally	in subexchanges	at subscriber end
for process control	X	X	X
for storage/processing of service contents (data, αn-characters (-strings))	X	X	X
for storage/processing of service contents (moving/stationary images, other image representations	-	X	X

In the above matrix, all kinds of variations (horizontal, vertical, and combinations) are optional. For instance, aside from the image storage device (e.g., standard commercially available magnetic tape recording devices that can also be obtained with a timer, TV tuner, stationary image display, etc., or also magnetic disc memories), the subscriber equipment includes microprocessors which completely or partially take over the process control.

In the same manner, the information processing which is required in the framework of the services which are offered could be completely or partially carried out on the subscriber side.

Finally, with regard to the network configuration and the equipment technology of the process sequence which is explained as an example below, the prerequisite is that, on the basis of a single-cable tree-shaped network without subnetwork connections (single-tube coaxial cable), approximately thirty television channels in the range between 47 and 300 MHz are available in the distribution direction, three television channels in the range from 5 to 30 MHz in the collection direction, as well as approximately 10,000 bidirectional data channels which can be used in the address multiplex (a television channel is

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necessary for this) and 10 transmission links are provided by the central exchange. The transmission of the data signals occurs digitally /7
in the address multiplex, while an amplitude-modified image signal that is designed according to the specific television standards of the respective country in accordance with CCIR, which, if required, can also be addressed, is provided for the audio-visual information.

Fig. 1 depicts the basic configuration of a central exchange for a broadband communication system in the form of an exemplary arrangement of the equipment which is available there. Aside from the receiver equipment (1, 2, 3, 4) that is usually available in a community or cable television system for radio broadcasts, VHF television broadcasts, UHF television broadcasts, as well as for additional programs which are supplied via line of sight, satellite, cable, or the like, the central exchange also contains a storage unit (5) with, for example, several magnetic recording devices, film reading devices, dia-scanners, etc., as well as a data processing system (6) for real-time processing with a database to which an address coder/decoder (7) and a modem (8) are connected successively. The outputs of the receiver units (1 to 4), the central storage unit (5), and the modem (8) are interconnected on the distribution network (10) via a program switch (9).

Fig. 2 depicts the exemplary configuration of the equipment on the subscriber side. In detail, it shows an input switch (11), the high-pass output of which is connected with a television set (12) on the one hand and a mini-computer with a data memory (13) on the other hand, while the low-pass output is connected to a modem (14). Via an address coder/decoder (15), this modem (14) is also connected to the mini-

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computer (13) which is designed for process control and processing tasks of a small volume. On the output side, the mini-computer (13) is connected to an image memory (17) via a frequency converter (16) with a tunable input and a fixed output channel. This image memory is, e.g., a magnetic tape or magnetic disc device and additionally contains a TV tuner, a switch for the display of stationary images, as well as a timer. Another output of the mini-computer (13) is connected to a data /8
repeat memory (18) which, just like the image memory (17), is connected to the TV set (12). If required, a printer (19) may also be connected to the mini-computer (13). Finally, each unit contains an alphanumeric keypad (20) which is connected to the mini-computer (13), as well as the data repeat memory (18).

Under the above-specified prerequisites and presumptions, the following process sequence ensues in the utilization of a service from the time of the request until the termination:

A subscriber intends to receive a certain program, and therefore, for the purpose of registering a dialogue with the data processing system (6) which is located in the central exchange, he presses a start-of-message key which is provided on his keypad (20).

As a result, the mini-computer (13) associated with the subscriber automatically takes over all of the procedures (the sending out of the subscriber address, as well as of the message that a program request/selection is to be made) and finally reports to the subscriber that a connection has been established and the dialogue can begin. Now, the subscriber receives a numeric overview which is projected on the screen of his TV set (12) by the central data processing system (6),

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which contains the optional interactive modes with the central exchange (e.g., program request, information request, program processing, utilization of computing capacity, etc.). The overview may also list the optional services (e.g., request/process information program, educational program, purchase, etc.). In response, the subscriber enters the identification number of the desired service "request educational program" on the keypad (20). Subsequently, he receives a numeric overview of the educational program features, e.g., sorted by subject area, meaningfully summarized by generic terms or details. Upon entering the identification number of the specific educational program, he receives the message from the central data processing system (6) whether a channel is vacant for the immediate copying of the program or not. If the copying process can be carried out immediately, the subscriber's mini-computer (13) receives the instruction to switch the frequency converter (16) with the tunable input to the appropriate output channel and to get the image memory (17), e.g., a magnetic tape device, ready for operation. If, for instance, a tape cassette has not been inserted, the mini-computer (13) advises the subscriber of that fact on the television screen; he also asks whether a recorded cassette should indeed be deleted. /9

If no channel is vacant for an immediate copying process, the subscriber is put on a waiting list which is maintained by the central computer (6) that it works off systematically by assigning vacated channels. Particularly during nighttime hours and other off-the-air times for the programs which are distributed to subscribers in general, this can occur via the cable network. Aside from these functions, the

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computer is also tasked with the preparation and announcement of forecasts regarding the expected time of the channel assignment.

Especially educational programs will contain a remarkable number of program branches. All branch points, as well as paths which deviate from them, are numbered by the central computer (6) and serially recorded by the image memory (17), while in parallel, they are also being stored in the subscriber's mini-computer (13), so that the program can be worked off by the subscriber later, if possible, without having to draw upon the central computer (6). Thus, in its collaboration with the central computer (6), the mini-computer (13) is assigned the task of controlling the image memory (17) while the program is worked off according to the actions taken by the subscriber in such a way that at the right time, in the right place, the right branches or the partial links which originate from them are made available. For this purpose, it may, e.g., also be necessary--if this is provided as part of the program--to switch the image memory (17) to stationary image display or to stop the sequence, for example, because the program calls for an interaction (dialogue) /10 with the central computer (6) at that point. Finally, the printer (19) is also operated or turned off by the mini-computer (13).

After the subscriber has finished working off the program, the connection between the central computer (6) and the mini-computer (13) is interrupted upon the subscriber's instructions. In principle, the same program can be worked several times. The subscriber merely needs to keep the recorded cassette in that case and can again establish contact with the central computer (6) at the time of his choice.

In order to quantify the benefit of the invention with regard to

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the servicing of large numbers of subscribers with individualized programs, the following calculation can be carried out:

The presumption is a transfer time of 20 minutes for the part of each program that is transmitted to the storage units which are set up outside of the central exchange (in most cases, at the subscriber site) via the broadband communication system. (In comparison, the utilization time through the subscriber can be substantially longer.)

At 3 programs per hour, 90 programs can therefore be transferred in one hour on 30 available channels.

Moreover, if one starts out from a broadband communication system with ten transmission link branches which respectively come out of the central exchange, to each of which 1,000 subscribers are assigned, then 10,000 subscribers can be reached.

Due to the fact that, for these transmission purposes, different programs are respectively transmitted in the same channel coordinate and can be supplied to the storage facilities that are available at the subscriber sites, the mentioned channel capacity increases tenfold, so that, per hour, 900 individual programs can be copied within this /11 system. If one bases this on the fact that, currently, an average off-the-air time of approximately 15 hours is available daily, this results in the possibility that 13,500 individual programs can be transferred within 24 hours.

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Fig.1

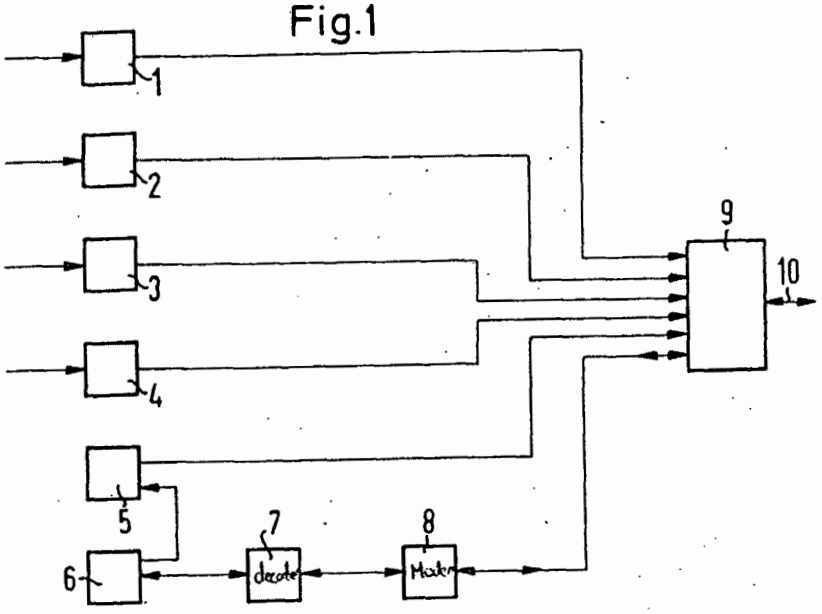
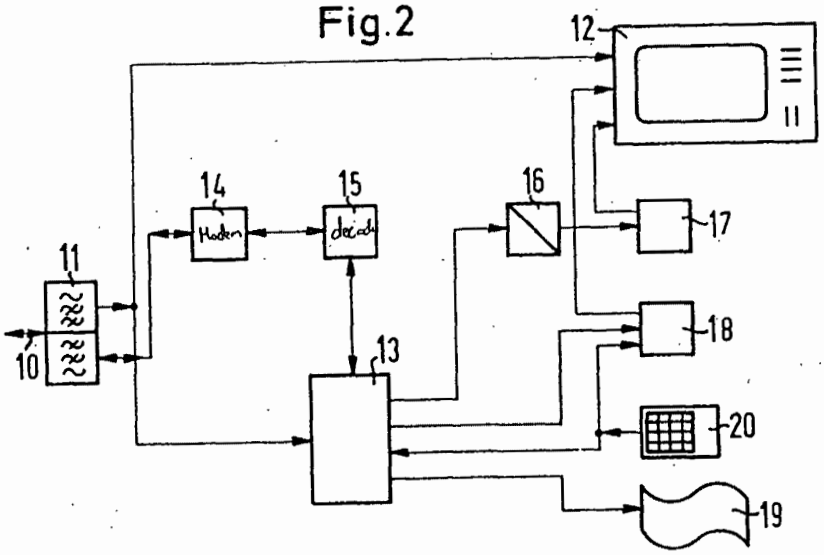


Fig.2



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3581183 AU 233 48002

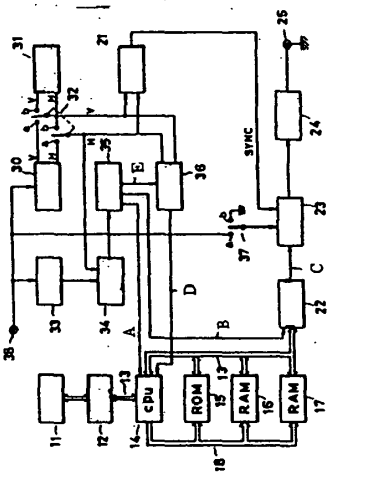
JA 0026792
FEB 1980

JA-1980-02

(54) TELEVISION SCREEN DISPLAY UNIT
(11) 55-26792 (A) (43) 26.2.1980 (19) JP
(21) Appl. No. 53-100399 (22) 17.8.1978
(71) TOKYO SHIBAURA DENKI K.K. (72) AKIRA MATSUSHITA
(51) Int. Cl³. H04N9/00

PURPOSE: To make it possible to superimpose an external video signal and pattern signal by providing a method of selecting either one of a synchronizing signal obtained by separating the external video signal and a similar synchronizing signal obtained from another generating method.

CONSTITUTION: From a video signal inputted to terminal 38, both horizontal and vertical synchronizing signals H and V are obtained by synchronous separator circuit 30 and then supplied to contact (a) of change-over switch 32. To contact (b) of switch 32, generating circuit 31 is connected which generates a synchronizing signal of the same synchronism and pulse width as the above-mentioned signal. With swirch 32 at side (b), a pattern signal of a television game, etc., controlled by a microcomputer is displayed on a TV receiver. With switches 32 and 37 at side (a), a burst from the video signal is sampled by circuit 33 and a chrominance subcarrier signal is oscillated 34; and a clock is generated by clock generating circuit 35 and under the control of control circuit 36, the pattern signal read out from RAM17 is projected on the TV receiver being superimposed upon the video signal by mixer 23. Consequently, a complex and real screen can be seen.



11: input device, 12: input-output controller, 22: shift register, 24: RF modulator circuit, 21: mixer, 33: burst signal sampling circuit, 34: 3.58MHz oscillation circuit, A: basic clock, B: shift clock, C: pattern signal, D: DAM OUT request signal, E: control clock

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⑲ 日本国特許庁 (JP)　　⑪ 特許出願公開

⑫ 公開特許公報 (A)　　昭55—26792

⑤Int. Cl.³　識別記号　庁内整理番号
H 04 N 9/00　6940—5C

⑬公開 昭和55年(1980) 2月26日

発明の数 1
審査請求 未請求

(全 5 頁)

⑭テレビジョン画面表示装置

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㉑特願 昭53—100399
㉒出願 昭53(1978) 8月17日

明細書

1. 発明の名称

テレビジョン画面表示装置

2. 特許請求の範囲

(1) マイクロコンピュータを利用してプログラム化された種々のパターン信号をテレビジョン受像機の画面に画像表示できるテレビジョン画面表示装置において、外部から供給されるビデオ信号中から同期信号を分離する手段と、前記ビデオ信号に含まれる同期信号と同等の同期信号を発生する手段と、この同期信号発生手段からの同期信号と前記分離手段で得られた同期信号とのいずれかを選択する第1の選択手段と、この第1の選択手段によつて選択された同期信号より複合同期信号を作る手段と、前記外部からのビデオ信号中のバースト信号に同期あるいは非同期の色副搬送波信号を発生させる手段と、この色副搬送波信号に同期して前記コンピュータを動作させる制御手段と、前記パターン信号を外部からのビデオ信号に重畳させるか否かを選択する第2の選択手段と、この第2の選択手段により前記パターン信号と複合同期信号を外部からのビデオ信号に重畳させ、前記テレビジョン受像器へ送出される合成ビデオ信号を得る手段とを具備し、前記外部からのビデオ信号に同期してマイクロコンピュータを動作させ、外部からのビデオ信号上にパターン信号を重畳させてテレビジョン受像機の画面上に画像表示できるようにしたことを特徴とするテレビジョン画面表示装置。

(2) 前記第1及び第2の選択手段はスイッチにより構成されており、このスイッチの切換えによつて外部からのビデオ信号を受信して、このビデオ信号にパターン信号を重畳できるようにしたことを特徴とする前記特許請求の範囲第1項に記載のテレビジョン画面表示装置。

3. 発明の詳細な説明

本発明は例えば、ビデオテープレコーダから

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のビデオ信号とテレビゲームのパターン信号とを同時にテレビジョン受像機に画像表示できるテレビジョン画面表示装置に関する。

従来、教育あるいは娯楽等の分野で、テレビジョン受像機はマイクロコンピュータの端末機器として利用されている。このようなテレビジョン受像機とマイクロコンピュータを利用した装置として、例えば娯楽の分野の一つにテレビゲーム装置があげられる。このテレビゲーム装置の一般的な回路を第1図に示す。図において11はキーボード等よりなるデータ入力装置、12はこのデータ入力装置から入力されるデータバス13上に供給するための入出力制御装置（1/0コントロール）である。14は中央処理装置（cpu）で、このcpuはプログラム命令を解読し実行する。また15はcpu 14が実行するプログラム命令を格納しておくROM（Read Only Memoly）、16はcpu 14が命令実行途中で演算結果を1時記憶しておくためのRAM（Ramdam Access Memory）、17はテレビジョン画面上に表示するためのデータを記憶しておくRAMである。これらはデータバス13及びアドレスバス18によつて相互に接続されている。一方、クロック発生器19は前記cpu14を動作させるための基本クロック及びその他の制御クロックを発生する。カウンタ20はこの発生器19から出力されるクロックによつてテレビジョン受像機用の水平同期信号H及び垂直同期信号V、前記cpu14がDMA（Direct Memory Access）動作させるためのまた、テレビジョン画面に表示させるための制御信号であるDMAouT要求信号及び後述するシフトレジスタに対するロード信号とラッチ信号を作つている。混合器21はこのカウンタ20から出力される水平同期信号Hと垂直同期信号Vを混合して複合同期信号SYNCを出力する。シフトレジスタ22は前記RAM17からデータバス13を介して供給されるパラレルなデータを前記カウンタ20からのラッチ信号によつて該カウンタにラッチした後、前記クロック発生器19からのクロックによつてシリアルなデータに変換してパターン信号を出力する。混合器23はこのシフトレジスタ22からのパターン信号に前記混合器21からの複合同期信号SYNCを重畳してビデオ信号を出力する。変調回路24はこの混合器23からのビデオ信号を無線周波RFの信号に変調する働きをする。

今、入力装置11のキーボード上のリセットボタンを押すと、リセット信号が入出力制御装置12を介してcpu14に入力されるので、cpu14はアドレスバス18を介してROM15の最初のアドレスを指定し、この指定した最初のアドレスに格納されているプログラムをROM15からデータバス13を介してcpu内に読み出して、解読し、順次実行する。このリセットボタンにより指定されるプログラムは例えば、前記RAM16，17及びシフトレジスタ22等をクリアして初期状態にする様なプログラムで良い。従つてリセットによるプログラムが実行されると、図示しないテレビ受像機の画面上には何も表示されない。

次に入力装置11のキーボード上のゲーム選択ボタンを押すと、選択されたゲームを指定する信号が入出力制御装置12を介してcpu14に供給されるので、cpu14は前述同様ROM15から選択されたゲームのプログラムを読み出して実行する。このプログラムの実行によつてゲームのパターンがテレビジョン受像機の画面上に表示され、キーボード上のゲーム操作キーの操作に応じてゲームが進行してテレビジョン受像機の画面に表示される。

このことを更に詳述すると、カウンタ20よりDMAouT要求信号がcpu14に送出されていない間はcpu14はキーボード上のゲーム操作キーの操作量を入力データとしてROM15から読み出したプログラムを演算実行し、このプログラムを実行処理した結果として得られるテレビジョン画面上に表示するためのデータをアドレス指定したRAM17にデータバス13

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を介して順次格納する。一方、このＲＡＭ１７に格納されたゲーム操作キーの操作によつてｃｐｕ１４で処理されたデータは次の様にしてテレビジョン受像機の画面に表示される。即ちカウンタ２０からＤＭＡ動作をさせるためのＤＭＡ ｏｕＴ要求信号がｃｐｕ１４に供給されると、ｃｐｕ１４はこの要求信号がある期間ＤＭＡ用のアドレス信号をアドレスバス１８に送出する。このアドレス信号はｃｐｕ１４を動作させるためのクロック発生器１９からの基本クロックの８個毎にアドレスが"＋１"される。このようにアドレス歩進されるアドレス信号に基づいてアドレス指定されたＲＡＭ１７から前記画像表示用のデータをデータバス１３に読み出す。このデータはシフトレジスタ２２にパラレルに入力されて、カウンタ２０からのラッチ信号によつて該シフトレジスタにラッチされた後、クロック発生器１９からのクロック信号の立ち上がりで順次シリアルデータに変換されて出力される。このシリアルデータはパターン信号となり混合器２３で複合同期信号ＳＹＮＣと混合されビデオ信号となる。更にこのビデオ信号は変調回路２４でＲＦ信号に変調され出力端子２５から出力され、テレビジョン受像機の画面上に表示される。

上記第１図の回路によれば、カウンタ２０によつて水平及び垂直の同期信号を作ると共にｃｐｕ１４の制御を行なつているので、混合器２３からのビデオ出力と外部からの、例えばビデオテープレコーダ（以下ＶＴＲと称す）からの映像信号と混合させたい場合、両者の同期が合わないので混合出来ないという欠点を有する。従つて上記の様な回路はプログラムで設定された簡単なパターンの画像しかテレビジョン受像機の画面に表示できないので味気なく、実際に競技場で行なわれるゲームのような臨場感が得られない。

本発明は上記の欠点を解消すべくなされたもので、外部から入力されるビデオ信号に同期して動作し、外部のビデオ信号にプログラムで設定されたパターン信号を重畳できるようにすることにより、複雑でかつ臨場感あふれる画面を表示できるようにしたテレビジョン画面表示装置を提供することを目的とする。

以下、本発明に係るテレビジョン画面表示装置の一実施例について第２図を参照して説明する。尚第２図に示すテレビジョン画面表示装置の回路において第１図と同一部分には同一記号を付し、その説明は省略する。即ち、第２図に示す回路では、第１図に示すクロック発生回路１９及びカウンタ２０の代わりに外部からのビデオ信号が入力される場合には、この外部ビデオ信号に同期して回路動作ができるようにした回路を設けている。この回路は、外部装置例えば、ビデオテープレコーダ等の装置から入力されたビデオ信号から同期信号を分離して水平同期信号Ｈと垂直同期信号Ｖを得る同期分離回路３０と、この同期分離回路３０で分離された同期信号と同様の周期とパルス幅を有する水平同期信号及び垂直同期信号とを発生する同期信号発生回路３１と、この同期信号発生回路３１からの同期信号と前記同期分離回路３０からの同期信号とを切換えるスイッチ３２と、外部ビデオ信号中からバースト信号を抜き取るバースト抜き取り回路３３と、外部ビデオ信号が入力されている場合には前記バースト抜き取り回路３３からのバースト信号及び同期分離回路３０からの水平同期信号Ｈに同期して３.５８ＭＨｚの周波数の色副搬送波信号を発生し、外部ビデオ信号が入力されない場合には同期信号発生回路３１からの水平同期信号Ｈに同期して３.５８ＭＨｚの周波数の色副搬送波信号を発生する色副搬送波発振回路３４と、この色副搬送波信号によつてｃｐｕ１４を動作させる基本クロックとシフトレジスタ２２をシフトするシフトクロックと制御クロックとを作成するクロック発生回路３５と、このクロック発生回路３５からの制御クロックに同期して、前記スイッチ３２を介して加えられる水平同期信号Ｈと垂直同期信号ＶよりＤＭＡ ｏｕＴ要求信号及びシフトレジスタ２２に

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対するラッチ信号を作る制御回路３６と、外部ビデオ信号にシフトレジスタ２２からのパターン信号を重畳させるか否かを選択する切換スイッチ３７とを有している。

今スイッチ３２，３７がｂ接点側に接続されている場合には同期信号発生回路３１からの水平同期信号Ｈと垂直同期信号Ｖが制御回路３６に入力される。また色副搬送波発振回路３４からは同期信号発生回路３１からの水平同期信号Ｈに同期した色副搬送波信号が出力される。またクロック発生回路３５は基本クロック、シフトクロック及び制御クロックを発生し、制御回路３６は制御クロックに同期して同期信号発生回路３１からの水平及び垂直同期信号からＤＭＡ ｏｕＴ要求信号及びラッチ信号を出力する。更に混合器２１は同期信号発生回路３１からの水平同期信号Ｈと垂直同期信号Ｖとを混合した複合同期信号ＳＹＮＣを出力する。従つて、この場合は前述した第１図の回路と同様に動作し、入力装置１１のキーボードで選択されたゲームのプログラムがｃｐｕ１４で実行されるので、ゲームパターンがテレビジョン画面に表示され、キーボード上の操作キーの操作によつてゲームが進行していく。

一方、切換スイッチ３２，３７がａ接点側に接続された場合には、外部装置例えば、ビデオテープレコーダ（ＶＴＲ）からのビデオ信号が入力端子３８に供給されると、同期分離回路３０は外部からのビデオ信号中から水平同期信号Ｈ及び垂直同期信号Ｖを同期分離して出力する。従つて、色副搬送波発振回路３４は、ＶＴＲからのビデオ信号中からバースト抜き取り回路３３によつて得たバースト信号と同期分離回路３０からの水平同期信号Ｈに同期した３.５８ＭＨｚの周波数の色副搬送波信号を出力する。またクロック発生回路３５はこのＶＴＲビデオ信号と同期した色副搬送波信号に基づいて基本クロック、シフトクロック、制御クロックを発生し、制御回路３６はこの制御クロックに同期して、同期分離回路３０から入力した水平同期信号Ｈ及び垂直同期信号ＶよりＤＭＡ ｏｕＴ要求信号、シフトレジスタ２２に対するロード信号及びラッチ信号を作る。更に混合器２１は同期分離回路３０からの水平同期信号Ｈ及び垂直同期信号Ｖとを混合した複合同期信号ＳＹＮＣを得る。従つてこの場合には、マイクロコンピュータ回路はＶＴＲからのビデオ信号と同期して動作することになる。今、入力装置１１のキーボード上のゲーム選択ボタンを押すと、選択されたゲームのプログラムがＲＯＭ１８からｃｐｕ１４に順次読み出されて実行処理され、そのプログラム演算結果である画面表示用データがＲＡＭ１７に記憶される。次いで制御回路３６からＤＭＡ ｏｕＴ要求信号がｃｐｕ１４に供給されると、ｃｐｕ１４はプログラム演算実行を中止し、画面表示用のアドレスをアドレスバス１８を介してＲＡＭ１７に供給するのでアドレス指定されたＲＡＭ１７から画面表示用データがデータバス１３を介してシフトレジスタ２２に制御回路３６からのラッチ信号に基づいて取り込まれる。このパラレルなデータはシフトクロックによりシリアルなデータに変換され、シフトレジスタ２２からパターン信号として出力される。このパターン信号はスイッチ３７を介して供給されるＶＴＲからのビデオ信号と混合器２１からの複合同期信号ＳＹＮＣと混合器２３にて混合されて複合ビデオ信号となる。この複合ビデオ信号は無線周波変調回路２４で変調され出力端子２５からカラーテレビジョン受像機に加えられるので、カラーテレビジョン画面にはＶＴＲからの映像とパターン信号が同時に映し出される。

上述したテレビジョン画面表示装置によればＶＴＲからビデオ信号が入力される場合には、スイッチ３２，３７の切換えによつてこのビデオ信号に同期して回路動作を行うようにしているので、マイクロコンピュータ側で作成されるパターン信号は何ら不都合なくビデオ信号に重畳させることができる。またＶＴＲからのビデオ信号がない場合には独自の同期信号発生回路３１から水平同期信号及び垂直同期信号を発生

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させると共に色副搬送波発振回路34から3.58MHzの色副搬送波信号を発生させ、これらの信号によつて回路動作のクロック及び制御のための信号を作つているのでパターン信号は不都合なくテレビジョン画面に表示される。このように本装置によれば、スイッチの切換えによつて外部からの任意のビデオ信号とパターン信号とを組合せて複雑でかつ臨場感あふれる画面とすることができるのでよりゲームプレイが楽しいものとなる。

以上説明したように本発明によれば、スイッチの切換えによつて外部から入力されるビデオ信号に同期して動作し、外部のビデオ信号にプログラムで設定されたパターン信号を重畳できるようにすることによつて複雑でかつ臨場感あふれる画面を表示できるテレビジョン画面表示装置を提供することができる。

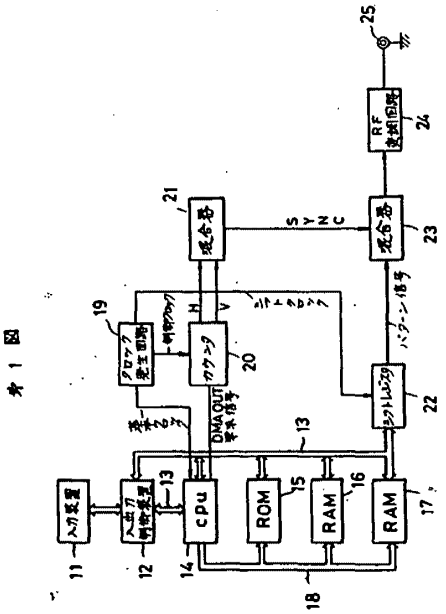
4.図面の簡単な説明

第1図は従来のテレビゲーム装置の一般的な回路図、第2図は本発明の実施例に係るテレビジョン画面表示装置の回路図である。

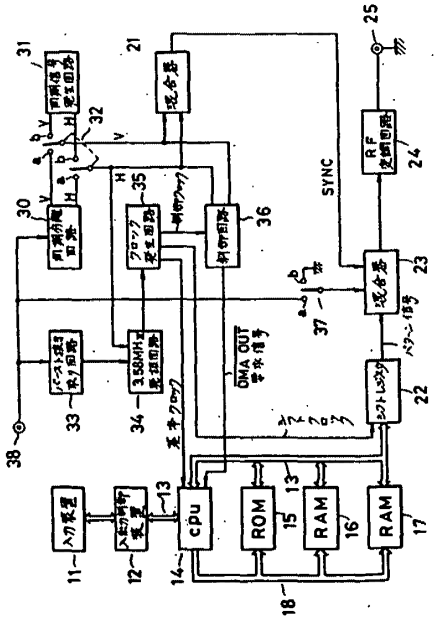
21，23…混合器
30…同期分離回路
31…同期信号発生回路
32，37…スイッチ
33…バースト抜き取り回路
34…色副搬送波信号発振回路
35…クロック発生回路
36…制御回路

出願人代理人　弁理士　鈴　江　武　彦

第1図



第2図



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CLIPPEDIMAGE= JP362060378A
PAT-NO: JP362060378A
DOCUMENT-IDENTIFIER: JP 62060378 A
TITLE: TELEVISION RECEIVER

PUBN-DATE: March 17, 1987

INVENTOR-INFORMATION:
NAME
NAKAZAWA, EIJI
TSUKAMOTO, AKIHIRO

ASSIGNEE-INFORMATION:
NAME COUNTRY
CASIO COMPUT CO LTD N/A

APPL-NO: JP60200034
APPL-DATE: September 10, 1985

INT-CL_(IPC): H04N007/00; H04N005/44 ; H04N007/173

ABSTRACT:
PURPOSE: To search a desired program from a program list by reading out information stored in a means storing information on television programs including data on broadcasting stations, broadcasting times and program names on a display screen according to the prescribed input operation.

CONSTITUTION: After television program information is stored in a program memory 16 to terminate initialization, the operation is switched in a television mode through the operation of a keyboard 2 and a program key is operated. Then a videotex controller 25 displays the menu of the program on a CRT display part 3. When the corresponding number of a desired program is indicated through the key operation of a keyboard 2, the videotex controller 25 outputs the type code of the indicated program and a search instruction to a search circuit 17, and holds such a state as it is until the search is completed. When the search action is terminated to select the indicated station, the videotex controller 25 attains a state waiting other keys' inputs, simultaneously is made in a normal television receiving state, and image-displays the program of the station selected by the search circuit 17 on the CRT display part 3.

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⑲日本国特許庁（JP）　⑪特許出願公開

⑫公開特許公報（A）　昭62－60378

⑤1Int.Cl.⁴		識別記号	庁内整理番号	⑬公開 昭和62年(1987)3月17日
H 04 N	7/00		6668－5C	
	5/44		7423－5C	
	7/173		6668－5C	審査請求 未請求 発明の数 3 （全14頁）

⑤4発明の名称　テレビジョン受像機

⑳特　願　昭60－200034
㉒出　願　昭60(1985)9月10日

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特許法第65条の2第2項第4号の規定により図面第3図の一部は不掲載とする。

明　細　書

1．発明の名称

テレビジョン受像機

2．特許請求の範囲

（1）放送局データ、放送日時データ、番組名データを含むテレビ番組情報を記憶する番組情報記憶手段と、

この手段により記憶されているテレビ番組情報を表示する手段と

を具備したことを特徴とするテレビジョン受像機。

（2）放送局データ、放送日時データ、番組名データを含むテレビ番組情報を記憶する番組情報記憶手段と、

時計回路と、

この時計回路の計時している現在の日時データと上記番組情報記憶手段の記憶している番組の放送日時データにより現在放送中の番組を検出する手段と、

この手段により検出された現在放送中の番組の一覧表を表示する手段と

を具備したことを特徴とするテレビジョン受像機。

（3）放送局データ、放送日時データ、番組の種類データ、放送曜日データ、番組名データのうち少なくとも1つ以上を含むテレビ番組情報を記憶する番組情報記憶手段と、

放送局、日時、番組の種類、曜日のうちいずれかの項目を指定する手段と、

この手段により指定された項目の番組情報を上記番組情報記憶手段からサーチする手段と、

この手段によりサーチされた番組情報を表示する手段と

を具備したことを特徴とするテレビジョン受像機。

（4）上記サーチする手段は、既に放送が終了した番組を除いてサーチすることを特徴とする特許請求の範囲第3項記載のテレビジョン受像機。

3．発明の詳細な説明

［発明の技術分野］

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本発明は、テレビ番組情報の表示機能を備えたテレビジョン受像機に関する。

〔従来技術とその問題点〕

現在、テレビジョン受像機は、殆んどの家庭に普及しており、その視聴率も非常に高いものである。しかして、テレビジョン受像機を備えた各家庭においてニュースが見たい、天気予報が見たいということは良くあるものである。また、映画が見たい、野球が見たいということもある。このように特定の番組が見たい場合は、新聞のテレビ欄を見て選局すれば良いのであるが、新聞が手元になかったり、新聞を見るのが面倒だったりすることがある。これは、ポータブルテレビにおける外出先では顕著である。

〔発明の目的〕

本発明は上記の点に鑑みてなされたもので、テレビ画面に番組表を簡単に表示でき、その番組表から所望の番組を探すことができるテレビジョン受像機を提供することを目的とする。

〔発明の要点〕

本発明は、放送局データ、放送日時データ、番組名データ等を含むテレビ番組情報を記憶する番組情報記憶手段を設け、この手段に記憶されているテレビ番組情報を所定の入力操作に応じて表示画面に読出すようにしたものである。

〔発明の実施例〕

以下、図面を参照して本発明の一実施例を説明する。この実施例は、文字図形情報システム（ビデオテックス）のテレソフトを利用してテレビ番組情報を番組メモリに記憶し、この番組メモリに記憶したテレビ番組情報を所定のキー操作に応じてＣＲＴ画面に表示するようにした例について示したものである。まず、第２図によりテレビジョン受像機の外観構成について説明する。第２図において、１はテレビジョン受像機の筐体で、この筐体１内に詳細を後述するテレビジョン受像回路及び文字図形情報システム（ビデオテックス）の受信回路が設けられる。そして、上記筐体１は、上部前側が斜めに形成され、その部分にキーボード２が設けられる。また、筐体１の上部にＣＲＴ表示部３が配置されると共に、その側方に電話載置部４が形成され、この電話載置部４上に電話機５が載置される。

次に第１図に詳細を示すテレビジョン受像回路10及び文字図形情報システムの受信回路20の構成について説明する。第１図において、12はテレビジョン受像回路10におけるチューナで、アンテナ11に誘起したテレビ放送電波の中からオートチャンネル回路13の指示に従って所望チャンネルの放送電波を選択し、中間周波数に変換してＴＶ回路14へ出力する。このＴＶ回路14は、チューナ12から送られてくるテレビ信号を増幅した後、映像検波、同期分離、音声検波等の処理を行ない、映像信号を表示切換回路15を介してＣＲＴ表示部３へ出力すると共に、音声信号をスピーカ（図示せず）へ出力する。更に上記ＴＶ回路14は、チューナ12からの信号によりチューニング信号を作成し、上記オートチャンネル回路13へ出力する。また、16はテレビ番組情報を記憶する番組メモリで、この番組メモリ16にはサーチ回路17及びフラグ制御回路18が接続される。また、19は時計回路で、日付及び時刻の計数を行ない、当日の日付及び現在時刻データをサーチ回路17及びフラグ制御回路18に出力する。このフラグ制御回路18は、時計回路19からの時刻データに応じて番組メモリ16におけるフラグ例えば番組放送中、番組終了等のフラグの書換え制御を行なう。上記サーチ回路17は、文字図形情報システムの受信回路20におけるキーボード２からの指示に従って番組メモリ16の内容をサーチし、オートチャンネル回路13にチャンネル選択信号を出力する。

上記番組メモリ16は、例えば１か月分の番組情報を記憶するもので、アドレスエリアは日付単位に分れ、それぞれ先頭アドレス（ｘ番地）が設定される。第３図は番組メモリ16の一部エリア（５月１２日）の構成を示したもので、番組情報として日付、チャンネル、曜日、開始時刻、終了時刻、番組の種類、番組が放送中であることを示すフラグＦ１、番組が終了したことを示すフラグＦ２、番組名等が設定される。これらの番組情報は、ビ

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デオテックスの情報センタからテレソフトにより読出したものが文字図形情報システムの受信回路20を介して取込まれる。

一方、上記文字図形情報システムの受信回路20は、回線制御部21が端子部22を介して電話回線（図示せず）が接続される。また、回線制御部21には、電話機5が接続されると共に、モデム23及びモデム制御装置24を介してビデオテックス制御装置25が接続される。更に、上記ビデオテックス制御装置25には、キーボード2、表示メモリ26、ワークメモリ27が接続されると共に、印字メモリ28を介してプリンタ29が接続される。上記表示メモリ26は、ビデオテックスの受信画像を記憶するメモリで、その記憶データは表示切換回路15を介してＣＲＴ表示部3へ送られる。また、上記ビデオテックス制御装置25は、キーボード2からの指示に従ってビデオテックスの情報センタからテレビ番組情報をテレソフトにより読出した際に、そのテレビ番組情報をテレビジョン受像回路10に出力して番組メモリ16に記憶させる。更にビデオテックス制御装置25は、キーボード2により番組の種類が指定された際に、その種類コード及びサーチ指令をサーチ回路17に出力する。

次に上記第１図におけるサーチ回路17の詳細を第４図により説明する。第４図において、171はアドレス発生回路で、このアドレス発生回路171には、第１図における時計回路19から日付データが与えられると共に、キーボード2からビデオテックス制御装置25を介して番組サーチ指令が与えられる。上記アドレス発生回路171は、キーボード2からのサーチ指令に従って動作し、時計回路19から与えられる日付データに応じてアドレスデータｘを発生し、アドレスレジスタ172にセットする。そして、このアドレスレジスタ172にセットされたアドレスデータｘにより、第１図に示す番組メモリ16の日付別エリアの先頭アドレスが指定される。そして、上記指定アドレスに従って１番組分の情報、すなわち、「日付」、「チャンネル」、「曜日」、「開始時刻」、「終了時刻」、「種類」、「フラグＦ１」、「フラグＦ２」、「番組名」が読出され、バッファ173に書込まれる。そして、上記バッファ173に書込まれた情報の中、「チャンネル」情報がチャンネル電圧発生回路174、番組の種類を示す「種類」情報が種類コード比較回路175、「フラグＦ１」がフラグ判別回路176に入力される。このフラグ判別回路176は、バッファ173に読出されたフラグＦ１が“１”であるか“０”であるかを判別し、“０”であればオア回路177を介してアドレスレジスタ172に「＋１」信号を出力し、“１”であれば種類コード比較回路175に比較指令を出力する。また、この種類コード比較回路175には、キーボード2からビデオテックス制御装置25を介して入力される番組の種類を示すコードが種類コードレジスタ178を介して与えられる。上記種類コード比較回路175は、フラグ判別回路176から“１”信号が与えられた時にバッファ173に読出された種類コードと種類コードレジスタ178に入力された種類コードとを一致比較し、一致している場合は一致信号をチャンネル電圧発生回路174に出力し、不一致の場合は不一致信号をオア回路177を介してアドレスレジスタ172に出力する。上記チャンネル電圧発生回路174は、種類コード比較回路175から一致信号が与えられると、バッファ173から与えられるチャンネル情報に応じてチャンネル電圧を発生し、第１図のオートチャンネル回路13に出力する。

次に上記実施例の動作を説明する。テレビ番組のサーチ動作に先立ち、第５図のフローチャートに示すようにしてビデオテックスの情報センタからテレソフトにより例えば１か月分のテレビ番組情報を読出し、テレビジョン受像回路10の番組メモリ16に記憶させる。すなわち、ユーザーは、まず、第５図のステップＡ１に示すようにキーボード2のキー操作によりビデオテックスモードを指定する。そして、電話機5によりビデオテックスの情報センタを呼出し、ステップＡ２に示すようにテレソフトにより例えば１か月分のテレビ番組情報、すなわち、放送局データ、放送時刻データ、番組の種類データを含むテレビ番組情報を受信す

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る。上記ビデオテックスモードでは、表示切換回路15が表示メモリ26側に切換られ、表示メモリ26に記憶されるビデオテックスの受信画像がＣＲＴ表示部3に表示される。しかして、ビデオテックス制御装置25は、情報センタからテレビ番組情報がテレソフトとして送られてくると、そのテレビ番組情報をステップＡ3において番組メモリ16にストアする。その後、ビデオテックス制御装置25は、サーチ回路17に指令を送り、ステップＡ4において第６図に詳細を示すイニシャル処理を実行させ、番組情報の受信処理を終了する。

次に上記ステップＡ4のイニシャル処理の詳細について第６図により説明する。サーチ回路17は、まず、第６図のステップＡ11に示すように番組メモリ16の指定アドレスＮを「１」（先頭アドレス）とし、ステップＡ2において番組メモリ16から指定アドレスの内容を読出す。そして、ステップＡ13に示すように番組メモリ16から読出した番組の日付と時計回路19で計時している現在（当日）の日付とを比較し、現在日付の方が大きい場合、つまり、その放送日が昨日以前ですでに放送を終了している場合にはステップＡ14に進んでフラグＦ2をセットし、その後、ステップＡ16に進む。また、現在日付と番組の日付が一致している場合には、ステップＡ13からステップＡ15に進み、時計回路19で計時している現在時刻が番組の終了時刻を過ぎているか否かを判断し、現在時刻が番組の終了時刻を過ぎていれば、上記ステップＡ14に進んでフラグＦ2をセットする。しかし、現在時刻が番組の終了時刻を過ぎていなければステップＡ15からステップＡ16に進む。また、上記ステップＡ13で現在日付が番組の日付より小さい、つまり、その番組が未だ放送されていないと判断された場合は、そのままステップＡ16に進む。このステップＡ16では、番組メモリ16の指定アドレスＮが最終アドレスまで達したか否かを判断し、最終アドレスまで達していなければステップＡにおいて指定アドレスＮを「＋１」した後、ステップＡ12に戻る。以下、同様の処理を繰返し、番組メモリ16から順次番組情報を読出してその番組の放送が終了したか否かを判断し、放送を終了したものについてフラグＦ2をセットする。そして、番組メモリ16の指定アドレスＮが最終アドレスに達すると、その状態がステップＡ16で検出され、イニシャル処理を終了する。ここで、最終アドレスＮは固定でも良いが、番組メモリ16から終了コードを読出したときイニシャル処理を終了しても良い。

上記のようにして番組メモリ16にテレビ番組情報を記憶させ、イニシャル処理を終了した後は、キーボード2のキー操作により任意番組の種類を指定して、自動的にサーチさせることができる。テレビ番組をサーチさせる場合には、第７図のステップＢ1に示すようにキーボード2のキー操作によりＴＶモードに切換え、番組キーを操作する。ＴＶモードに切換えられた場合、ビデオテックス制御装置25は、ステップＢ2に示すように番組キーの操作の有無を常にチェックしており、番組キーが操作されていない場合は他のキーに対する入力待ちの状態となると共に、通常のＴＶ受信状態となり、ＴＶ回路14から出力される映像信号をＣＲＴ表示部3に表示する。しかし、番組キーが操作されると、ビデオテックス制御装置25はステップＢ2からステップＢ3に進み、番組のメニューをＣＲＴ表示部3に表示する。すなわち、第８図に示すように「ニュース」、「天気予報」、「野球」、「スポーツ」、「映画」、「教養」、「ドラマ」、「歌」、「マンガ」、「クイズ」、「ワイド」（ワイド番組）、「コント」等の番組メニューを対応番号と共にＣＲＴ表示部3に表示する。ユーザーは、ステップＢ4に示すようにＣＲＴ表示部3に表示された番組メニューの中から希望する番組の対応番号をキーボード2のキー操作により指定する。番組指定番号が入力されると、ビデオテックス制御装置25は、ステップＢ5に示すように指定番組の種類コード及びサーチ指令をサーチ回路17に出力し、その後、サーチ完了までステップＢ6においてそのままの状態を保持する。そして、サーチ回路17のサーチ動作が終了し、指定の局が選択されると、ビデオテックス制御装置25は、他のキー入力待ちの状態となると共に、通常

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のＴＶ受信状態となり、上記サーチ回路17で選択された局の番組をＣＲＴ表示部3に画像表示する。

次に上記サーチ回路17及びフラグ制御回路18の詳細な動作について説明する。第１図において、番組メモリ16、サーチ回路17、フラグ制御回路18、時計回路19には、電源のオン／オフに関係無く、常時動作電圧が供給されている。そして、時計回路19は、常に現在時刻及び現在日付の計時処理を行なっており、現在時刻情報及び当日の日付情報をサーチ回路17及びフラグ制御回路18に供給している。上記フラグ制御回路18は、時計回路19からの時刻情報に基づき、番組メモリ16に記憶している番組情報のフラグＦ１、Ｆ２の書換え制御を行なっている。第９図は、上記フラグＦ１、Ｆ２の書換え処理のフローチャートを示したもので、以下、このフローチャートに従ってその動作を説明する。フラグ制御回路18は、第９図のステップＣ１に示すように、時計回路19から送られてくる１分パルスの検出処理を行なっており、１分パルスを検出するとステップＣ２に進んで時計回路19から日付データをリードする。そして、フラグ制御回路18は、ステップＣ３に示すように時計回路19からリードした日付データに応じ、番組メモリ16の対応日付エリアに対する先頭アドレスＸ及び終了アドレスX_{END}を発生する。そして、フラグ制御回路18は、ステップＣ４に示すように番組メモリ16に対する指定アドレスＮを先頭アドレスＸとし、ステップＣ５において番組メモリ16の記憶内容を読出す。そして、ステップＣ６においてフラグＦ２がセットされているか否かを判断し、フラグＦ２がセットれていなければステップＣ７に進み、現在時刻が放送開始時刻を過ぎたか否かを判断する。そして、現在時刻が放送開始時刻を過ぎていれば、ステップＣ８に進んで現在時刻が放送終了時刻に達しているか否かを判断し、現在時刻が放送終了時刻に達していなければ、つまり、現在放送中であればステップＣ９においてフラグＦ１をセットする。しかし、現在時刻が放送終了時刻に達していれば、ステップＣ８からステップＣ10に進み、フラグＦ２をセットすると共に、フラグＦ１をリセットする。そして、上記ステップＣ９又はステップＣ10の処理を終了した場合、あるいは上記ステップＣ６においてフラグＦ２がセットされている（放送終了）と判断された場合、更にはステップＣ７において現在時刻が放送開始時刻に達していないと判断された場合は、ステップＣ11に進み、メモリ指定アドレスＮが終了アドレスに達したか否かを判断し、未だ終了アドレスに達していなければ、ステップＣ12においてメモリ指定アドレスＮを「＋１」してステップＣ５に戻る。以下、同様の動作を繰返して行ない、その番組が放送中のものであればフラグＦ１をセットし、放送終了のものであればフラグＦ２をセットする。そして、番組メモリ16の当日の日付エリアに対する処理を終了すると、ステップＣ11の判断結果がＹＥＳとなってステップＣ１に戻り、時計回路19から次の１分パルスが送られてくるまで待機する。上記のようにして時計回路19から１分パルスが出力される毎に、フラグＦ１、Ｆ２の書換え制御が行なわれる。

上記のようにしてフラグ制御回路18により常に番組メモリ16のフラグＦ１、Ｆ２の書換えが行なわれているが、上記したようにキーボード2のキー操作により番組の種類が指定され、第７図のステップＢ５においてビデオテックス制御装置25からサーチ回路17に種類コード及びサーチ指令が出力されると、サーチ回路17により番組のサーチ処理が開始される。すなわち、上記ビデオテックス制御装置25からサーチ回路17に送られた種類コードは種類コードレジスタ178にセットされ、また、サーチ指令はアドレス発生回路171に入力される。このアドレス発生回路171は、上記サーチ指令が与えられると、時計回路19からの日付情報に応じて番組メモリ16の日付別エリアの先頭アドレスＸを発生し、アドレスレジスタ172にセットする。このアドレスレジスタ172にセットされたデータにより番組メモリ16の日付別エリアの先頭アドレスＸが指定され、番組メモリ16からその指定アドレスにおける１番組分の情報がバッファ173に読出される。このバッファ173に番組情報が読出さ

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れると、まず、フラグF1がフラグ判別回路176へ送られ、その内容が判断される。バッファ173に読出された番組が放送中でなければフラグF1は"0"であるので、この場合にはフラグ判別回路176からオア回路177を介して「+1」信号が出力され、アドレスレジスタ172の内容が「+1」される。これにより番組メモリ16の次アドレスが指定され、そのアドレスに記憶されている番組情報がバッファ173に読出される。そして、上記の場合と同様にしてフラグF1の内容がフラグ判別回路176で判別される。フラグF1が"0"であれば上記と同様の動作が繰返されるが、フラグF1が"1"であれば、つまり、その番組が放送中であればサーチ回路17から種類コード比較回路175に"1"信号が送られる。この種類コード比較回路175は、フラグ判別回路176から"1"信号が与えられると、その時バッファ173に保持されている種類コードと種類コードレジスタ178に保持されている種類コードとを比較し、不一致であれば、つまり、バッファ173に読出した番組がキーボード2により指定した番組でない場合は、不一致信号をオア回路177を介してアドレスレジスタ172に出力する。この結果、アドレスレジスタ172の内容が「+1」されて番組メモリ16の次アドレスが指定され、その内容がバッファ173に読出される。このバッファ173に新しく番組情報がセットされると、上記のようにしてフラグF1及び種類コードがチェックされる。そして、バッファ173に保持されている種類コードと種類コードレジスタ178に保持されている種類コードとが一致すると、種類コード比較回路175からチャンネル電圧発生回路174に一致信号が送られる。すなわち、キーボード2により番組の種類として例えば「ニュース」を指定した場合であれば、番組メモリ16からバッファ173に現在放送中の「ニュース」の番組が読出された時に種類コード比較回路175から一致信号が出力され、チャンネル電圧発生回路174へ送られる。このチャンネル電圧発生回路174は、上記種類コード一致信号が与えられると、バッファ173に保持されているチャンネルコードに応じた電圧を発生し、オートチャンネル回路13に出力する。このオートチャンネル回路13は、チャンネル電圧発生回路174からチャンネル電圧が与えられると、そのチャンネル電圧に応じてチューナ12の受信周波数を制御し、指定チャンネルの局を選択する。上記のようにしてキーボード2により番組の種類を指定した場合、その番組を放送中のチャンネルが選択されてCRT表示部3に画像表示される。もし、どの局でも「ニュース」等指定した種類の番組をやっていない時は、そのとき選択されている局がそのまま続けて受信される。また、同時に2局以上で指定した種類の番組をやっている時は、順番の若い方の局を受信する。

次に番組メモリ16に記憶した番組表をCRT表示部3に表示する場合の動作について説明する。上記番組表の表示は、キーボード2のキー操作により指定するが、表示させる番組表としては、第10図に示すように、

① 今後放送される全ての番組表。

② 指定した日の1日分の番組表。

③ 指定ジャンル（種類）の今後放送される番組の一覧表。

④ 指定チャンネルの今後放送される番組の一覧表。

⑤ 指定曜日（間近の曜日）の1日分の番組表。

⑥ 今、放送中の番組表。

を指定することができる。上記①～⑥の番組表を表示させる場合、例えば第10図に示すように、①については「番組表」キーのみの単独操作D、②については「日付」の入力と「番組表」キーの組合わせ操作E、③については番組の「種類」指定と「番組表」キーの組合わせ操作F、④については「チャンネル」の指定と「番組表」キーの組合わせ操作G、⑤については「曜日」指定と「番組表」キーの組合わせ操作H、⑥については「放送中」キーの単独操作Iにより指定する。キーボード2により上記番組表の表示指定操作が行なわれると、ビデオテックス制御装置25は、第11図～第16図に示す処理を実行する。

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第１１図は上記①の今後放送される全ての番組表を表示する場合のビデオテックス制御装置25の処理を示すものである。ビデオテックス制御装置25は、キーボード2により上記①に対するキー操作Ｄが行なわれると、まず、ステップＤ１に示すように番組メモリ16の指定アドレスＮを１（先頭アドレス）とし、ステップＤ２において番組メモリ16の内容を読出す。次いでステップＤ３に示すように当日の日付と番組の日付が一致しているか否かを判断し、一致していれば更にステップＤ４において現在時刻が番組の終了時刻に達したか否かを判断する。そして、番組メモリ16から読出した番組の放送が未だ終了していない場合にはステップＤ５に示すようにその番組情報をワークメモリ27に出力し、その後ステップＤ６に進む。また、上記ステップＤ３において日付が一致していないと判断された場合、及びステップＤ４において番組の放送が終了したと判断された場合もステップＤ６に進む。このステップＤ６では、番組メモリ16の指定アドレスＮが最終アドレスに達したか否かを判断し、最終アドレスに達していなければステップＤ７で指定アドレスＮを更新し、ステップＤ２に戻る。以下同様の処理動作が繰返され、番組メモリ16に記憶されている番組情報の中から、今後放送される番組情報のみが選択されてワークメモリ27に書込まれる。そして、ステップＤ６において番組メモリ16の指定アドレスが最終アドレスに達したと判断されると、ステップＤ８に進んでワークメモリ27に記憶した番組情報が見易い形に編集される。その後、ステップＤ９に示すようにワークメモリ27から上記編集した番組情報が表示メモリ26に書込まれ、更にこの表示メモリ26からＣＲＴ表示部3に送られて表示される。すなわち、今後放送される全ての番組表がＣＲＴ表示部3に表示される。

次に上記②における「日付」入力と「番組表」キーの組合わせ操作Ｅを行ない、その日１日分の番組表を表示させる場合の動作について第１２図により説明する。ビデオテックス制御装置25は、キーボード2により上記②に対するキー操作Ｅが行なわれると、まず、第１２図のステップＥ１に示すように番組メモリ16の指定アドレスＮとして日付別エリアの当日の日付に対する先頭アドレスｘを発生し、ステップＥ２において番組メモリ16の内容を読出す。そして、ステップＥ３に示すようにその番組情報をワークメモリ27に出力した後ステップＥ４に進み、番組メモリ16の指定アドレスＮが日付別エリアの最終アドレスに達したか否かを判断し、最終アドレスに達していなければステップＥ５で指定アドレスＮを更新し、ステップＥ２に戻る。以下同様の処理動作が繰返され、番組メモリ16に記憶されている番組情報の中から、その指定された日に放送される番組情報のみが選択されてワークメモリ27に書込まれる。そして、ステップＥ４において番組メモリ16の指定アドレスＮが日付別エリアの最終アドレスに達したと判断されると、ステップＥ６に進んでワークメモリ27に記憶した番組情報が見易い形に編集される。その後、ステップＥ７に示すようにワークメモリ27から上記編集した番組情報が表示メモリ26に書込まれ、更にこの表示メモリ26からＣＲＴ表示部3に送られて表示される。すなわち、指定された日の１日分の番組表がＣＲＴ表示部3に表示される。

次に上記③における番組の「種類」指定と「番組表」キーの組合わせ操作Ｆを行ない、そのジャンルで今後放送される番組の一覧表を表示させる場合の動作について第１３図により説明する。ビデオテックス制御装置25は、キーボード2により上記③に対するキー操作Ｆが行なわれると、まず、第１３図のステップＦ１に示すように、番組メモリ16の指定アドレスＮを１（先頭アドレス）とし、ステップＦ２において番組メモリ16の内容を読出す。次いでステップＦ３に示すようにフラグＦ２が"１"であるか"０"であるか、つまり、その番組の放送が終了したか否かを判断し、放送が終了していなければ更にステップＦ４においてその番組の種類コードと指定種類コードとが一致しているか否かを判断する。そして、番組の種類コードと指定種類コードとが一致している場合には、

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ステップF5に示すようにその番組情報をワークメモリ27に出力し、その後ステップF6に進む。また、上記ステップF3において番組の放送がすでに終了していると判断された場合、及びステップF4において種類コードが一致していないと判断された場合もステップF6に進む。このステップF6では、番組メモリ16の指定アドレスNが最終アドレスに達したか否かを判断し、最終アドレスに達していなければステップF7で指定アドレスNを更新し、ステップF2に戻る。以下同様の処理動作が繰返され、番組メモリ16に記憶されている番組情報の中から、指定種類の番組情報のみが選択されてワークメモリ27に書込まれる。そして、ステップF6において番組メモリ16の指定アドレスが最終アドレスに達したと判断されると、ステップF8に進んでワークメモリ27に記憶した番組情報が見易い形に編集される。その後、ステップF9に示すようにワークメモリ27から上記編集した番組情報が表示メモリ26に書込まれ、更にこの表示メモリ26からCRT表示部3に送られて表示される。すなわち、指定ジャンルで今後放送される番組の一覧表がCRT表示部3に表示される。

次に上記④における「チャンネル」指定と「番組表」キーの組合わせ操作Gを行ない、その指定チャンネルで今後放送される番組の一覧表を表示させる場合の動作について第14図により説明する。ビデオテックス制御装置25は、キーボード2により上記④に対するキー操作Gが行なわれると、まず、第14図のステップG1に示すように、番組メモリ16の指定アドレスNを1（先頭アドレス）とし、ステップG2において番組メモリ16の内容を読出す。次いでステップG3に示すようにフラグF2が"1"であるか"0"であるか、つまり、その番組の放送が終了したか否かを判断し、放送が終了していなければ更にステップG4においてその番組のチャンネルと指定チャンネルとが一致しているか否かを判断する。そして、番組のチャンネルと指定チャンネルとが一致している場合には、ステップG5に示すようにその番組情報をワークメモリ27に出力し、その後ステップG6に進む。また、上記ステップG3において番組の放送がすでに終了していると判断された場合、及びステップG4においてチャンネルが一致していないと判断された場合もステップG6に進む。このステップG6では、番組メモリ16の指定アドレスNが最終アドレスに達したか否かを判断し、最終アドレスに達していなければステップG7で指定アドレスNを更新し、が繰返され、番組メモリ16に記憶されている番組情報の中から、指定チャンネルの今後放送される番組情報のみが選択されてワークメモリ27に書込まれる。そして、ステップG6において番組メモリ16の指定アドレスが最終アドレスに達したと判断されると、ステップG8に進んでワークメモリ27に記憶した番組情報が見易い形に編集される。その後、ステップG9に示すようにワークメモリ27から上記編集した番組情報が表示メモリ26に書込まれ、更にこの表示メモリ26からCRT表示部3に送られて表示される。すなわち、指定チャンネルで今後放送される番組の一覧表がCRT表示部3に表示される。

次に上記⑤における「曜日」入力と「番組表」キーの組合わせ操作Hを行ない、間近の指定曜日の1日分の番組表を表示させる場合の動作について第15図により説明する。ビデオテックス制御装置25は、キーボード2により上記⑤に対するキー操作Hが行なわれると、まず、第15図のステップH1に示すように現在曜日と指定曜日とが一致しているか否かを判断し、一致している場合はステップH2に進んで番組メモリ16の日付別エリアの当日日付に対する先頭アドレスxを発生し、ステップH3において番組メモリ16の内容を読出す。そして、ステップH4に示すようにその番組情報をワークメモリ27に出力した後ステップH5に進み、番組メモリ16の指定アドレスNが日付別エリアの最終アドレスに達したか否かを判断し、最終アドレスに達していなければステップH6で指定アドレスNを更新し、ステップH3に戻る。以下同様の処理動作が繰返され、番組メモリ16に記憶されている番組情報の中から、指定された曜

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日、つまり、この場合には当日放送される番組情報のみが選択されてワークメモリ27に書込まれる。そして、ステップH5において番組メモリ16の指定アドレスNが日付別エリアの最終アドレスに達したと判断されると、ステップH7へ進んでワークメモリ27に記憶した番組情報が見易い形に編集される。その後、ステップH8に示すようにワークメモリ27から上記編集した番組情報が表示メモリ26に書込まれ、更にこの表示メモリ26からCRT表示部3に送られて表示される。すなわち、指定された曜日の1日分の番組表がCRT表示部3に表示される。

また一方、上記ステップH1において現在曜日と指定曜日とが異なると判断された場合は、ステップH9に進んで間近の該当曜日の日付計算を行ない、ステップH10においてその日付に対応する先頭アドレスx'を番組メモリ16の指定アドレスNとして発生する。その後は、上記ステップH3～H6と同様の処理をステップH11～H14により繰返して行なう。そして、ステップH13において指定アドレスが最終アドレスx'Endに達したと判断されると、上記ステップH7に進んで編集処理を行なった後、ステップH8に示すように表示メモリ26へ出力してCRT表示部3に表示する。

次に上記⑥における「放送中」のキー操作Iを行ない、今放送中の番組表を表示させる場合の動作について第16図により説明する。ビデオテックス制御装置25は、キーボード2により上記⑥に対するキー操作Iが行なわれると、まず、第16図のステップI1に示すように、番組メモリ16の指定アドレスNとして日付別エリアの当日日付に対する先頭アドレスxを発生し、ステップI2において番組メモリ16の内容を読出す。次いでステップI3に示すようにフラグF1が"1"であるか"0"であるか、つまり、その番組が放送中であるか否かを判断し、放送が放送中であればステップI4に示すようにその番組情報をワークメモリ27に出力し、その後ステップI5に進む。また、上記ステップI3において番組が放送中でないと判断された場合はステップI4の処理を行なうことなく直ちにステップI5に進む。このステップI5では、番組メモリ16の指定アドレスNが最終アドレスに達したか否かを判断し、最終アドレスに達していなければステップI6で指定アドレスNを更新し、ステップI2に戻る。以下同様の処理動作が繰返され、番組メモリ16に記憶されている番組情報の中から、今放送中の番組情報のみが選択されてワークメモリ27に書込まれる。そして、ステップI5において番組メモリ16の指定アドレスが当日日付エリアの最終アドレスに達したと判断されると、ステップI7に進んでワークメモリ27に記憶した番組情報が見易い形に編集される。その後、ステップI8に示すようにワークメモリ27から上記編集した番組情報が表示メモリ26に書込まれ、更にこの表示メモリ26からCRT表示部3に送られて表示される。すなわち、今放送されている番組の一覧表がCRT表示部3に表示される。

なお、上記実施例において、番組表を1画面に表示しきれない場合は、スクロールさせたり、1日分または1チャンネル分ずつ表示し、リターンキー等特定のキー操作により次の頁に移るようにすればよい。

又、上記実施例において、番組メモリ16に記憶する番組情報に、出演者の情報を入れるようにすれば、指定した出演者のある番組の一覧表を表示することも可能である。

〔発明の効果〕

以上詳記したように本発明によれば、放送局データ、放送日時データ、番組名データ等を含むテレビ番組情報を記憶する番組情報記憶手段を設け、この手段に記憶されているテレビ番組情報を所定の入力操作に応じて選択して表示画面に読出すようにしたので、例えば今後放送される全ての番組、指定日の番組、指定種類の番組、指定曜日の番組、指定チャンネルの番組、現在放送中の番組等任意の番組表をテレビ画面に簡単に表示することができ、新聞が手元にない場合等において非常に便利である。

4．図面の簡単な説明

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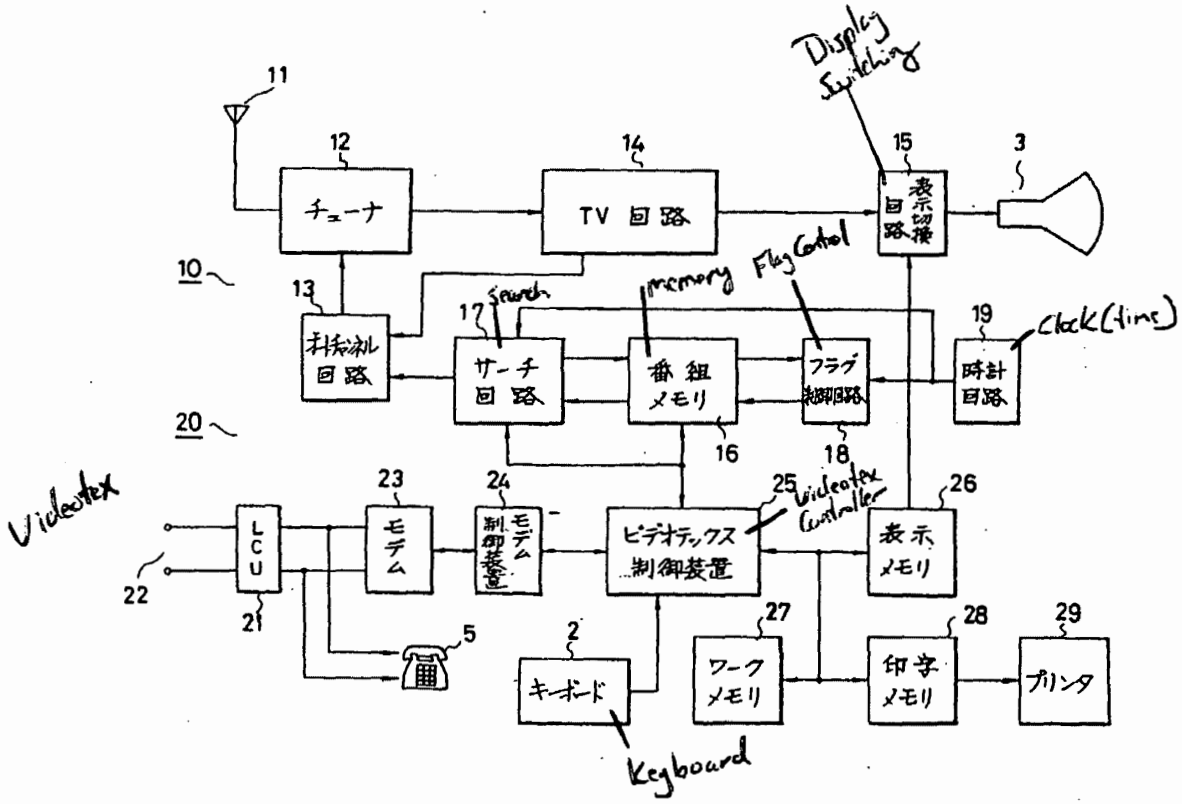
図面は本発明の一実施例を示すもので、第１図は回路構成を示すブロック図、第２図はは外観構成を示す斜視図、第３図は番組メモリの情報記憶例を示す図、第４図は第１図におけるサーチ回路の詳細を示すブロック図、第５図は番組情報の受信動作を示すフローチャート、第６図は第５図におけるイニシャル処理の詳細を示すフローチャート、第７図は番組のサーチ動作を示すフローチャート、第８図は番組メニューの表示例を示す図、第９図は番組メモリに対するフラグ書換え処理を示すフローチャート、第１０図は各種番組表を指定表示させるためのキー操作例を示す図、第１１図は今後放送される全ての番組表を表示させるための処理動作を示すフローチャート、第１２図は指定日の番組表を表示させるための処理動作を示すフローチャート、第１３図は指定種類の番組の一覧表を表示させるための処理動作を示すフローチャート、第１４図は指定チャンネルの番組表を表示させるための処理動作を示すフローチャート、第１５図は指定曜日の番組表を表示させるための処理動作を示すフローチャート、第１６図は現在放送中の番組表を表示させるための処理動作を示すフローチャートである。

１…テレビジョン受像機匡体、２…キーボード、３…ＣＲＴ表示部、４…電話載置部、５…電話機、10…テレビジョン受像回路、11…アンテナ、12…チューナ、13…オートチャンネル回路、14…ＴＶ回路、15…表示切換回路、16…番組メモリ、17…サーチ回路、18…フラグ制御回路、19…時計回路、20…文字図形情報システム受信回路、21…回線制御部、23…モデム、24…モデム制御装置、25…ビデオテックス制御装置、26…表示メモリ。

出願人代理人　弁理士　鈴　江　武　彦



第 1 図

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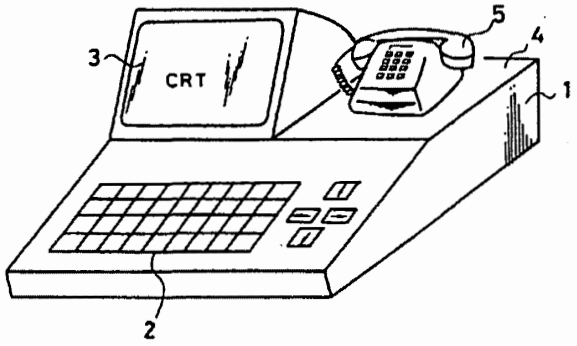
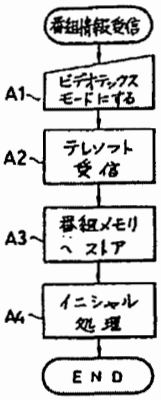
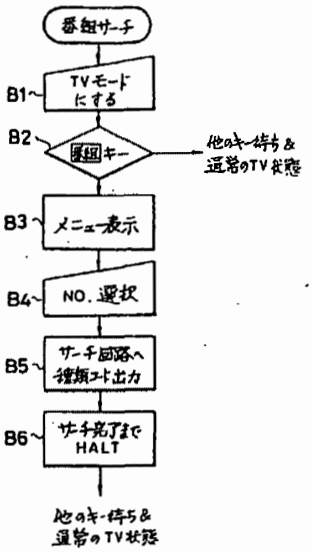


第 2 図



第 5 図



第 7 図

16

日付	チャンネル	曜日	開始	終了	種類	F1	F2	番組名
5月12日	1 CH	SAT	6:00	6:15	ニュース			
5月12日	1 CH	SAT	6 15	6:45	教養			
5月12日	1 CH	SAT	6:45	7:20	ニュース			
5月12日	1 CH	SAT	7:20	7:25	天気予報			
⋮	⋮	⋮	⋮	⋮	⋮			⋮
5月12日	4 CH	SAT	13:00	16:30	野球			
⋮	⋮	⋮	⋮	⋮	⋮			⋮
5月12日	6 CH	SAT	19:00	19:30	マンガ			
5月12日	6 CH	SAT	19:30	20:00	クイズ			

第 3 図

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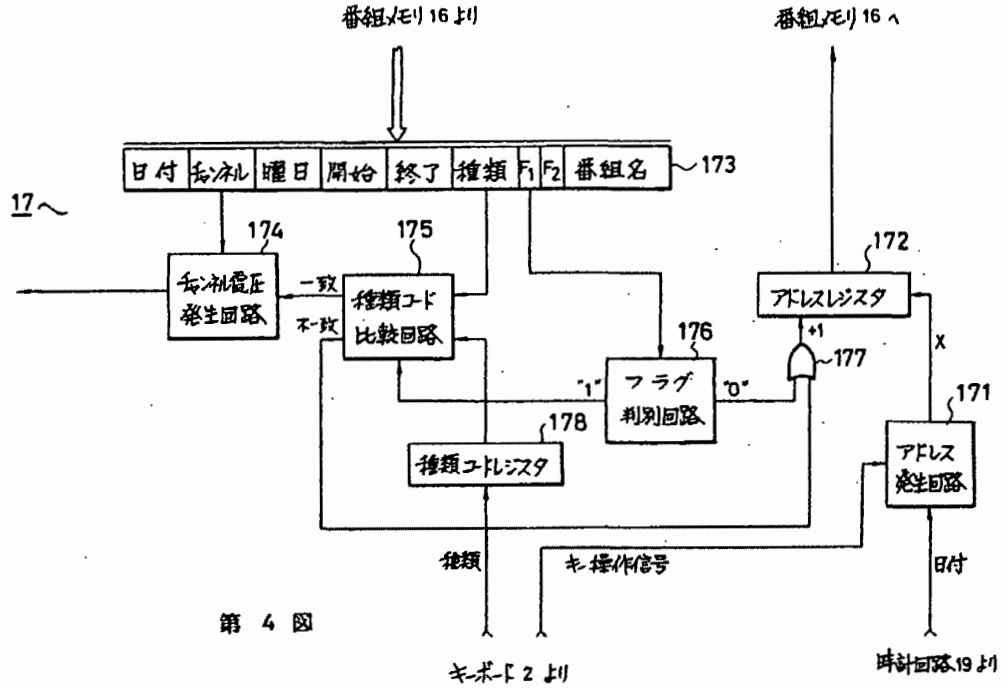
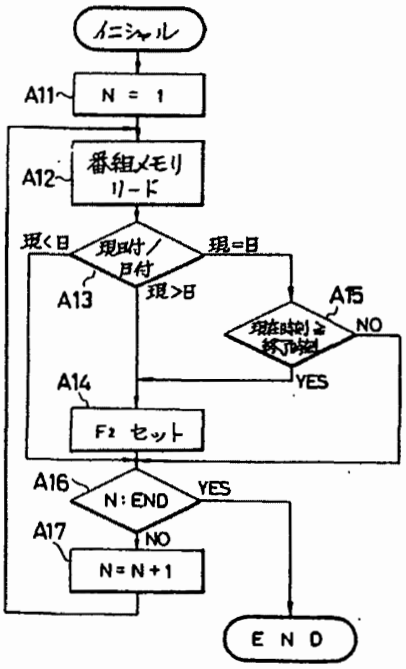


第 4 図



第 6 図

番組メニュー

1	ニュース	7	ドラマ
2	天気予報	8	歌
3	野球	9	マンガ
4	スポーツ	10	クイズ
5	映画	11	ワイド
6	教養	12	コント

第 8 図

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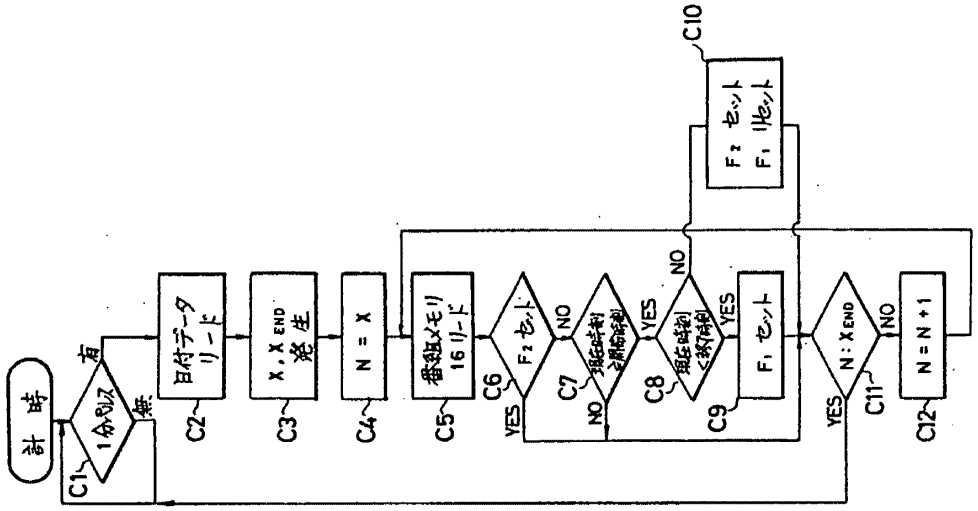
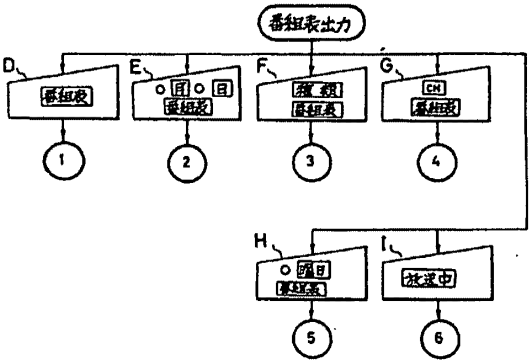
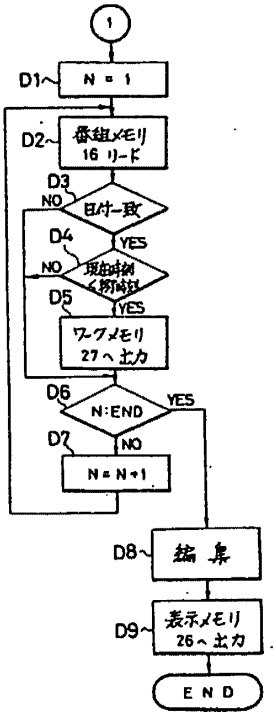


第 9 図



第 10 図



第 11 図

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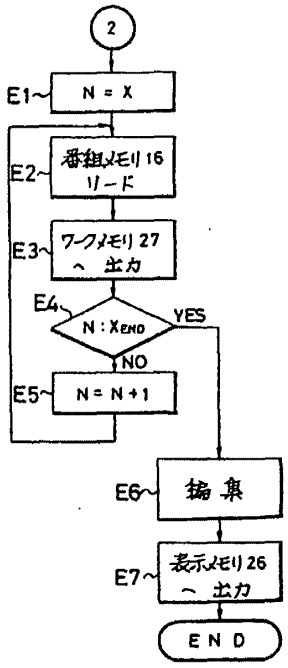
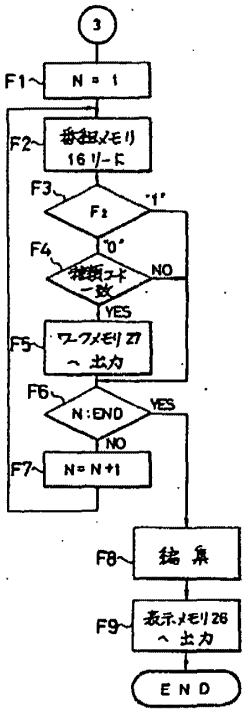
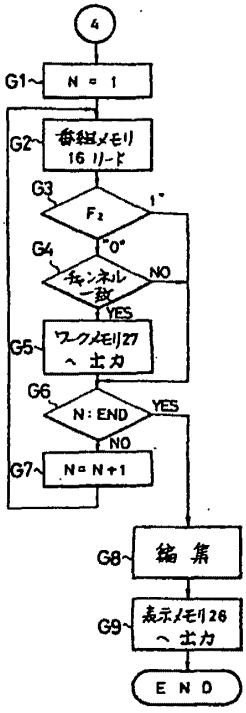


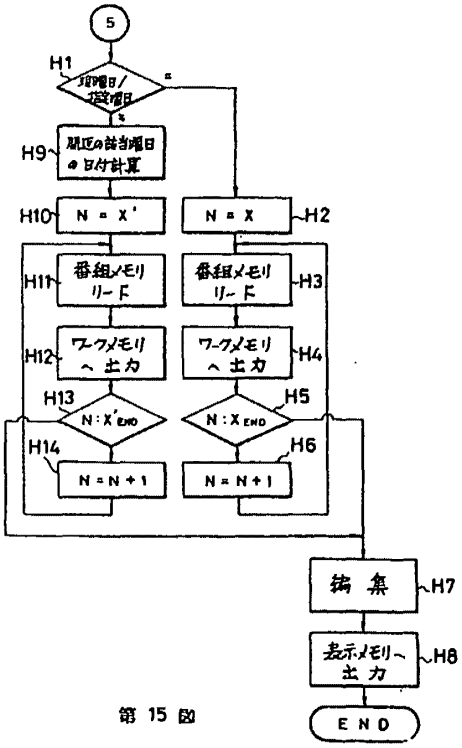
第 12 図



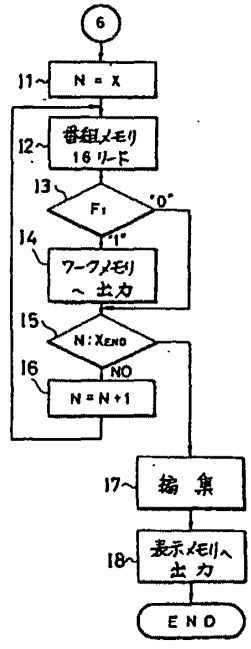
第 13 図



第 14 図



第 15 図



第 16 図

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CLIPPEDIMAGE= JP356116385A
PUB-NO: JP356116385A
DOCUMENT-IDENTIFIER: JP 56116385 A
TITLE: RECEIVER FOR CHARACTER BROADCAST
PUBN-DATE: September 12, 1981
INVENTOR-INFORMATION:
NAME
FUKUZAKI, KAZUHIRO
TAKEMURA, KINYA
KUKI, MASARU
INT-CL_(IPC): H04N007/08
ABSTRACT:

PURPOSE: To reduce the psychological burden at the waiting time until desired program is incoming and to enable to display the character information for other programs instantly, by giving character and color memories to store the character information for many screen's share.

CONSTITUTION: The TV signal including character signal input from an antenna 1 is selected at a tuner 2, and after the intermediate frequency amplification and video detection 3, it is input to a TV reception circuit 4 and a character reception circuit 8. The reception circuit 8 picks up the character signal and processes the control signal in this character signal through discrimination, allowing to pick up the character pattern data and color data and to store them in respective memories. Then, they are synthesized after readout to be output as signals of red, green and blue and to be given to a mixing circuit 5. The mixing circuit 5 superimposes the signal in red, green and blue on the TV video signal from the TV reception circuit 4 and displays the character information only on the CRT 6 in the form of single shape. Further, the signal from the operating button 9 provided separately with the channel selection button of TV is also input to the character reception circuit 8.

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⑲ 日本国特許庁 (JP)　　⑪ 特許出願公開

⑫ 公開特許公報 (A)　　昭56—116385

⑤1Int. Cl.³　識別記号　庁内整理番号　⑬公開 昭和56年(1981)9月12日
H 04 N 7/08　6427—5C

発明の数 1
審査請求 未請求

(全 10 頁)

⑤4文字放送受信装置

⑳特願 昭55—19946
㉒出願 昭55(1980)2月19日
⑫発明者 福崎和廣
大阪市阿倍野区長池町22番22号
シャープ株式会社内
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シャープ株式会社内
⑪出願人 シャープ株式会社
大阪市阿倍野区長池町22番22号
⑭代理人 弁理士 福士愛彦

明細書

1. 発明の名称

文字放送受信装置

2. 特許請求の範囲

1. テレビジョン信号の垂直帰線消去期間に多重伝送された文字，図形等の文字信号を受信し、この文字信号をメモリに蓄積記憶し、これから読み出し表示するようにした文字放送受信装置にあつて、

文字信号の文字パターン情報及び色情報（文字情報という。）を複数画面分記憶できるメモリを設け、

使用者の選択に従つて、メモリに記憶されている文字情報が新に受信される文字情報で更新されないように固定化しそしてこの新に受信される文字情報が次のメモリに記憶されるように制御するべく入力する入力手段及びこの固定化された文字情報をメモリから読み出して表示するように制御するべく入力するための入力手段とを有してなり、

使用者が受信する文字情報の中で任意のものを選択して入力手段の入力によりメモリに固定化し、又この固定化した文字情報を入力手段の入力により必要に応じて読み出し表示しうることを特徴とする文字放送受信装置。

3. 発明の詳細な説明

本発明はテレビジョン信号の垂直帰線消去期間等の未使用領域に時分割多重されて送出された文字，記号，図形等の文字信号を受信してメモリに蓄積したのち該メモリから読み出して前記テレビジョン信号の映像信号の一部に重畳したり、または映像信号とは別に単独でテレビ画面上に表示する文字放送受信装置において、逐次送出されてくる文字情報を記憶させておくメモリ機能装置に関するものである。

文字放送では一画面分の文字放送を送出する際にその文字情報を相当数に分割して送る方式をとつているため、受信側では文字情報をテレビ画面上に表示するために、これらの情報を文字信号中の制御信号に従つて一旦メモリに記憶させる必要

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がある。従つて、文字放送受信装置では送られてくる文字信号の中から視聴者が選択した番組に関する文字及び図形のデータ（以下文字データと記す）と色のデータ（以下色データと記す）とを選び出してそれぞれ文字メモリ，色メモリに記憶させたのち表示期間にそれぞれのメモリから文字データと色データとを順次読み出してテレビ画面上に表示している。

従来の文字放送受信装置においては、文字メモリと色メモリとをそれぞれ1画面分しか有していないため、視聴者は希望の番組が到来するまで相当時間待つ必要があつた。また残しておいて後で見たい文字情報があつても新たな番組やページを受信すると（文字放送では同じ番組の中でも数ページにわたるものもある。）以前の文字情報は消去されてしまうため、残しておくことはできなかつた。また他の番組の文字情報との比較や、他の放送局の文字情報との比較なども即座にできなかつた。

そこで、本発明は上記の点に鑑み、希望の番組が到来するまでの待時間における必理的負担を軽減し、視聴者が残しておきたい文字情報を記憶させておくことができ他の番組の文字情報や他の放送局の文字情報を即座に表示することのできる文字放送受信装置の提供を目的とするものであつて、文字情報を記憶しておく文字メモリと色メモリとをそれぞれ多画面有することを特徴とする。

以下に本発明の文字放送信号装置の一実施例として、特に文字メモリと色メモリとをそれぞれ3画面分有する場合を例に挙げて説明する。

第1図は一実施例の概要のブロック図を、第2図は同上の文字受信回路部の詳細なブロック図を、第3図は同上の文字メモリ，色メモリ及びこれらの周辺回路の詳細なブロック図を示す。

第1図において、アンテナ1より入力された文字信号を含むテレビジョン信号はチューナ2に入り選局され、更に中間周波／検波回路3に導入されて中間周波増巾及び映像検波された後、ＴＶ受信回路4と文字受信回路8に入力される。

ＴＶ受信路4は一般のＴＶ機能を行なう一切の回路を総括したものである。尚音声回路については一部図示していない。

文字受信回路8は、後述のように文字信号を抜き取り、この文字信号中の制御信号を判別し処理することにより文字パターンデータと色データとを抜き出してそれぞれのメモリに記憶させた後、これから読み出して合成しR（赤），G（緑），B（青）の信号として出力し、混合回路5へ与える。

この混合回路5では、このR，G，Bの信号をＴＶ受信回路4からのテレビ映像信号に重畳させたり、又は文字情報だけ単独の形でＣＲＴ6に表示す。

そして文字放送受信装置には、ＴＶの選局ボタンとは別に文字放送用の操作ボタン9を備えており、これからの信号も文字受信回路8に入力される。なお、ＴＶチャンネルの選局を文字受信回路8からの信号により実現するためのチューナ電圧制御回路7が付加されている。

この文字受信回路8について、第2図を参照しながら、次に説明する。

中間周波／検波回路8から入力されたテレビジョン映像信号は文字信号抜取回路10に入力されて、ここで文字信号が抜き取られ更にバッファメモリ10に書き込まれる。なお、抜き取られた文字信号がクロック発生回路12に導入され、この文字信号中の同期信号に相応してクロック発生回路12では文字信号をバッファメモリ10に書き込むに必要なクロック等を発生する。

又、テレビジョン映像信号は同期分離回路13にも入力され、ここで同期信号が分離され更に制御回路14に入力される。この制御回路14では必要な各種の信号が発生される。

バッファメモリ11に書き込まれた文字信号はデータバス22を介してマイクロコンピュータ(以下ＣＰＵという。）28に送られ、ＣＰＵ28では操作ボタン9より入力された文字放送番組と文字信号中の番組コードが一致したときのみ文字信号中の文字データを文字メモリＡ15や色メモリＡ16に転送する。

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ここで、従来提案されている文字放送受信装置では文字メモリと色メモリをそれぞれ1画面分（A15とA'16のみ）しか持たないものであったが、本発明ではこの1画面A（A15，A'16）以外に文字メモリB17，色メモリB'18，文字メモリC19，色メモリC'20等、第2図中破線で示されるメモリを備えており、従来提案されているものではできない後述のメモリ動作とかプリセット動作を行うことができるようにしている。

文字メモリ，色メモリに書き込まれた文字情報は制御回路14より読み出しアドレスが指定されて一定の表示期間に読み出されて文字、色混合回路21へ送られる。なお、この読み出しのためのクロックは、クロック発生回路12'で得られるものとする。

文字、色混合回路21では文字データと色データとを混合してR（赤），G（緑），B（青）の信号として出力する。

CPU3の動作は、制御用ROM27より与えられる命令により制御される。例えば、文字メモリA15への文字データの書込に際してはCPU28よりアドレスバス24を介して文字メモリA15のアドレスが指定される。制御回路14ではこのアドレスバス24からの信号を受けてその信号が文字メモリA15を指定していることを解読してメモリセレクト信号SAを出力する。これにより文字メモリA15が選択され、文字データはCPU28により制御用RAM26より文字メモリA15へデータバスを介して転送される。従つて、バッファメモリ11の文字データは一度制御用RAM26に記憶され、文字メモリへと転送されるものとする。色メモリへの色データの転送も以上の文字データの転送と同様にして、データバス22を介して行なわれる。勿論、この文字メモリ，色メモリへの書込の時は、コントロールバス23を介してリード／ライト信号（R／W信号）で文字メモリ，色メモリを書き込み状態（ライト状態）にするのは言う迄もない。

又、文字メモリ，色メモリから文字データ，色データを読み出す際は、文字メモリ，色メモリのアドレスをアドレスバス22を介して指定すると共に制御回路のメモリセレクト信号で文字メモリ，色メモリを指定し、そしてR／W信号を読み出し状態（リード状態）とすることにより実行される。

又、文字メモリ，色メモリを消去する必要があるようなとき、例えば後述のようなクリアメモリの入力があるようなときには、この入力をCPU28が判読して制御回路14が消去信号SEを出すよう指令する。消去信号SEは低レベルなるため、第3図に示すゲート31，32，33及び34が文字データ，R／W信号，色データ，R／W信号を遮断する。この結果、文字メモリ，色メモリはゲート32，ゲート84の出力SMW，SIWが低レベルになつてライト状態になる一方、ゲート31，38の出力（零）が入力されるため、当該文字メモリ，色メモリが消去されることになる。なお、消去信号SEが与えられていないときは、ゲート31，32，33及び34が開くため、文字データ，R／W信号，色データ，R／W信号がそのままゲート31，32，33及び34を通じてSMD，SMW，SID及びSIWとして文字メモリ，色メモリへ与えられる。

文字データはバッファメモリ12に書き込むときに8ビットの並列ビットに変換される。これはデータバス22が8ビットで構成されていて、データの並列処理に好都合だからである。従つてバッファメモリ11以降の文字データはすべて8ビットの並列データで転送される。一方、色データは色コード4ビットで構成されているためデータバス4ビットを使つて同じく並列データで転送される。これらの文字データと色データは上記文字、色混合回路21で混合されて、R，G，Bの信号とされるが、このさい並列なデータは元の直列なデータに戻される。

そして、操作ボタン9からの信号はI/O25，データバス22を介してCPU28に送られ、ここで視聴者からの番組選択等の指令が解読され、その指令に基づく処理を実行する。

第4図は操作ボタン9を設けられる操作パネルの説明図を示す。

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K_1 は番組選択用の置数キーと#キーからなるキー群であつて、従来提案されている文字放送受信装置に備えられているものである。本発明では、このキー群以外にメモリ動作，プリセット動作等のためのキーK_2 乃至K_{10}，K_A 乃至K_C 等を備えている。

キーK_2 ，K_3 及びK_4 はメモリ動作指定用，リコールメモリ（ＲＭ）用及びクリアメモリ(CM)用のものである。キーK_5 及びK_6 はプリセット動作指定用及びプリセット解除用のものであり、キーK_7 ，K_8 及びK_9 はプリセットの種別を指定するためのものであり、ページ，番組，放送局を指定するのに用いる。なお、テレビジョン映像信号の第20H／283Hに多重されている文字信号は、制御コード及びページ制御コード，色コードデータまたは文字パターンデータで構成されている。この文字信号中に番組のページを知らせるための信号が含まれる例を挙げて、プリセット動作でページを指定しうるようキーK_7 を設けているが、このようなページを知らせるための信号が含まれない場合にはこのようなキーK_7 を省略し、これを関連する機能をも省略しうるのは勿論のことである。

キーK_A ，K_B 及びK_C はメモリＡとA′，ＢとB′及びＣとC′を指定して、その内容をＴＶ画面に表示するためのものである。

キーK_{10}は動作を復帰させるためのものであり、Ｄは番組番号を表示するための表示器である。

以上の実施例では、視聴者の選択操作により次の３つの動作、即ち(I)通常動作，(II)メモリ動作，(III)プリセット動作が実行される。第５図は、これら動作を説明するフローチャートを示す。この図において、ＳＸはメモリセレクト信号ＳＡ，ＳＢ，ＳＣの内一つに対応し、従つてＸはＡ，Ｂ又はＣのいずれかを取り得るものであり、R/Wはメモリライト信号，ＳＥはメモリ消去信号に対応する。

電源の投入があるとＳＸ＝ＳＡにセットされ、まずメモリＡ，A′（以下単に両メモリを総括してメモリＡという。）が選択される。

次に視聴者が選択した動作が実行される。

メモリキーK_2 ，リコールメモリキーK_3 ，クリアメモリキーK_4 ，プリセットキーK_5 が選択された場合はそれに対応した動作が実行され、それ以外では通常動作が選択されたものとして取扱う。この通常動作かの判定は、これらK_2 ，K_3，K_4 及びK_5 についてキースキャンをしたときに、それに応じてフラッグを立てておけば、このフラッグを見ることにより実行することができる。

この判定がYesの場合、次のように動作する。

(I)通常動作

視聴者がテンキー（K_1）より選択した番組を読み込み、受信した文字信号の番号がこの読込んだ番組と一致したとき、文字メモリＡと色メモリA′（以下両メモリを総括してメモリＡという。）に文字信号中の文字データと色データをそれぞれメモリＸ（今はＸ＝Ａ）に読み込む。このときメモリセレクト信号ＳＡ，ＳＢ，ＳＣのうちＳＡだけがアクテイブとなつている。従つて、メモリＡ以外のメモリＢとメモリＣは動作しない。

このメモリＸ（今はＸ＝Ａ）の内容は表示期間に読み出されて表示される。

そして、キースキャンによりメモリ，RM，CM，プリセット用のキーK_2 ，K_3 ，K_4 ，K_5 を選択されたか見て、いずれかが選択されていれば、フラッグを立てて通常動作外が選択されたことを知る。

なお、消去信号ＳＥが入力されると、文字メモリと色メモリの内容はすべて消去される。すなわち消去信号ＳＥが低レベルとなると、アンドゲート８１および８３によつて文字データと色データとが低レベルになり、文字メモリと色メモリのデータ入力端子に「０」が入力され、かつアンドゲート３２，３４によつて文字メモリと色メモリのリード・ライト信号（以下R/W信号と記す）SMW及びＳＩＷが低レベルになり書き込み状態となる。以上の状態でメモリアドレス信号ＳＡＤＲの内容が順次インクリメントされるため、文字メモリと色メモリの内容は消去される。

この通常動作では、メモリは選択された番組と一致する文字信号の番組が受信される毎に、その

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新に受信された文字信号中の文字情報が前の文字情報に入れ替わつて読み込まれるため、常に更新され、そしてそれが表示される。

視聴者が残しておきたい文字情報がある場合に、メモリーキーK_2を押すことによりメモリ動作を実行させてそのときに表示される文字情報を残しておき、いつでも好きな時に再生表示することができる。

(Ⅱ)メモリ動作

メモリキーK_2が操作されると、「メモリ？」の判定がYesとなつてメモリXプロテクトが行なわれる。即ち、メモリキーK_2が押されたとき動作中のメモリX例えばメモリAの内容を保持するためメモリAへのデータの書き込みが禁止される。すなわち文字メモリ$R/\overline{W}$信号と色メモリ$R/\overline{W}$信号はAメモリに関する限り常にリード状態に保たれる。なおリード状態は、文字メモリ$R/\overline{W}$信号と色メモリ$R/\overline{W}$信号は高レベルである。

次に、メモリ種類インクリメントX=X+1が実行されるため、メモリAが上記書き込み禁止されたときではメモリBへとセットされる。なお、同様にメモリB，又はCが書き込み禁止されたときではメモリC又はメモリAへとセットされる。

こうしてセットされたメモリがメモリBであれば、通常の動作がメモリBを用いて実行される。

このメモリAに記憶された文字情報を再び表示させたいときには、リコールメモリキーK_3に続いてメモリ選択キーK_Aを押せば、即座にメモリAの内容が読み出されてテレビ画面に表示される。即ち、キーK_3が押されたときは、メモリX即ち動作中のメモリX例えばメモリBがセーブされる。そしてキースキャン(A，B，C)により押されたキーがK_A，K_B，K_Cのどれかを調べ、更にはそれを読み込む(メモリ種類読込)。そして押されたキーに対応するメモリ内容表示が実行される。例えば、キーK_Aが押された場合、メモリAの内容が読み出されてテレビ画面に表示される。

この動作から通常の動作への復帰は、復帰キーK_{10}を押すことにより、「復帰キー入力有？」の判定がYesとなつて実行される。このとき、「メモリXセーブ呼出)が行なわれ、メモリAの内容は保持されたままメモリX即ちメモリBを呼び出してこれを使つて通常の動作が行なわれる。

また新たに残しておきたい文字情報があるときには、再びメモリキーK_2を押すと、その文字情報が今度はメモリBに保持される。このときの動作は上記メモリAの場合と同様である。次にキーK_3に続けてキーK_Bを押すと、即座にメモリBの内容がテレビ画面に表示される。

こうして、メモリA，B，Cを使つて、3画面分の文字情報を同時に保持しておくことができ、いつでも好きな時にキーK_3とキーK_A，K_B又はK_Cの操作によつて即座にその内容をテレビ画面に表示することができる。このとき、メモリセレクト信号SA，SB又はSCがそれぞれキーK_A，K_B又はK_Cの操作によりアクテイブ(動作状態)になる。

次に保持している文字情報を消去したいときには、クリアメモリキーK_4に続けてキーK_Aを押すと、メモリAに保持されていた文字情報が消去される。このとき消去信号SEとメモリセレクト信号SAが同時にアクテイブとなりメモリAの内容を消去する。メモリB，メモリCについても同様の動作を行なう。このとき「メモリXセーブが呼出」に従つてキーK_4が押されたとき動作中であつたメモリXが呼び出されて、このメモリXで通常の動作が実行される。

次に、視聴者があらかじめ、それぞれのメモリについて見たい番組を設定することができ、キーK_A，K_B，K_Cの操作で即座に設定した番組の文字情報がテレビ画面に表示される。

(Ⅲ)プリセット動作

見たい番組のプリセットは、ページ単位，番組単位，放送局単位で指定できる。

ページ単位でプリセットしたいときは、希望の番組をテンキーK_1で選択し、まずプリセットキーK_5に続けてページキーK_7を押してページ単位のプリセットであることを指定する。なお、この場合、まずテンキーK_1で選択された番組が通常の動作で受信されることになり、次のプリセッ

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トキーK_5はメモリキーK_2，リコールメモリキーK_3，クリアメモリキーK_4のいずれでもないため、プリセット動作に入り、次のページキーK_7はキースキャン（ページ，番組，放送局）によつてページ単位のプリセットであることを指定する。勿論ページキーK_7の代りに、番組キーK_8又は放送局キーK_9が押されていれば、番組単位又は放送局単位のプリセットであることが指定される。

しかるのちキーK_Aに続けてプリセットしたいページ数、例えば2ページ目のときは“2##”とテンキーK_1より入力する。このとき表示器Dには“2”が表示される。勿論、メモリAには選択番組中の2ページ目の文字情報が記憶され、テレビ画面に表示される。

次にメモリBに同じ番組の3ページ目を記憶させたいときには、プリセットキーK_5，ページキーK_7，キーK_Bを順々に押したのち、テンキーK_1より「3##」と入力すればよい。以上の操作によりメモリAには2ページ目の文字情報がメモリBには3ページ目の文字情報が記憶される。

このとき2ページ目の文字情報が到来したときにSA信号がアクテイブとなり、メモリAに文字情報を書き込む。そして3ページ目の文字情報が到来したときには、SB信号がアクテイブとなりメモリBに文字情報を書き込む。これらの文字情報を表示させたいときには、キーK_AまたはキーK_Bを押すと2ページ目または3ページ目の文字情報がテレビ画面に表示される。このときLED表示器Dには選択番組のチャンネル数が表示される。以上の操作に続けて、復帰キーK_{10}を押すと、メモリAとメモリBでプリセット動作を継続しながら、メモリCを使つて通常の動作を行なう。プリセット解除キーK_6を押すと、プリセット動作は停止され再びメモリAを使つて通常の動作が行なわれる。

番組単位でプリセットするには、プリセットキーK_5に続けて番組キーK_8を押して番組単位のプリセットであることを指定する。さらにキーK_Aに続けてプリセットした番組、例えば10チャンネルなら「10##」（##と##キーを2回続けて押したときには、プリセットに関する入力の終了を意味する。）をテンキーK_1より入力する。これにより、メモリAには10チャンネルの文字情報が記憶されテレビ画面に表示される。同様にしてメモリB，メモリCにもそれぞれ異なる番組をプリセットすることができ、キーK_A，キーK_B，キーK_Cを押すと、メモリセレクト信号SA，SB，SCがそれぞれアクテイブになり、当該メモリから読み出された文字情報が表示される。プリセットする際に、チャンネル数に続けてページ数を入力すると、番組だけでなくページをも指定することができる。例えば「10#2##」と押すと、10チャンネルのうちの特に2ページ目をプリセットしたことになる。単に「10##」とだけ入力したときには、その番組に関する全部のページの文字情報が文字信号の到来とともに、次々と表示される。復帰キーK_{10}，プリセット解除キーK_6を押したときの動作は、前記ページ単位の場合と同様である。

放送局単位のプリセット動作では、視聴者は異なる放送局の文字放送の番組をそれぞれのメモリに対して設定することができる。例えばNHK（2ch）と朝日放送（6ch）との番組をプリセットしたいときにはプリセットキーK_6に続けて放送局キーK_9を押し放送局単位のプリセットであることを指定する。そのあとキーK_Aを押し、テンキーK_1に「2#10##」と入力し、NHKの10チャンネルを指定する。そのあとキーK_Bを押し、テンキーK_1に「6#20##」と入力し、朝日放送の20チャンネルを指定する。これによりメモリAにはNHKの文字放送10チャンネルが記憶され、メモリBには朝日放送の文字放送20チャンネルが記憶される。このとき文字放送受信装置では、チユーナー電圧を制御してまずNHKの電波を受けて、そのうちの文字放送10チャンネルの文字信号を受信し、その内容をメモリAに記憶させたのち、次にチユーナー電圧を変え、朝日放送の電波を受けて文字放送20チャンネルの文字信号を受信し、その内容をメモリBに記憶させ、再びNHKの電波を受けるという動作を繰り

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返す。プリセットした文字情報を表示させたいときにはキーK_A，キーK_Bを押すと即座にメモリA，メモリBの内容がテレビ画面8に表示される。プリセットの際、放送局チャンネル，番組チャンネルの入力に続けてページ数を入力するとその番組のページをも指定することができる。また単に放送局チャンネルだけを入力すれば、その放送局のすべての番組及びすべてのページの文字情報を順次受信して表示することになる。

メモリ動作とプリセット動作とを同時に行なわせることも可能であり、例えばメモリAをメモリ動作のために使用し、残りのメモリBとメモリCをプリセット動作のために使用することができる。このときには、メモリ動作が優先される。これはメモリ動作により保持された文字情報を保護するためである。

またメモリ動作，プリセット動作においてメモリの内容を1つずつ表示するのではなくて、3つを同時に表示することもできる。第6図はその表示例を示す。このときには、メモリからの読み出しクロックの周波数を3倍にして画面左から順にメモリA，B，Cの文字情報を表示する。メモリセレクト信号SA，SB，SCはそれぞれ第7図に示すA，B，Cの期間アクテイブとなる。

以上は、文字放送伝送方式がパターン伝送の場合の実施例であるが、コード伝送の場合にも応用できる。そのときには文字データをコードで記憶させるためメモリ容量を大巾に減少させることができる。

本発明による文字放送受信装置によれば、或るメモリを従来提案されているような通常の受信動作に用いる一方、他のメモリを通常の受信動作以外に利用して希望の文字情報の記憶に用いたり、希望のプリセット等の動作に必要な記憶に用いたりしてメモリ動作，プリセット動作に利用できるために、希望の番組が到来する迄の待ち時間では他のメモリの内容を表示させながら待つことができることから希望の番組が到来する迄いまか、いまかといらいらしながら待つといつた心理的負担を軽減するのに役立つ等の実用面での効果に見るべきものがある。

4. 図面の簡単な説明

第1図は本発明の文字放送受信装置の一実施例の概要のブロック図を、第2図は同上の具体的なブロック図を、第3図は同上の要部のブロック図を、第4図は同上の前面パネル部の正面図をそれぞれ示し、第5図は同上の動作を説明するフローチャートを示し、第6図及び第7図は同上の動作の他の例におけるテレビ画面及び水平走査期間のメモリ読み出しを説明する図面を示す。

8：文字受信回路、9：操作ボタン，10：文字信号抜取回路、11：バッファメモリ、15，17及び19：文字メモリ、16，18及び20：色メモリ、28：マイクロコンピュータ、21：文字・色混合回路。

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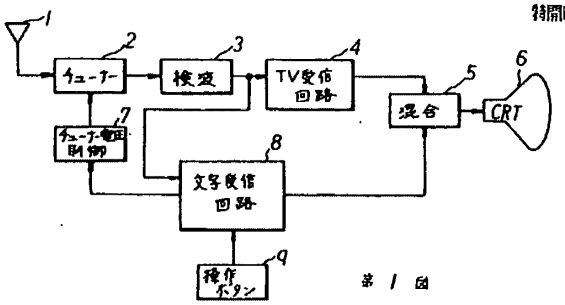
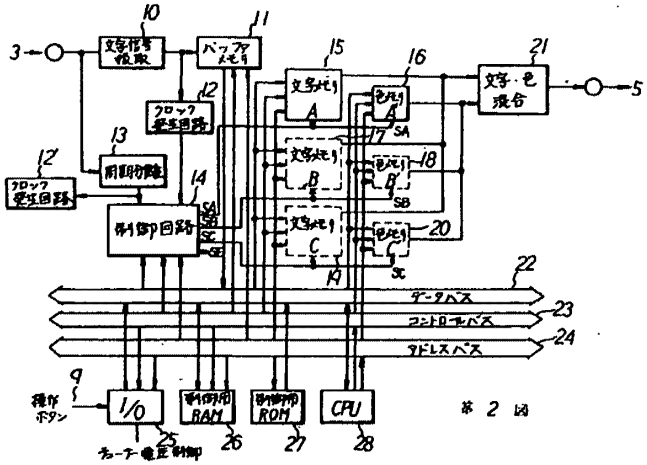
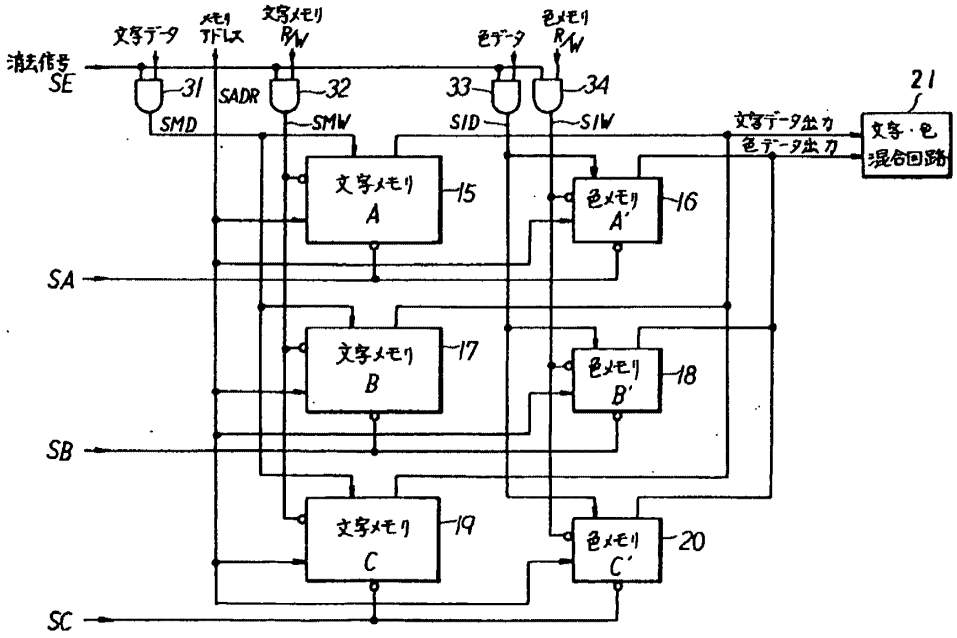


第 1 図



第 2 図



第 3 図

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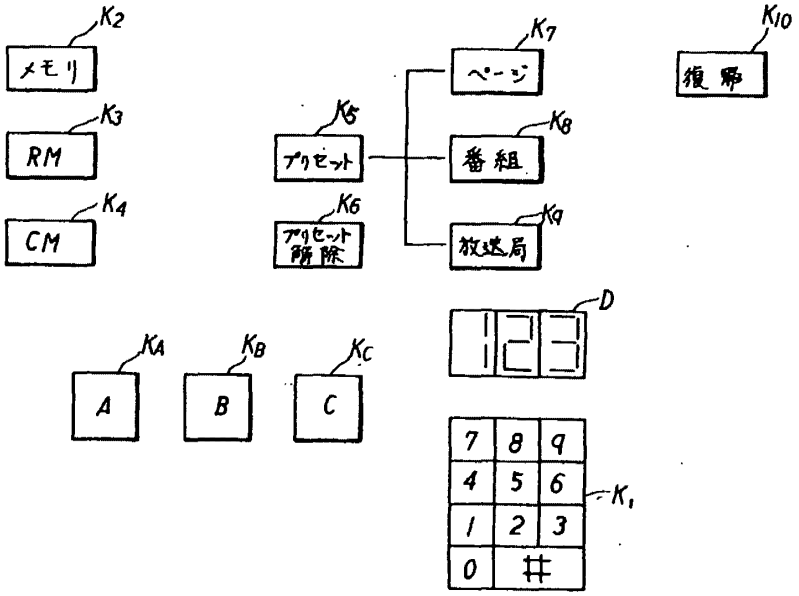
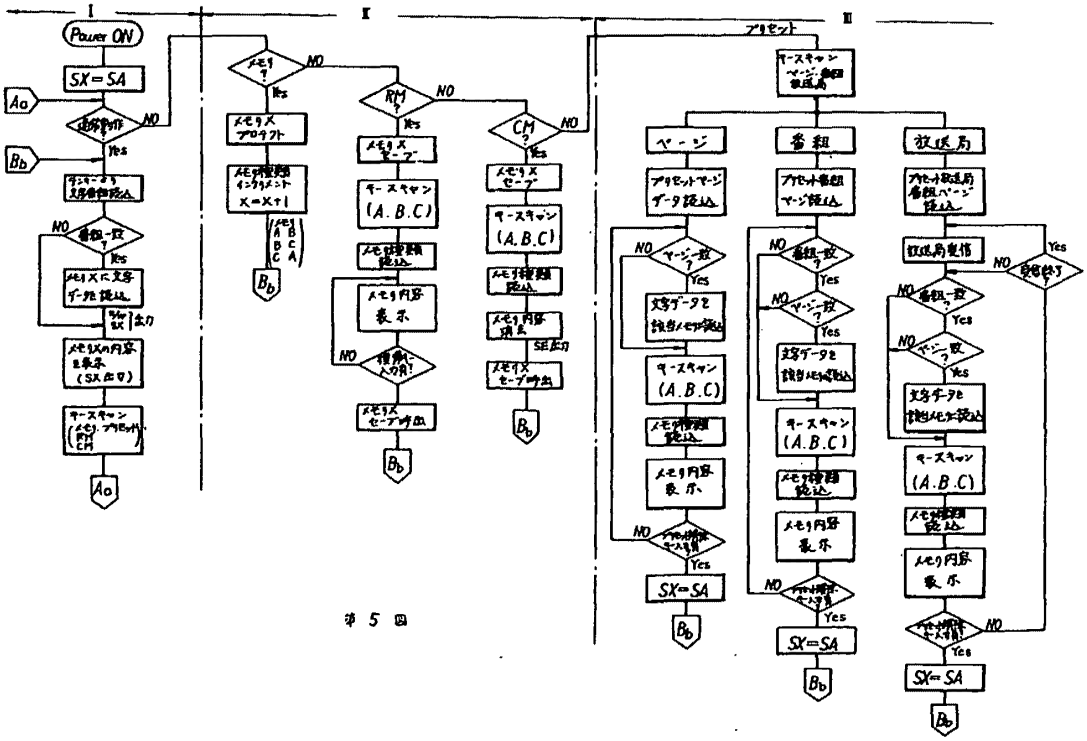


第 4 図



第 5 図

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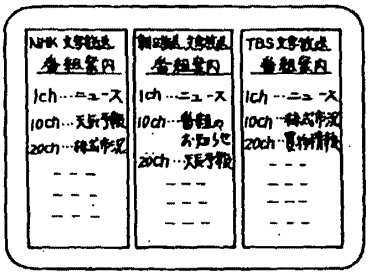
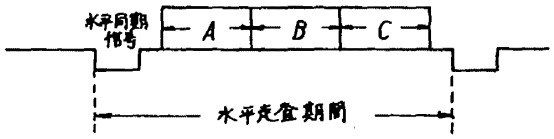


第 6 図



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Google Exhibit 1002, Page 4054 of 6435

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/487,526
Docket No.	:	5634.355
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2611
Examiner	:	Mehta, B.

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Commissioner for Patents
Washington, D.C. 20231

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, applicants respectfully request consideration of the references listed on the attached citation form.

Applicants respectfully request that the Examiner consider the references cited and that the Examiner indicate that the references have been considered in this application by returning a copy of the citation form with the Examiner's initials in the left column per M.P.E.P. § 609.

Applicants submit concurrently identical information disclosure statements in applicants' related actively pending applications. Pursuant to an agreement reached between the Office and applicants (see first Office Action issued in this application), applicants are submitting to the Office a single copy of the references cited in the concurrently filed information disclosure statements.

References cited herein have been asserted against applicants' related issued patents. In accordance with 37 C.F.R. § 1.97, applicants do not admit that each and every reference cited herein is considered to be material to patentability or to be prior art. This Information Disclosure Statement satisfies the requirements of 37 C.F.R. § 1.97(c)(1). No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application and no item of information contained in this information disclosure statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this information disclosure statement. This statement is made to the best of my knowledge after making reasonable inquiry.

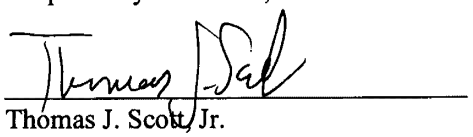
Applicants provide herewith an article by Dr. H. E. Kruger titled "Speicherfernsehen, Das Digitale Kennungssystem ZPS." The English translation of this article has been previously included in an information disclosure statement in this application. However, applicants are now in possession of the original German article. Applicants hereby provide the German article, but have no indication that the German article discloses any additional information than disclosed in the English translation.

Google Exhibit 1002, Page 4056 of 6435

Applicants provide herewith a copy of the book "Interactive Videotex: the Domesticated Computer" by Dimitris N. Chorafas. Applicants have previously included in an information disclosure statement pages 171-183 and the preface of this book. The book in its entirety has been asserted to applicants as relevant to the validity of applicants' related issued patents. Accordingly, applicants hereby provide the book in its entirety. However, applicants are not aware that any particular portion of the book is more relevant than the previously cited pages.

Date: June 18, 2002
HUNTON & WILLIAMS
1900 K Street, N.W.
Washington, DC 20006

Respectfully submitted,



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Google Exhibit 1002, Page 4057 of 6435

INFORMATION DISCLOSURE STATEMENT BY APPLICANT CITATION FORM	Attorney Docket No. 05634.355	Serial No. 08/487,526
	Applicant(s) John C. Harvey and James W. Cuddihy	
	Filing Date June 7, 1995	Group Art Unit 2611

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UNITED STATES PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	PATENT DATE	NAME	CLASS/ SUBCLASS	FILING DATE*
	Re 26,331	1/9/68	Brothman et al.		
	Re 33,189	3/27/90	Lee et al.		
	2,117,638	5/17/38	Walter		
	3,368,031	2/6/68	Eisele		
	3,387,082	6/4/68	Farber et al.		
	3,387,083	6/4/68	Farber et al.		
	3,390,234	6/25/68	Glidden		
	3,430,004	2/25/69	Shenk		
	3,475,547	10/28/69	Sarlund		
	3,478,342	11/11/69	Alldritt et al.		
	3,588,357	6/28/71	Sellari		
	3,624,516	11/30/71	Rando et al.		
	3,737,858	6/5/73	Turner et al.		
	3,813,482	5/28/74	Blonder		
	3,842,206	10/15/74	Barselloti et al.,		
	3,858,240	12/31/74	Golding et al.		
	3,898,378	8/5/75	Hinoshita et al.		
	3,899,639	8/12/75	Cleveley et al.,		
	3,922,492	11/25/75	Lumsden		
	3,936,593	2/3/76	Aaronson et al.,		
	3,958,088	5/18/76	Vieri		
	3,962,535	6/8/76	Haskell		
	3,971,888	7/27/76	Ching et al.		
	3,974,451	8/10/76	Maeder		
	3,988,550	10/26/76	Ts'ao		
	4,006,297	2/1/77	Koga		
	4,011,414	3/8/77	Warren		
	4,027,100	5/31/77	Ishiguro		
	4,031,543	6/21/77	Holz		
	4,045,811	8/30/77	Dingwall		
	4,045,814	8/30/77	Hartung		
	4,047,221	9/6/77	Yasuda et al.		
	4,056,684	11/1/77	Lindstrom		
	4,060,832	11/29/77	Devimeux et al.		
	4,061,577	12/6/77	Bell		
	4,068,265	1/10/78	Russell		
	4,118,669	10/3/78	Fung		
	4,141,034	2/20/79	Netravali et al.		
	4,148,070	4/3/79	Taylor		
	4,189,748	2/19/80	Reis		

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EXAMINER INITIAL	PATENT NUMBER	PATENT DATE	NAME	CLASS/ SUBCLASS	FILING DATE*
	4,195,288	3/25/80	Morton		
	4,196,448	4/1/80	Whitehouse et al.		
	4,201,887	5/6/80	Burns		
	4,203,166	5/13/80	Ehrsam et al.		
	4,215,369	7/29/80	Yukihiko Iijima		
	4,217,609	8/12/80	Hatori et al.		
	4,218,697	8/19/80	Leventer		
	4,222,073	9/9/80	Hirashima		
	4,224,678	9/23/80	Lynch et al.		
	4,238,853	12/9/80	Ehrsam et al.		
	4,238,854	12/9/80	Ehrsam et al.		
	4,258,423	3/24/81	Lane et al.		
	4,271,506	6/2/81	Broc et al.		
	4,302,775	11/24/81	Widergren et al.		12/15/78
	4,306,250	12/15/81	Summers et al.		8/18/80
	4,318,126	3/2/82	Sassler		4/2/80
	4,318,127	3/2/82	Fukuda et al.		8/1/80
	4,318,128	3/2/82	Sauvanet		7/15/80
	4,333,107	6/1/82	McGuire et al.		5/3/79
	4,357,548	11/2/82	Preslar		5/30/80
	4,358,790	11/9/82	Summers		4/18/80
	4,369,462	1/18/83	Tornizawa et al.		8/15/80
	4,369,464	1/18/83	Temime		7/8/80
	4,375,650	3/1/83	Tiemann		4/29/81
	4,381,562	4/26/83	Acampora		5/1/80
	4,419,699	12/6/83	Christopher et al.		
	4,420,833	12/13/83	Noirel		9/22/80
	4,514,761	4/30/85	Merrell et al		
	4,534,024	8/6/85	Maxemchuk et al.		
	4,600,942	7/15/86	Field et al.		
	4,658,292	4/14/87	Okamoto et al.		
	4,695,880	9/22/87	Johnson et al.		7/30/85
	4,713,837	12/15/87	Gordon		12/24/85
	4,736,420	4/5/88	Katznelson et al		9/19/86
	4,777,354	10/11/88	Thomas		1/27/86
	4,780,910	10/25/88	Huddleston et al.		10/24/85
	4,908,859	3/13/90	Bennett et al		
	4,930,160	5/29/90	Vogel		
	4,937,821	6/26/90	Boulton		
	5,099,348	3/24/92	Huddleston et al.		

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* If Pertinent

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY	CLASS/ SUBCLASS	TRANSLATION YES	NO

JUN 18 2002
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JC98

EXAMINER INITIAL	DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY	CLASS/ SUBCLASS	TRANSLATION YES	TRANSLATION NO

OTHER DOCUMENTS

EXAMINER INITIAL	AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
	CHORAFAS, "Interactive Videotex: The Domesticated Computer," 1981, Petrocelli Books, New York
	HINTON, "Character rounding for the Wireless Word teletex decoder," Wireless World, Nov. 1978, pp. 49-53, Vol. 84 No. 1515, IPC Business Press, United Kingdom
	KRUGER, "Speicherfernsehen, Das Digitale Kennungssystem ZPS," Proceedings 9th International Congress Microelectroncis, pp. 39-45
	"Fernsehempfang rund um die Uhr" Funk Technik, Mar. 1981, Vol 36

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).	

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40 / Amdt under CFR 1.129(a) 8-05-02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/487,526
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	Harvey, D.

Box: AF
Hon. Commissioner for Patents
Washington, D.C. 20231

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SUBMISSION UNDER 37 C.F.R. 1.129(a)

Sir:

Applicants request that the finality of the final rejection dated September 4, 2001, be withdrawn in view of this timely filed submission under 37 C.F.R. § 1.129(a). Check no. 2051325 for $740.00 is enclosed for payment of the fee set forth in 37 C.F.R. § 1.17(r). The present application has an effective pendency of at least two years as of June 8, 1995, taking into account any reference of record to any earlier filed application under 35 U.S.C. §§ 120, 121 and 365(c). This petition and the fee set forth in § 1.17(r) are being filed prior to the filing of an appeal brief and prior to abandonment of the application. Applicants therefore respectfully request that the Amendment and Request for Reconsideration under 37 C.F.R. § 1.116 previously filed on February 4, 2002, be entered and considered and that the Response to Interview Summary filed with this submission be considered.

Applicants filed a Notice of Appeal and the appeal fee set forth in 37 C.F.R. § 1.17(b) on March 4, 2002. The instant petition with the payment set forth in 37 C.F.R.

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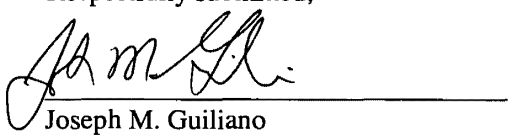
§ 1.17(r) is a request to dismiss the appeal and to continue prosecution under 37 C.F.R. § 1.129(a).

Any additional fees required in connection with the filing of this Submission under 37 C.F.R. § 1.129(a) are hereby authorized to be charged to our Deposit Account No. 06-1075.

If the Examiner has any remaining informalities to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such informalities.

Date: May 3, 2002

Respectfully submitted,



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Google Exhibit 1002, Page 4062 of 6435

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May 6, 2002

In re Patent Application of:
John C. Harvey and
James W. Cuddihy

Attorney Docket No.: **5634.0355**

Application No.: 08/487,526

Group Art Unit: 2614

Filed: June 7, 1995

Examiner: Harvey, D.

Title: SIGNAL PROCESSING APPARATUS AND METHODS

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Commissioner for Patents
Washington, DC 20231

Transmitted herewith is a Submission Under 37 C.F.R. § 1.129(a), and a Response to Interview Summary.

CLAIMS AS AMENDED						
	Claims Remaining After Amendment	Highest Number Previously Paid For	Extra	Rate: Large Entity	Rate: Small Entity	Amount
Number of Claims in Excess of 20	*	20	0	$ 18.00	$ 9.00	$ 0.00
Independent Claims in Excess of 3	*	3	0	$ 84.00	$ 42.00	$ 0.00
First Presentation of Multiple Dependent Claims				$ 280.00	$ 140.00	$ 0.00
Extension Fee: a) One Month				$ 110.00	$ 55.00	$ 0.00
b) Two Months				$ 400.00	$ 200.00	$ 0.00
c) Three Months				$ 920.00	$ 460.00	$ 0.00
d) Four Months				$1440.00	$ 720.00	$ 0.00
e) Five Months				$1960.00	$ 980.00	$ 0.00
Other: Submission After Final Rejection						$ 740.00
TOTAL FEE DUE						$740.00

☐ No additional fee is required.
☒ A check in the amount of $ 740.00 is attached.
☐ Charge $ _____ to Deposit Account No. 06-1075.
☒ Charge any additional fees or credit any overpayment to Deposit Account No. 06-1075.

Small Entity Status Claim:
☐ is hereby requested.
☐ is of record in this application.

Respectfully submitted,

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New York, NY 10020-1104

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/487,526
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	Harvey, D.

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Washington, D.C. 20231

RESPONSE TO INTERVIEW SUMMARY

An Advisory Action was mailed in connection with the above-referenced application on March 12, 2002. Accompanying the Advisory Action was an Interview Summary that purports to summarize a personal interview held on September 26, 2001. The Interview Summary is inaccurate and incomplete in many respects. In addition, there are many new arguments and positions advanced by the Examiner in the Interview Summary for the first time. In the discussion below, applicants have endeavored to clarify the record with respect to inaccuracies and omissions in the Interview Summary. Applicants also provide below remarks setting forth the reasons why the new arguments and positions advanced by the Examiner are without merit. Applicants respectfully request reconsideration of the instant application in view of the following remarks.[1]

[1] Applicants wish to note that none of the arguments, positions or other issues raised in the Interview Summary was applied to or otherwise discussed in connection with any specific (continued...)

I. Response To Issues Related To Support Under 35 U.S.C. § 120

A. Introduction

In Part I of the Interview Summary, the Examiner appears to attempt to set forth a test for determining whether a claim is entitled to the benefit of the filing date of an earlier application under 35 U.S.C. § 120 (2001). Applicants submit that this test and the elements which make up this test are unsupported by and contrary to the relevant legal authorities. Further, applicants submit that the Examiner's discussion of this test is rife with mistaken factual assumptions and misleading characterizations of applicants' applications and the positions taken in connection with those applications.

B. The Law Applicable to § 120

Significantly, the Interview Summary fails to cite any controlling authority to support the many statements set forth in Part I, nor has any attempt been made in the Interview Summary to harmonize those statements with established precedent. In contrast, applicants set forth their view of the proper application of 35 U.S.C. § 120 — *fully supported by citations to controlling legal authorities.*

The test to determine whether a claim is entitled to the benefit of an earlier filing date under 35 U.S.C. § 120 is straightforward:

> To qualify for an earlier filing date, section 120 requires, *inter alia*, that the earlier-filed U.S. patent application contain a disclosure which complies with 35 U.S.C. § 112, ¶1 for each claim in the newly filed application. Thus, this benefit only applies to claims that recite subject matter *adequately* described in an earlier application, and does not extend to claims with subject matter

---

claim of the instant application or any of applicants' related applications. Applicants expressly reserve the right to further respond to the Interview Summary, and the arguments, positions and issues raised therein in the event the Examiner later chooses to reject or object to any pending claim on the basis of such arguments, positions or other issues.

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> outside the description in the earlier application. In other words, a claim complies with 35 U.S.C. § 120 and acquires an earlier filing date *if, and only if, it could have been added to an earlier application without introducing new matter.*

Studiengesellschaft Kohle, m.b.H. v. Shell Oil Co., 112 F.3d 1561, 1564 (Fed. Cir. 1997) (citations omitted; emphasis added).

Section 120 imposes no requirement that a parent and a later filed application use identical or even similar passages to describe the claimed invention. In fact, the case law clearly acknowledges that claims can be supported by disclosures in the earlier and later filed applications in *different* ways:

> [T]he earlier and later applications need not use identical words, if the earlier application shows the subject matter that is claimed in the later application, with adequate direction as to how to obtain it. . . . [A]n invention may be described in many different ways and still be the same invention. . . . In *In re Kirchner*, 305 F.2d 897, 904 134 USPQ 324, 330 (C.C.P.A. 1962) the court held that compliance with section 120 does not require that the invention be described in the same way, in both applications. *Id.*

Kennecott Corp. v. Kyocera Int'l, Inc., 835 F.2d 1419, 1422 (Fed. Cir. 1987).

In *In re Kirchner*, 305 F.2d 897 (C.C.P.A. 1962), the court addressed a factual scenario similar to that of applicants. Specifically, in an opinion by Judge Rich, the C.C.P.A. found that the two disclosures, while different, were not inconsistent and concluded that the applicant was entitled to the priority date of the parent application. At the end of its decision the court described the requirements of § 120:

> Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 and *be* the same invention as that disclosed in the later application. It does not require that the invention be described in the same way, or comply with section 112 in the same way, in both applications.

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Kirchner, 305 F.2d at 904 (emphasis in original). While the *Kirchner* case focused on the different utilities described in the two applications as required by 35 U.S.C. § 101 (2001), the *Kennecott* decision makes it clear that the same logic and analysis is equally applicable to the requirement of written description support under § 112. *See Kennecott*, 835 F.2d at 1422. Accordingly, these two decisions hold that support from the earlier and later filed applications need not be the same to comply with §§ 112 and 120 even if the earlier application is not incorporated by reference into the later filed application.

In fact, applicants have found no cases addressing compliance with § 120 which suggest that the two disclosures identified to support a claim should or need be compared for similarity in any manner. Instead, the case law discussed above establishes that such a comparison is unnecessary and indeed improper. *See Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed. Cir. 1995) ("In order to determine whether a prior application meets the 'written description' requirement with respect to later-filed claims, the prior application need not describe the claimed subject matter in exactly the same terms as used in the claims; it must simply indicate to persons skilled in the art that as of the earlier date the applicant had invented what is now claimed.").

C. The Examiner's Test Under § 120

Rather than applying the straightforward test clearly established by the controlling authorities (as set forth above), the Examiner has instead fashioned a new test. As best applicants can discern from the Interview Summary and the September 4, 2001 Final Office Action, the new test appears to be:

1. Compare the earlier specification to the later specification.
2. If they are different, and if the earlier specification was not incorporated by reference into the later specification, automatically deny applicants' claim of priority to the earlier application.

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Instead of providing any legal authority to support this new test (which applicants believe would be impossible), the Interview Summary sets forth a litany of unsupported, self-serving statements that attempt to justify this new test. These statements, however, are either factually incorrect or contrary to the relevant legal authorities.

For example, the Interview Summary makes the following statements regarding the relationship between a claim's meaning and the disclosure:

> "[The] meaning and scope of a claim's limitations are determined by the disclosure from which the claim's section 112 support is derived." (Int. Sum. P. 4).
>
> "'[T]he claim' defines the invention, while the disclosure defines the meaning and scope of the claim." (Int. Sum. P. 4).

The legal authorities plainly contradict these sweeping statements: "[t]he words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification." M.P.E.P. § 2111.01 (8th ed., Aug. 2001) (citing *In re Vogel*, 422 F.2d 438 (C.C.P.A. 1970)).

The Examiner's command that "one must use the instant disclosure to determine the metes and bound [sic] the claim's limitations" (Int. Sum. P. 5), also places undue emphasis on using the disclosure to interpret the claims. Claims are generally not to be read to incorporate all of the subject matter from the specification. *See Constant v. Advanced Micro -Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988) (although examples from the specification may aid in interpreting a claim, "particular embodiments and examples appearing in the specification will not generally be read into the claims"). Further, "an applicant is not required to describe in the specification every conceivable and possible future embodiment of his invention." *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1344 (Fed. Cir. 2001) ("it is the claims that measure the invention, as informed by the specification. Specifications teach. Claims claim."). Accordingly,

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the Examiner's focus on using applicants' specifications to interpret the claims in such a way to create artificial conflicts in interpreting applicants' pending claims is unjustified and unsupported by the law. *See Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed. Cir. 1999) ("words in patent claims are given their ordinary meaning in the usage of the field of the invention, unless the text of the patent makes clear that a word was used with a special meaning."); *Rexnord*, 274 F.3d at 1342 ("unless compelled to do otherwise, a court will give a claim term the full range of its ordinary meaning as understood by an artisan of ordinary skill.").

Further, on the basis of the flawed assumption that the disclosure defines the meaning and scope of the claims, the Interview Summary asserts that:

> "If identically worded claims are drafted within significantly different disclosures, then it is the examiner's belief that the scope/meaning/'broadest reasonable interpretation' of these identically worded claims will (most likely) differ too." (Int. Sum. P. 4).

and

> "the mere fact that the *scope and meaning* of each claim as defined by the current 1987 disclosure necessarily differs from the *scope and meaning* of each claim defined by the 1981 disclosure, is enough to deny applicant his claim to the earlier 1981 filing date; e.g. because it shows that the current 1987 *scope and meaning* of each claim does not constitute/encompass '*common subject matter*' . . . ." (Int. Sum. P. 4).

However, the Federal Circuit has stated that "'[i]t is axiomatic that, in proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification, and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.'" *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990) (quoting *In re Sneed*, 710 F.2d 1544, 1548 (Fed. Cir. 1983)). Accordingly, the PTO should give identically worded claims in the same art the same broad interpretation unless such interpretation is not consistent with the specification. *See* M.P.E.P.

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§ 2111 (8th ed. 2001) ("During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.'"). In the instant application, the Examiner has failed to demonstrate how the broadest reasonable interpretation of any claim is inconsistent with either the 1981 or 1987 specification.

In addition to being legally suspect, the Examiner's position articulated in the above quotes is misleading. The Examiner's position presumes that an identically worded claim is supported by "significantly different disclosures." However, the mere fact that two disclosures are "different" does not mean the disclosures are inconsistent, and if the differences are not inconsistent there need not be different claim interpretations. Indeed by definition, any CIP application will be different from its parent application. Often, the CIP will add significant improvements and enhancements over what is disclosed in its parent application. This common practice does not mean that CIP applicants are automatically denied the priority date of their parent applications. The important question is whether the proper test for continuity under § 120 is satisfied. Just because a CIP application is different from the parent application, even significantly different, does not automatically mean that the earlier teachings of the parent application are not included in the CIP application.

There is no suggestion in the M.P.E.P., or elsewhere in patent law, that a claim should be give one interpretation based on a parent disclosure and another interpretation based on a consistent subsequent disclosure. To the contrary, as discussed above, the Examiner is specifically instructed in the M.P.E.P. to give each claim its broadest reasonable interpretation consistent with the specification.

The following quotes address the determinative step in the Examiner's test for priority under § 120:

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> "If the scopes/meanings/'broadest reasonable interpretations' of the respective claims do in fact differ, e.g. if the respective interpretations provided by the respective disclosures fail to *perfectly* circumscribe the same subject matter, the '*common subject matter*'" is not being claimed with respect to the two different disclosure even though the claims' wording is identical." (Int. Sum. P. 4).
>
> "[F]or priority to be established, it must also [be] shown that what is being circumscribed by the pending claim(s) is 'common subject matter.'" (Int. Sum. P. 8).

First, applicants must respectfully point out that these statements are not well understood. The notion of a patent disclosure "perfectly circumscrib[ing]" the claimed subject matter is not articulated in any published federal court opinion, as best applicants can tell after a diligent search. Applicants believe that the Interview Summary intends to argue that the scope of a given claim is limited to what is disclosed in the specification. Following this faulty premise, the conclusion seems to be that since the parent and CIP specifications are different, the claim cannot be afforded the benefit of the earlier filing date because the claim would cover more than it otherwise would. The problem with this position is that the premise is utterly unsupportable. The controlling legal authorities make clear that a claim can (and indeed often will) cover more than the disclosed embodiments. *See Gart v. Logitech, Inc.*, 254 F.2d 1334, 1343 (Fed. Cir. 2001) (refusing to read limitations from the specification into a claim and noting that "it is well established that broad claims supported by the written description should not be limited in their interpretation to a preferred embodiment"). A claim may properly cover more than what is disclosed in the CIP disclosure, more than what is disclosed in the parent disclosure, and more than what is disclosed in both. This is plainly not a proper basis to deny a claim of priority under § 120.

The Interview Summary incorrectly attempts to characterize applicants' position on this point as follows:

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> "[T]he examiner strongly disagrees with applicant [sic] suggestion that a given claim is necessarily entitled to the filing date of a parent application simply by showing that the claim can read on the different disclosures of the continuing applications" (Int. Sum. P. 7-8).

Applicants, however, never asserted (at the interview or elsewhere) that priority is established based on "showing that the claim can read on the different disclosures of the continuing applications." Generally, the terminology "read on" is invoked in infringement analysis for determining whether a claim covers an accused device. Applicants do not believe an analysis of whether a claim "reads on" different disclosures is the appropriate way to articulate the proper test applicable to § 120. Applicants have identified above what they believe the proper test to be.

D. The Examiner's Application of His Test For Priority

In addition to misstating the proper test under § 120, the Interview Summary makes incorrect factual assertions about applicants' pending applications and mischaracterizes applicants' position with respect to those applications in applying the new test for priority to applicants' 1981 and 1987 disclosures.

For example, the Interview Summary asserts that:

> "[b]ecause each of applicants currently pending amending claims derives at least part of its section 112 support from teachings and subject matter that is found only in applicant's current 1987 disclosure, each of the currently pending claims is (at best) only entitled to the 1987 original filing date of the current disclosure." (Int. Sum. P. 4).

This position is incorrect for a number of reasons. First, the Interview Summary mistakenly assumes that the 1981 and 1987 specifications describe different and inconsistent inventions. In fact, both specifications describe the inventions disclosed in the 1981 specification, although the 1987 specification contains many enhancements and improvements.

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Because the Interview Summary assumes the two specifications are different and inconsistent, it further and incorrectly assumes that if there is support in the 1987 disclosure, similar and valid support cannot exist in the 1981 disclosure. Both of these false assumptions lead to an incorrect conclusion.

The fact that the support identified in the 1987 specification for a certain feature (or limitation) also happens to include additional features or details relating to the same underlying feature (or limitation) disclosed in the 1981 specification, does not mean that both specifications do not support the feature or limitation with similar and valid "common subject matter" support. The mere presence of the additional details and enhancements in the 1987 specification does not deprive applicants of the 1981 priority date unless the claim limitation or feature is only supported by such additional details and enhancements which are not found in the 1981 specification. *See Kennecott*, 835 F.2d at 1422. Applicants' firmly dispute any implication by the Examiner that the pending claims for which applicants' assert a 1981 priority date derive § 112 support from subject matter that is only found in the 1987 disclosure.

Like Kirchner, applicants have written claims that are directed to subject matter that is found and supported in both applications. In *Kirchner*, the claim was directed to a chemical compound itself. None of the disclosed uses of that compound, which differed in the two disclosures, were ever claimed. In the instant application, the claims are directed to certain fundamental teachings that are found and taught in both disclosures. Just as Kirchner would not have been able to obtain priority to the parent application for claims that included limitations directed to a use of the compound that was only disclosed in the CIP application, applicants would not be entitled to a 1981 priority date for claims that include limitations directed to, and which are only supported by, details, enhancements or features only found in the 1987

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disclosure. As applicants have argued, none of applicants' claims of the instant application are directed to the details, enhancements or features which reside only in the 1987 application. The important point on this issue is that the starting point for determining whether an applicant is entitled to priority under § 120 is *what is being claimed.* Without identifying precisely what is being claimed, it is impossible to seriously undertake an analysis of whether sufficient support exists in both applications thus entitling applicants to a 1981 priority date.

In Part V of the Interview Summary, the Examiner acknowledges that "[a]pplicant can certainly point in the direction of the 'WALL STREET WEEK' application [example] being representative of an alleged 'common theme', however the recitations of all of the introduced claims go far beyond the broad 'WALL STREET WEEK' concept." (Int. Sum. P. 11). First, the implication that the WALL STREET WEEK ("WSW") example is the only common subject matter supporting applicants' claims is false. The entire basic system in which signals are transmitted with television programming and processed at intermediate and remote stations is common to both applications. Further, in addition to the WSW example there are numerous other examples, features and components of this system that are found and disclosed in both applications including, for example, much of the "cooking show" disclosure. As applicants have repeatedly argued, all of the claims for which applicants assert a 1981 priority date are supported by these common teachings disclosed in both the 1981 and 1987 specifications.

Applicants further assert that because demonstration of sufficient written description support or lack thereof can only be accomplished in the context of a specific claim, it is entirely inappropriate for the Examiner to issue blanket rejections of applicants' priority claim without addressing precisely how a specific claim is not supported by the common disclosure cited by applicants. *See In re Alton*, 76 F.3d 1168, 1172 (Fed. Cir. 1996) (If, on the other hand, the

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specification contains a description of the claimed invention, albeit not *in ipsis verbis* (in the identical words), then the examiner or Board, in order to meet the burden of proof, must provide reasons why one of ordinary skill in the art would not consider the description sufficient.).

The presence of additional details and enhancements in the 1987 specification does not require the Examiner to read such details or enhancements (limitations) into a claim when interpreting the claim for purposes of determining whether written description support exists. As already discussed, both the law and the M.P.E.P. instruct Examiners to give claims the broadest reasonable interpretation consistent with the specification. So long as additional details or enhancements present in the 1987 specification are not inconsistent with a broad claim interpretation that would be supported by both disclosures, it would be improper to use details or enhancements from the 1987 specification to interpret a claim narrowly. Accordingly, the Examiner's position is mistaken and unsupported by the law.

E. Response to Hypothetical Examples Discussed at the Interview

Part IV of the Interview Summary purports to summarize a discussion in which several hypothetical examples were considered in an effort to reach an agreement on the proper test for continuity under § 120. No claims of the instant application were discussed and no comparisons of the hypothetical examples to the claims pending in the instant application were made. For reasons not understood by applicants, the Interview Summary addresses only one of the several hypothetical examples discussed at the interview. Conspicuously absent from the Interview Summary is any reference to the simplest example discussed. In this omitted hypothetical, the parent application disclosed:

1) a transmitter station;
2) a receiver station; and
3) the transmission of data from the transmitter station to the receiver station using a communication protocol.

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In the same hypothetical, the CIP application did not incorporate the parent by reference. The hypothetical CIP application disclosed:

1) a transmitter station;
2) a receiver station; and
3) the transmission of data from the transmitter station to the receiver station using a newly invented communications protocol that is explained in detail in the CIP application, but which was not disclosed in the parent application.

It is applicants' position that if the proper legal analysis (as set forth above in section I.B) was conducted with respect to a claim in the CIP application directed to "transmitting data from a transmitter station to a receiver station using a communications protocol," such claim would likely be entitled to the benefit of the parent application's filing date (assuming the requirements of copendency, common inventorship, and cross-reference to earlier application were met). In other words, the fact that the applicant disclosed the new, inventive communications protocol in the CIP application as the way to communicate data does not automatically deprive the claim of the benefit of the earlier date. This would be the case even if the applicant admitted that the new, inventive communications protocol constituted part of the best mode of practicing the claimed invention at the time the CIP was filed (*see* section II below). To automatically deprive the applicant of the earlier date would contravene public policy by discouraging the disclosure of new inventions, and would be contrary to the Constitutional mandate to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. Const. art. I, § 8.

In discussing the other examples raised during the interview (including the bridge/boat example referred to in the Interview Summary), applicants specifically pointed out that the hypothetical CIP claim *may or may not* be entitled to the benefit of the earlier filing date. The critical point is that the only way to make a determination as to priority is by conducting the

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proper legal analysis (as discussed in Section I.B above) — not by summarily dismissing the priority claim simply because the disclosures are different.

Significantly, the Interview Summary seems to acknowledge that in the bridge/boat example, it may be possible that generic disclosure may be found in both the parent and CIP applications that would entitle the CIP claim to the benefit of the parent's filing date (again, the only way to determine this is to conduct the proper analysis as set forth above). But rather than acknowledge an agreement on this point, the Interview Summary presents an even more far-fetched hypothetical involving train trestles and boats. Without offering any support or justification, the Interview Summary states that this new example is "a more accurate representation of the state of the present prosecution." Applicants strongly disagree with this characterization of the state of applicants' claims being prosecuted. No analysis of any kind has been provided by the Examiner to justify this bald assertion.

In contrast, the prior submissions provided by applicants on the written description support issue plainly demonstrate, on a proper claim-by-claim (and even element-by-element) basis, that common subject matter from the 1981 and 1987 specifications is relied upon to support the claims of the instant application. Moreover, these prior submissions demonstrate, contrary to the sweeping, unsupported statements made in the Interview Summary, that the fundamental teachings of the 1981 application were in fact "carried forward" into the 1987 application. Accordingly, any objection to applicants' claim of priority to the 1981 application should be withdrawn.

F. Response to the Incorporation by Reference Issue Discussed in the Interview Summary

Part VIII of the Interview Summary inaccurately summarizes applicants' position concerning the incorporation of the 1981 subject matter into the 1987 disclosure. During the

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interview applicants informed the Examiner that they are unaware of any controlling authority that holds that a CIP application must incorporate its parent application by reference in order for the CIP claim to obtain the benefit of the parent's filing date. Applicants also cited the authority supporting applicants position that *in haec verbe* support is not required to support a claim. *See Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed. Cir. 1995) ("the prior application need not describe the claimed subject matter in exactly the same terms as used in the claims"). No contrary legal authority has ever been cited by the PTO.

At the interview, applicants further questioned why it would be necessary to incorporate the parent disclosure, by reference or in full-text format, if the subject matter of the parent application is properly disclosed in the CIP application in an integrated manner with the enhancements and improvements of the CIP application. No response to this question was offered by the Examiner during the interview. Applicants' point is that incorporating the parent, either by reference or in full-text format, into a CIP application that discloses the subject matter of the parent in an integrated fashion does nothing more than add unnecessary duplicative content to the CIP application. As set forth above, applicants have established in their prior submissions that all of the fundamental teachings of the 1981 disclosure were in fact carried forward to the CIP application, albeit in an integrated fashion with the many enhancements and improvements of the CIP application. Thus, there was no need for applicants to explicitly incorporate the parent application into the CIP application in full-text format or by reference.

G. Response to the Interview Summary's Discussion of the Term "Programming"

Part II of the Interview Summary alleges that applicants made an admission during the interview with respect to the term "programming." Applicants respectfully submit that no such admission was made. Applicants have consistently maintained (see Applicants' Amendment and

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Request For Reconsideration filed February 4, 2002) that there is nothing about the use of the term "programming" in the 1981 and 1987 specifications that precludes applicants from claiming the benefit of the 1981 filing date for claims that recite that term. For the reasons set forth below, the term "programming" is not used inconsistently in the 1981 and 1987 specifications.

The Examiner's assumptions about the definition of programming in the two specifications and his conclusions about the effect the of those definitions on applicants' claim to a 1981 priority date are misplaced. Particularly telling is the fact that the Examiner had to craft an entirely new definition of programming in order to advance this argument. Specifically, in the Final Office Action dated September 4, 2001, the Examiner stated that applicants' 1981 definition of programming was limited to "scheduled radio and television shows." Yet nowhere in the 1981 specification is the term so limited. Indeed, the abstract of the 1981 application states: "'Programming' here means everything that is transmitted over television or radio intended for communication of entertainment or to instruct or inform."[2] U.S. Pat. No. 4,694,490 Abstract, ll. 4-7. Moreover, the 1981 specification demonstrates that the term is not limited as suggested by the Examiner. The 1981 specification states:

> It is the object of this invention to unlock this potential by the development of means and methods *which permit programming to communicate with equipment that is external to television and radio receivers, particularly computers and computers peripherals such as printers.*

1981 Spec., col. 1, ll. 36-41 (emphasis added); *see also* 1981 Spec., col. 4, ll. 26-28 ("Signals may also be transmitted on frequencies outside the ranges of television and radio.")

[2] The verb "instruct" in various forms is used about 38 times throughout the 1981 specification to consistently refer to signals that control equipment. For example, at column 19, lines 48-67 of U.S. Patent 4,694,490, programming specifically includes signals that instruct the microcomputer.

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The Examiner offers no support for his assertion in the Final Office Action that the 1981 definition is more narrow than the 1987 definition and limited to "scheduled radio and television shows." In direct contrast to the Examiner's narrow interpretation, the 1981 definition is expansive and, like the 1987 definition, the only type of information that does not fall under the definition is transmitted information that is not intended to entertain, instruct or inform. Other types of transmitted information besides television and radio shows that are disclosed in the 1981 specification, such as signals, codes, instructions and broadcast print in electronic format, clearly fall within the definition of programming. Such information may be embedded in a television show transmission and is intended to entertain, instruct or inform.

There is thus no basis for the Examiner to attempt to limit the 1981 definition of "programming" to "scheduled radio and television shows." To the contrary, the 1981 definition implicitly includes, and the 1987 definition expressly includes, computer programming in the definition. As set forth above, the instruction signals disclosed in applicants' 1981 specification (*see* col. 19, ll. 48-53 and 60-67) clearly constitute a computer program. *Webster's Seventh New Collegiate Dictionary* (copyrighted 1977 by G. & C. Merriam Co., Springfield, Mass.) defines a program in the context of a computer as "a sequence of coded instructions that can be inserted into a mechanism (as a computer)." The instruction signals disclosed in the 1981 specification and implicitly included within the definition of programming must be considered to be what is now, and was in 1981, widely known as a computer program or computer programming.

The instructions, codes and signals included in a television transmission clearly fall under the definition of programming. Limiting the 1981 definition of programming to "scheduled radio and television shows" directly contradicts the entire purpose of the inventions disclosed in 1981. Accordingly, applicants have not defined the term programming inconsistently in the two

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specifications, and their use of the term "programming" in the pending claims finds consistent and sufficient support in both the 1981 and 1987 applications.

The Interview Summary also asserts, without providing any examples or support, that other claim terms are used inconsistently in the 1981 and 1987 specifications. (Int. Sum. P. 6-7). Applicants respectfully disagree, and reserve the right to address this point further if any specific examples are ever provided.

II. Best Mode

A. The Proposed Best Mode-Based Test for Continuity Under § 120 is Unsupported

The discussion in Parts VI, VII, XI, and X of the Interview Summary asserts that applicants cannot be entitled to priority under 35 U.S.C. § 120 because applicants updated the best mode upon filing their CIP application. The best mode analysis advanced in the Interview Summary is legally flawed and not based on facts presented during the prosecution of the instant application.

The Interview Summary asserts, but fails to demonstrate, that the technology of applicants' 1981 disclosure was not carried forward into applicants' 1987 disclosure. Based on this erroneous assumption, the Interview Summary applies a heretofore unheard of best mode analysis to deny applicants the benefit of the 1981 priority date. Of course, if it were true that none of the 1981 disclosure was carried forward into the 1987 disclosure, it would be axiomatic that any claims based on the 1987 disclosure would not be entitled to the benefit of priority under 35 U.S.C. § 120. But if that were the case, the Examiner would not need to resort to a novel application of the best mode requirement.

In its attempt to deny applicants the benefit of their 1981 priority filing date using a "best mode" analysis, the Interview Summary fails to take into account several fundamental principles

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of the best mode requirement. When these basic principles are taken into account, it should be clear that this new best mode-based test for continuity will not withstand scrutiny.

First, applicants are not required to consider one mode better than any other. *Chemcast Corp. v. Arco Industries Corp.*, 913 F.2d 923, 927-28 (Fed. Cir. 1990); *see also* M.P.E.P. § 2165 (8th ed. 2001). In the situation where an applicant does not consider one mode of practicing his invention better any other, there will be no "best mode" in the disclosure. *See Minco, Inc. v. Combustion Eng'g, Inc.*, 95 F.3d 1109, 1115 (Fed. Cir. 1996). ("Before an inventor can conceal a best mode, the record must first show his appreciation of the superiority of one mode over those modes disclosed in the specification"). There is thus no requirement that an applicant have a best mode. Rather, the requirement is *if* applicants have a best mode at the time of filing the patent application *then* that best mode must be set forth in the specification. The Examiner has not determined that applicants considered one mode of practicing the invention to be better than any other. For many of the inventions claimed in this and applicants' related applications, applicants' did not consider any particular embodiment to be better than any other.

Second, even if applicants have a best mode, they are not required to identify which disclosed embodiment is the best mode. *See* M.P.E.P. § 2165.01 III (citing *Ernsthausen v. Nakayama*, 1 USPQ2d 1539, 1549 (Bd. Pat. App. & Inter. 1985)). Thus, if several embodiments are disclosed, any unknown one may be the best mode (assuming the inventor had one at all).

Third, the M.P.E.P. specifically acknowledges that these issues[3] are very unlikely to be known to the Examiner:

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[3] Another issue related to best mode concerns the allegation that an applicant has concealed the best mode during prosecution. *See* M.P.E.P. § 2165.04 (in determining the adequacy of a best mode disclosure, *only* evidence of concealment is to be considered by the Examiner). Applicants have not concealed any preferred embodiment from the public, nor has (continued...)

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> "The information that is necessary to form the basis for a rejection based on the failure to set forth the best mode is rarely accessible to the examiner . . . . "
>
> "There is no requirement in the statute that applicants point out which of their embodiments they consider to be their best; that the disclosure includes the best mode contemplated by applicants is enough to satisfy the statute."
>
> "The absence of a specific working example is not necessarily evidence that the best mode has not been disclosed, nor is the presence of one evidence that it has."
>
> "The failure to disclose a better method will not invalidate a patent if the inventor, at the time of filing the application, did not know of the better method OR did not appreciate that it was the best method."

M.P.E.P. §§ 2165 - 2165.03.

The Interview Summary offers nothing to demonstrate how these barriers can be overcome in conducting the Examiner's new best mode-based test for continuity. Instead, *for each claim*, the Examiner is forced to: 1) assume that applicants had a best mode in 1981; 2) guess at what that best mode might have been; 3) assume applicants had a best mode in 1987; 4) guess at what that best mode might have been; and 5) surmise, based on these unsupported assumptions and guesses, that the hypothetical best mode changed from 1981 to 1987.

The new test proposed by the Examiner is plainly unworkable. It should come as no surprise that applicants have been unable to locate a single case that even arguably supports this test. Applicants respectfully request consideration of the following point: if it is assumed, *arguendo*, that applicants had no best mode in 1981 or in 1987 for a given claim (i.e., that

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the Examiner asserted that they have. To the contrary, the Examiner proposes to penalize applicants for providing later conceived embodiments in the CIP application. The Examiner's attempt to penalize applicants for providing additional disclosure is antithetical to the best mode requirement, which promotes the full disclosure of the invention in return for the exclusive rights bestowed by the patent grant.

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applicants considered no embodiment better than any other for a given claim), what would be the outcome of the newly proposed best mode-based test for continuity? Clearly, the test does not work. Accordingly, applicants request that this test no longer be applied, and that applicants' claim of priority to the 1981 application be properly examined — on a claim-by-claim basis — under the clear guidelines established in the controlling authorities discussed in Section I.B above.

B. The Examiner's Best Mode Analysis is Based on Unsupported Assumptions

Notwithstanding the fact that the Interview Summary's test for continuity based on the best mode is fundamentally flawed, the application of the test to the instant circumstances is based on numerous errors and unsupported assumptions. The Interview Summary states that "it appears that 'SPAM' represents the 'best mode' that was described within applicant's instant 1987 disclosure whereas something other than 'SPAM' represents the 'best mode' that was described in applicant's 1981 disclosure; i.e. . . . assuming that the best mode was described in both applications." (Int. Sum. P. 14). To reach this conclusion, the Interview Summary must improperly assume that: 1) that applicants had a best mode of carrying out the invention; 2) that the disclosure has a single best mode for all of applicants' pending claims; and 3) that applicants chose to update their best mode (if one exists) in their CIP application. (Int. Sum. P. 13).

As an initial matter, without reference to a particular claimed invention it is impossible to state whether applicants did or did not contemplate a best mode of carrying out the invention. Accordingly, each of the three erroneous assumptions are flawed because they bypass any attempt to first identify the claimed invention. "[T]he first task in any best mode analysis is to define the invention at hand." *Northern Telecom Ltd. v. Samsung Elecs. Co.,* 215 F.3d 1281, 1286 (Fed. Cir. 2000). Both the 1981 specification and the 1987 specification describe systems

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with multiple configurations and operations. It simply cannot be said which of these configurations and operations, if any, were considered by applicants to be the best mode without reference to a claim that defines the invention at issue. It is error for the Examiner to make any assumptions about a best mode by reference only to the disclosure without identifying the invention at issue.

C. The Examiner Mischaracterizes Applicants' Disclosures

In addition to the erroneous assumptions, the Interview Summary incorrectly characterizes the 1981 and 1987 disclosures. The Interview Summary states "the 1987 disclosure and the 1981 disclosure represent different 'best modes': e.g. the 'on'/'off' trigger/cueing signals of the 1981 disclosure were replaced by 'SPAM', the circuit configurations of the 1981 disclosure were replaced by 1987 circuit configurations, new modes for processing 'SPAM' were incorporated into all the added 1987 illustrated structures, etc." (Int. Sum. P. 14-15). The fact that applicants' CIP application includes new matter is not evidence that applicants did not carry forward previously disclosed modes of carrying out the claimed inventions. Many of the signals described in the 1987 specification under the discussion of SPAM perform the same functions in the same systems as signals described in the 1981 specification. Although the drawings of the 1987 specification are updated with respect to the drawings of the 1981 specification, there are many illustrated features that remain exactly the same (for example, compare 1987 Spec. Fig. 2 and U.S. Patent No. 4,694,490 Fig. 1 which are substantially identical) and many other close similarities between the drawings (for example, compare 1987 Spec. Figs. 6A & 6B and U.S. Patent No. 4,694,490 Figs. 3A, 3B & 3C). Specific structures of "SPAM" signals and new manners of processing them were disclosed in the 1987 specification, however, there is no support for the assumption applicants replaced the disclosure

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of a best mode of carrying out a claimed invention with the added matter. To the contrary, applicants may not have had a best mode or the best mode may have been described in the subject matter that is included in both the 1981 specification and in the 1987 specification. Again, it is impossible to make this determination without reference to a particular claimed invention.

The Interview Summary asserts that "the validity of all of the currently pending claims necessarily rests on 'SPAM', e.g. being that 'SPAM' was introduced via the 1987 disclosure and comprises all of the control/instruct signals that are transmitted by the 1987 alleged inventions, all of the currently pending claims only get the 1987 filing date." (Int. Sum. P. 14) This premise is unsupported and wrong. Although the term "SPAM" was introduced in the 1987 disclosure, all of the control and instruct signals so labeled were not introduced in the 1987 disclosure. Many of the control signals and instruct signals labeled "SPAM" in the 1987 disclosure were originally disclosed in the 1981 disclosure[4] (for example, compare U.S. Pat. No 4,694,490, col. 2, l. 64 - col. 3, l. 12 and col. 4, ll. 36-46 with 1987 Spec., p. 14, l. 25 - p. 15, l. 6 and p. 40, l. 16 - p. 43, l. 23; further details of SPAM signal structure disclosed at p. 43, l. 30 - p. 84, l. 23). Accordingly, the validity of claims directed to "SPAM" signals do not necessarily rest on new matter introduced in the 1987 CIP disclosure.

Part X of the Interview Summary states, "[T]he old system configurations and the old transmission system technology of the 1981 disclosure were not carried forward into the 1987 disclosure." To the contrary the system configurations and the transmission system technology of the 1981 disclosure were carried forward into the 1987 disclosure. Applicants have demonstrated this with regard to specific claimed subject matter in prior submissions in this and

[4] In fact the title of the 1981 application is "Signal Processing Apparatus and Methods."

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many of applicants' related applications. It is error to make a blanket, wholly unsupported statement that subject matter was not carried forward. The Examiner's statement that subject matter was not carried forward must be directed to specific claimed subject matter. The statement should also be the conclusion of an argument properly supported by evidence on the record of the application. It is improper for the Examiner to simply presume that claimed subject matter was not carried forward as a foundation for constructing any rejection under the first paragraph of 35 U.S.C. § 112.

D. The Examiner Misinterprets *Transco*

The Interview Summary attempts to rely on the following quote from the *Transco* decision:

> It must be understood that the introduction of a new best mode disclosure would constitute the injection of "new matter" into the application and automatically deprive the applicant of the benefit of the earlier filing date of the parent or original application for any claim whose validity rests on the new best mode disclosure.

Transco Products Inc. v. Performance Contracting, Inc., 38 F.3d 551, 558 (Fed. Cir. 1994). The Interview Summary grossly misinterprets the above quote, which simply stands for the well-established proposition that an applicant cannot claim the benefit of an earlier date if the earlier application does not support the claim under § 112. Significantly, the Interview Summary acknowledges that the above quote is *dicta* and not authoritative with respect to the new best mode-based test for continuity set forth in the Interview Summary. Given that (i) the one cited case has been admitted to be non-authoritative, and (ii) no other supporting authority has been provided, the new best mode-based test for continuity under § 120 set forth in the Interview Summary must be considered without merit and therefore withdrawn and not further applied.

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PATENT & TRADEMARK OFFICE

40 / Amdt under CFR 1.129(a) 8-05-02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/487,526
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	Harvey, D.

Box: AF
Hon. Commissioner for Patents
Washington, D.C. 20231

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Technology Center 2600

SUBMISSION UNDER 37 C.F.R. 1.129(a)

Sir:

Applicants request that the finality of the final rejection dated September 4, 2001, be withdrawn in view of this timely filed submission under 37 C.F.R. § 1.129(a). Check no. 2051325 for $740.00 is enclosed for payment of the fee set forth in 37 C.F.R. § 1.17(r). The present application has an effective pendency of at least two years as of June 8, 1995, taking into account any reference of record to any earlier filed application under 35 U.S.C. §§ 120, 121 and 365(c). This petition and the fee set forth in § 1.17(r) are being filed prior to the filing of an appeal brief and prior to abandonment of the application. Applicants therefore respectfully request that the Amendment and Request for Reconsideration under 37 C.F.R. § 1.116 previously filed on February 4, 2002, be entered and considered and that the Response to Interview Summary filed with this submission be considered.

Applicants filed a Notice of Appeal and the appeal fee set forth in 37 C.F.R. § 1.17(b) on March 4, 2002. The instant petition with the payment set forth in 37 C.F.R.

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§ 1.17(r) is a request to dismiss the appeal and to continue prosecution under 37 C.F.R. § 1.129(a).

Any additional fees required in connection with the filing of this Submission under 37 C.F.R. § 1.129(a) are hereby authorized to be charged to our Deposit Account No. 06-1075.

If the Examiner has any remaining informalities to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such informalities.

Date: May 3, 2002

Respectfully submitted,

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May 6, 2002

In re Patent Application of:
John C. Harvey and
James W. Cuddihy

Attorney Docket No.: **5634.0355**

Application No.: 08/487,526

Group Art Unit: 2614

Filed: June 7, 1995

Examiner: Harvey, D.

Title: SIGNAL PROCESSING APPARATUS AND METHODS

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Commissioner for Patents
Washington, DC 20231

Transmitted herewith is a Submission Under 37 C.F.R. § 1.129(a), and a Response to Interview Summary.

CLAIMS AS AMENDED						
	Claims Remaining After Amendment	Highest Number Previously Paid For	Extra	Rate: Large Entity	Rate: Small Entity	Amount
Number of Claims in Excess of 20	*	20	0	$ 18.00	$ 9.00	$ 0.00
Independent Claims in Excess of 3	*	3	0	$ 84.00	$ 42.00	$ 0.00
First Presentation of Multiple Dependent Claims				$ 280.00	$ 140.00	$ 0.00
Extension Fee: a) One Month				$ 110.00	$ 55.00	$ 0.00
b) Two Months				$ 400.00	$ 200.00	$ 0.00
c) Three Months				$ 920.00	$ 460.00	$ 0.00
d) Four Months				$1440.00	$ 720.00	$ 0.00
e) Five Months				$1960.00	$ 980.00	$ 0.00
Other: Submission After Final Rejection						$ 740.00
TOTAL FEE DUE						$740.00

☐ No additional fee is required.
☒ A check in the amount of $ 740.00 is attached.
☐ Charge $ _____ to Deposit Account No. 06-1075.
☒ Charge any additional fees or credit any overpayment to Deposit Account No. 06-1075.

Small Entity Status Claim:
☐ is hereby requested.
☐ is of record in this application.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/487,526
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	Harvey, D.

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Washington, D.C. 20231

RESPONSE TO INTERVIEW SUMMARY

An Advisory Action was mailed in connection with the above-referenced application on March 12, 2002. Accompanying the Advisory Action was an Interview Summary that purports to summarize a personal interview held on September 26, 2001. The Interview Summary is inaccurate and incomplete in many respects. In addition, there are many new arguments and positions advanced by the Examiner in the Interview Summary for the first time. In the discussion below, applicants have endeavored to clarify the record with respect to inaccuracies and omissions in the Interview Summary. Applicants also provide below remarks setting forth the reasons why the new arguments and positions advanced by the Examiner are without merit. Applicants respectfully request reconsideration of the instant application in view of the following remarks.[1]

[1] Applicants wish to note that none of the arguments, positions or other issues raised in the Interview Summary was applied to or otherwise discussed in connection with any specific (continued...)

I. Response To Issues Related To Support Under 35 U.S.C. § 120

A. Introduction

In Part I of the Interview Summary, the Examiner appears to attempt to set forth a test for determining whether a claim is entitled to the benefit of the filing date of an earlier application under 35 U.S.C. § 120 (2001). Applicants submit that this test and the elements which make up this test are unsupported by and contrary to the relevant legal authorities. Further, applicants submit that the Examiner's discussion of this test is rife with mistaken factual assumptions and misleading characterizations of applicants' applications and the positions taken in connection with those applications.

B. The Law Applicable to § 120

Significantly, the Interview Summary fails to cite any controlling authority to support the many statements set forth in Part I, nor has any attempt been made in the Interview Summary to harmonize those statements with established precedent. In contrast, applicants set forth their view of the proper application of 35 U.S.C. § 120 — *fully supported by citations to controlling legal authorities.*

The test to determine whether a claim is entitled to the benefit of an earlier filing date under 35 U.S.C. § 120 is straightforward:

> To qualify for an earlier filing date, section 120 requires, *inter alia*, that the earlier-filed U.S. patent application contain a disclosure which complies with 35 U.S.C. § 112, ¶1 for each claim in the newly filed application. Thus, this benefit only applies to claims that recite subject matter *adequately* described in an earlier application, and does not extend to claims with subject matter

---

claim of the instant application or any of applicants' related applications. Applicants expressly reserve the right to further respond to the Interview Summary, and the arguments, positions and issues raised therein in the event the Examiner later chooses to reject or object to any pending claim on the basis of such arguments, positions or other issues.

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> outside the description in the earlier application. In other words, a claim complies with 35 U.S.C. § 120 and acquires an earlier filing date *if, and only if, it could have been added to an earlier application without introducing new matter.*

Studiengesellschaft Kohle, m.b.H. v. Shell Oil Co., 112 F.3d 1561, 1564 (Fed. Cir. 1997) (citations omitted; emphasis added).

Section 120 imposes no requirement that a parent and a later filed application use identical or even similar passages to describe the claimed invention. In fact, the case law clearly acknowledges that claims can be supported by disclosures in the earlier and later filed applications in *different* ways:

> [T]he earlier and later applications need not use identical words, if the earlier application shows the subject matter that is claimed in the later application, with adequate direction as to how to obtain it. . . . [A]n invention may be described in many different ways and still be the same invention. . . . In *In re Kirchner*, 305 F.2d 897, 904 134 USPQ 324, 330 (C.C.P.A. 1962) the court held that compliance with section 120 does not require that the invention be described in the same way, in both applications. *Id.*

Kennecott Corp. v. Kyocera Int'l, Inc., 835 F.2d 1419, 1422 (Fed. Cir. 1987).

In *In re Kirchner*, 305 F.2d 897 (C.C.P.A. 1962), the court addressed a factual scenario similar to that of applicants. Specifically, in an opinion by Judge Rich, the C.C.P.A. found that the two disclosures, while different, were not inconsistent and concluded that the applicant was entitled to the priority date of the parent application. At the end of its decision the court described the requirements of § 120:

> Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 and *be* the same invention as that disclosed in the later application. It does not require that the invention be described in the same way, or comply with section 112 in the same way, in both applications.

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Kirchner, 305 F.2d at 904 (emphasis in original). While the *Kirchner* case focused on the different utilities described in the two applications as required by 35 U.S.C. § 101 (2001), the *Kennecott* decision makes it clear that the same logic and analysis is equally applicable to the requirement of written description support under § 112. *See Kennecott*, 835 F.2d at 1422. Accordingly, these two decisions hold that support from the earlier and later filed applications need not be the same to comply with §§ 112 and 120 even if the earlier application is not incorporated by reference into the later filed application.

In fact, applicants have found no cases addressing compliance with § 120 which suggest that the two disclosures identified to support a claim should or need be compared for similarity in any manner. Instead, the case law discussed above establishes that such a comparison is unnecessary and indeed improper. *See Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed. Cir. 1995) ("In order to determine whether a prior application meets the 'written description' requirement with respect to later-filed claims, the prior application need not describe the claimed subject matter in exactly the same terms as used in the claims; it must simply indicate to persons skilled in the art that as of the earlier date the applicant had invented what is now claimed.").

C. The Examiner's Test Under § 120

Rather than applying the straightforward test clearly established by the controlling authorities (as set forth above), the Examiner has instead fashioned a new test. As best applicants can discern from the Interview Summary and the September 4, 2001 Final Office Action, the new test appears to be:

1. Compare the earlier specification to the later specification.
2. If they are different, and if the earlier specification was not incorporated by reference into the later specification, automatically deny applicants' claim of priority to the earlier application.

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Instead of providing any legal authority to support this new test (which applicants believe would be impossible), the Interview Summary sets forth a litany of unsupported, self-serving statements that attempt to justify this new test. These statements, however, are either factually incorrect or contrary to the relevant legal authorities.

For example, the Interview Summary makes the following statements regarding the relationship between a claim's meaning and the disclosure:

> "[The] meaning and scope of a claim's limitations are determined by the disclosure from which the claim's section 112 support is derived." (Int. Sum. P. 4).
>
> "'[T]he claim' defines the invention, while the disclosure defines the meaning and scope of the claim." (Int. Sum. P. 4).

The legal authorities plainly contradict these sweeping statements: "[t]he words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification." M.P.E.P. § 2111.01 (8th ed., Aug. 2001) (citing *In re Vogel*, 422 F.2d 438 (C.C.P.A. 1970)).

The Examiner's command that "one must use the instant disclosure to determine the metes and bound [sic] the claim's limitations" (Int. Sum. P. 5), also places undue emphasis on using the disclosure to interpret the claims. Claims are generally not to be read to incorporate all of the subject matter from the specification. *See Constant v. Advanced Micro -Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988) (although examples from the specification may aid in interpreting a claim, "particular embodiments and examples appearing in the specification will not generally be read into the claims"). Further, "an applicant is not required to describe in the specification every conceivable and possible future embodiment of his invention." *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1344 (Fed. Cir. 2001) ("it is the claims that measure the invention, as informed by the specification. Specifications teach. Claims claim."). Accordingly,

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the Examiner's focus on using applicants' specifications to interpret the claims in such a way to create artificial conflicts in interpreting applicants' pending claims is unjustified and unsupported by the law. *See Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed. Cir. 1999) ("words in patent claims are given their ordinary meaning in the usage of the field of the invention, unless the text of the patent makes clear that a word was used with a special meaning."); *Rexnord*, 274 F.3d at 1342 ("unless compelled to do otherwise, a court will give a claim term the full range of its ordinary meaning as understood by an artisan of ordinary skill.").

Further, on the basis of the flawed assumption that the disclosure defines the meaning and scope of the claims, the Interview Summary asserts that:

> "If identically worded claims are drafted within significantly different disclosures, then it is the examiner's belief that the scope/meaning/'broadest reasonable interpretation' of these identically worded claims will (most likely) differ too." (Int. Sum. P. 4).

and

> "the mere fact that the *scope and meaning* of each claim as defined by the current 1987 disclosure necessarily differs from the *scope and meaning* of each claim defined by the 1981 disclosure, is enough to deny applicant his claim to the earlier 1981 filing date; e.g. because it shows that the current 1987 *scope and meaning* of each claim does not constitute/encompass '*common subject matter*' . . . ." (Int. Sum. P. 4).

However, the Federal Circuit has stated that "'[i]t is axiomatic that, in proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification, and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.'" *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990) (quoting *In re Sneed*, 710 F.2d 1544, 1548 (Fed. Cir. 1983)). Accordingly, the PTO should give identically worded claims in the same art the same broad interpretation unless such interpretation is not consistent with the specification. *See* M.P.E.P.

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§ 2111 (8th ed. 2001) ("During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.'"). In the instant application, the Examiner has failed to demonstrate how the broadest reasonable interpretation of any claim is inconsistent with either the 1981 or 1987 specification.

In addition to being legally suspect, the Examiner's position articulated in the above quotes is misleading. The Examiner's position presumes that an identically worded claim is supported by "significantly different disclosures." However, the mere fact that two disclosures are "different" does not mean the disclosures are inconsistent, and if the differences are not inconsistent there need not be different claim interpretations. Indeed by definition, any CIP application will be different from its parent application. Often, the CIP will add significant improvements and enhancements over what is disclosed in its parent application. This common practice does not mean that CIP applicants are automatically denied the priority date of their parent applications. The important question is whether the proper test for continuity under § 120 is satisfied. Just because a CIP application is different from the parent application, even significantly different, does not automatically mean that the earlier teachings of the parent application are not included in the CIP application.

There is no suggestion in the M.P.E.P., or elsewhere in patent law, that a claim should be give one interpretation based on a parent disclosure and another interpretation based on a consistent subsequent disclosure. To the contrary, as discussed above, the Examiner is specifically instructed in the M.P.E.P. to give each claim its broadest reasonable interpretation consistent with the specification.

The following quotes address the determinative step in the Examiner's test for priority under § 120:

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> "If the scopes/meanings/'broadest reasonable interpretations' of the respective claims do in fact differ, e.g. if the respective interpretations provided by the respective disclosures fail to *perfectly* circumscribe the same subject matter, the '*common subject matter*'" is not being claimed with respect to the two different disclosure even though the claims' wording is identical." (Int. Sum. P. 4).
>
> "[F]or priority to be established, it must also [be] shown that what is being circumscribed by the pending claim(s) is 'common subject matter.'" (Int. Sum. P. 8).

First, applicants must respectfully point out that these statements are not well understood. The notion of a patent disclosure "perfectly circumscrib[ing]" the claimed subject matter is not articulated in any published federal court opinion, as best applicants can tell after a diligent search. Applicants believe that the Interview Summary intends to argue that the scope of a given claim is limited to what is disclosed in the specification. Following this faulty premise, the conclusion seems to be that since the parent and CIP specifications are different, the claim cannot be afforded the benefit of the earlier filing date because the claim would cover more than it otherwise would. The problem with this position is that the premise is utterly unsupportable. The controlling legal authorities make clear that a claim can (and indeed often will) cover more than the disclosed embodiments. *See Gart v. Logitech, Inc.*, 254 F.2d 1334, 1343 (Fed. Cir. 2001) (refusing to read limitations from the specification into a claim and noting that "it is well established that broad claims supported by the written description should not be limited in their interpretation to a preferred embodiment"). A claim may properly cover more than what is disclosed in the CIP disclosure, more than what is disclosed in the parent disclosure, and more than what is disclosed in both. This is plainly not a proper basis to deny a claim of priority under § 120.

The Interview Summary incorrectly attempts to characterize applicants' position on this point as follows:

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> "[T]he examiner strongly disagrees with applicant [sic] suggestion that a given claim is necessarily entitled to the filing date of a parent application simply by showing that the claim can read on the different disclosures of the continuing applications" (Int. Sum. P. 7-8).

Applicants, however, never asserted (at the interview or elsewhere) that priority is established based on "showing that the claim can read on the different disclosures of the continuing applications." Generally, the terminology "read on" is invoked in infringement analysis for determining whether a claim covers an accused device. Applicants do not believe an analysis of whether a claim "reads on" different disclosures is the appropriate way to articulate the proper test applicable to § 120. Applicants have identified above what they believe the proper test to be.

D. The Examiner's Application of His Test For Priority

In addition to misstating the proper test under § 120, the Interview Summary makes incorrect factual assertions about applicants' pending applications and mischaracterizes applicants' position with respect to those applications in applying the new test for priority to applicants' 1981 and 1987 disclosures.

For example, the Interview Summary asserts that:

> "[b]ecause each of applicants currently pending amending claims derives at least part of its section 112 support from teachings and subject matter that is found only in applicant's current 1987 disclosure, each of the currently pending claims is (at best) only entitled to the 1987 original filing date of the current disclosure." (Int. Sum. P. 4).

This position is incorrect for a number of reasons. First, the Interview Summary mistakenly assumes that the 1981 and 1987 specifications describe different and inconsistent inventions. In fact, both specifications describe the inventions disclosed in the 1981 specification, although the 1987 specification contains many enhancements and improvements.

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Because the Interview Summary assumes the two specifications are different and inconsistent, it further and incorrectly assumes that if there is support in the 1987 disclosure, similar and valid support cannot exist in the 1981 disclosure. Both of these false assumptions lead to an incorrect conclusion.

The fact that the support identified in the 1987 specification for a certain feature (or limitation) also happens to include additional features or details relating to the same underlying feature (or limitation) disclosed in the 1981 specification, does not mean that both specifications do not support the feature or limitation with similar and valid "common subject matter" support. The mere presence of the additional details and enhancements in the 1987 specification does not deprive applicants of the 1981 priority date unless the claim limitation or feature is only supported by such additional details and enhancements which are not found in the 1981 specification. *See Kennecott*, 835 F.2d at 1422. Applicants' firmly dispute any implication by the Examiner that the pending claims for which applicants' assert a 1981 priority date derive § 112 support from subject matter that is only found in the 1987 disclosure.

Like Kirchner, applicants have written claims that are directed to subject matter that is found and supported in both applications. In *Kirchner*, the claim was directed to a chemical compound itself. None of the disclosed uses of that compound, which differed in the two disclosures, were ever claimed. In the instant application, the claims are directed to certain fundamental teachings that are found and taught in both disclosures. Just as Kirchner would not have been able to obtain priority to the parent application for claims that included limitations directed to a use of the compound that was only disclosed in the CIP application, applicants would not be entitled to a 1981 priority date for claims that include limitations directed to, and which are only supported by, details, enhancements or features only found in the 1987

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disclosure. As applicants have argued, none of applicants' claims of the instant application are directed to the details, enhancements or features which reside only in the 1987 application. The important point on this issue is that the starting point for determining whether an applicant is entitled to priority under § 120 is *what is being claimed.* Without identifying precisely what is being claimed, it is impossible to seriously undertake an analysis of whether sufficient support exists in both applications thus entitling applicants to a 1981 priority date.

In Part V of the Interview Summary, the Examiner acknowledges that "[a]pplicant can certainly point in the direction of the 'WALL STREET WEEK' application [example] being representative of an alleged 'common theme', however the recitations of all of the introduced claims go far beyond the broad 'WALL STREET WEEK' concept." (Int. Sum. P. 11). First, the implication that the WALL STREET WEEK ("WSW") example is the only common subject matter supporting applicants' claims is false. The entire basic system in which signals are transmitted with television programming and processed at intermediate and remote stations is common to both applications. Further, in addition to the WSW example there are numerous other examples, features and components of this system that are found and disclosed in both applications including, for example, much of the "cooking show" disclosure. As applicants have repeatedly argued, all of the claims for which applicants assert a 1981 priority date are supported by these common teachings disclosed in both the 1981 and 1987 specifications.

Applicants further assert that because demonstration of sufficient written description support or lack thereof can only be accomplished in the context of a specific claim, it is entirely inappropriate for the Examiner to issue blanket rejections of applicants' priority claim without addressing precisely how a specific claim is not supported by the common disclosure cited by applicants. *See In re Alton*, 76 F.3d 1168, 1172 (Fed. Cir. 1996) (If, on the other hand, the

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specification contains a description of the claimed invention, albeit not *in ipsis verbis* (in the identical words), then the examiner or Board, in order to meet the burden of proof, must provide reasons why one of ordinary skill in the art would not consider the description sufficient.).

The presence of additional details and enhancements in the 1987 specification does not require the Examiner to read such details or enhancements (limitations) into a claim when interpreting the claim for purposes of determining whether written description support exists. As already discussed, both the law and the M.P.E.P. instruct Examiners to give claims the broadest reasonable interpretation consistent with the specification. So long as additional details or enhancements present in the 1987 specification are not inconsistent with a broad claim interpretation that would be supported by both disclosures, it would be improper to use details or enhancements from the 1987 specification to interpret a claim narrowly. Accordingly, the Examiner's position is mistaken and unsupported by the law.

E. Response to Hypothetical Examples Discussed at the Interview

Part IV of the Interview Summary purports to summarize a discussion in which several hypothetical examples were considered in an effort to reach an agreement on the proper test for continuity under § 120. No claims of the instant application were discussed and no comparisons of the hypothetical examples to the claims pending in the instant application were made. For reasons not understood by applicants, the Interview Summary addresses only one of the several hypothetical examples discussed at the interview. Conspicuously absent from the Interview Summary is any reference to the simplest example discussed. In this omitted hypothetical, the parent application disclosed:

1) a transmitter station;
2) a receiver station; and
3) the transmission of data from the transmitter station to the receiver station using a communication protocol.

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In the same hypothetical, the CIP application did not incorporate the parent by reference. The hypothetical CIP application disclosed:

1) a transmitter station;
2) a receiver station; and
3) the transmission of data from the transmitter station to the receiver station using a newly invented communications protocol that is explained in detail in the CIP application, but which was not disclosed in the parent application.

It is applicants' position that if the proper legal analysis (as set forth above in section I.B) was conducted with respect to a claim in the CIP application directed to "transmitting data from a transmitter station to a receiver station using a communications protocol," such claim would likely be entitled to the benefit of the parent application's filing date (assuming the requirements of copendency, common inventorship, and cross-reference to earlier application were met). In other words, the fact that the applicant disclosed the new, inventive communications protocol in the CIP application as the way to communicate data does not automatically deprive the claim of the benefit of the earlier date. This would be the case even if the applicant admitted that the new, inventive communications protocol constituted part of the best mode of practicing the claimed invention at the time the CIP was filed (*see* section II below). To automatically deprive the applicant of the earlier date would contravene public policy by discouraging the disclosure of new inventions, and would be contrary to the Constitutional mandate to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. Const. art. I, § 8.

In discussing the other examples raised during the interview (including the bridge/boat example referred to in the Interview Summary), applicants specifically pointed out that the hypothetical CIP claim *may or may not* be entitled to the benefit of the earlier filing date. The critical point is that the only way to make a determination as to priority is by conducting the

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proper legal analysis (as discussed in Section I.B above) — not by summarily dismissing the priority claim simply because the disclosures are different.

Significantly, the Interview Summary seems to acknowledge that in the bridge/boat example, it may be possible that generic disclosure may be found in both the parent and CIP applications that would entitle the CIP claim to the benefit of the parent's filing date (again, the only way to determine this is to conduct the proper analysis as set forth above). But rather than acknowledge an agreement on this point, the Interview Summary presents an even more far-fetched hypothetical involving train trestles and boats. Without offering any support or justification, the Interview Summary states that this new example is "a more accurate representation of the state of the present prosecution." Applicants strongly disagree with this characterization of the state of applicants' claims being prosecuted. No analysis of any kind has been provided by the Examiner to justify this bald assertion.

In contrast, the prior submissions provided by applicants on the written description support issue plainly demonstrate, on a proper claim-by-claim (and even element-by-element) basis, that common subject matter from the 1981 and 1987 specifications is relied upon to support the claims of the instant application. Moreover, these prior submissions demonstrate, contrary to the sweeping, unsupported statements made in the Interview Summary, that the fundamental teachings of the 1981 application were in fact "carried forward" into the 1987 application. Accordingly, any objection to applicants' claim of priority to the 1981 application should be withdrawn.

F. Response to the Incorporation by Reference Issue Discussed in the Interview Summary

Part VIII of the Interview Summary inaccurately summarizes applicants' position concerning the incorporation of the 1981 subject matter into the 1987 disclosure. During the

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interview applicants informed the Examiner that they are unaware of any controlling authority that holds that a CIP application must incorporate its parent application by reference in order for the CIP claim to obtain the benefit of the parent's filing date. Applicants also cited the authority supporting applicants position that *in haec verbe* support is not required to support a claim. *See Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed. Cir. 1995) ("the prior application need not describe the claimed subject matter in exactly the same terms as used in the claims"). No contrary legal authority has ever been cited by the PTO.

At the interview, applicants further questioned why it would be necessary to incorporate the parent disclosure, by reference or in full-text format, if the subject matter of the parent application is properly disclosed in the CIP application in an integrated manner with the enhancements and improvements of the CIP application. No response to this question was offered by the Examiner during the interview. Applicants' point is that incorporating the parent, either by reference or in full-text format, into a CIP application that discloses the subject matter of the parent in an integrated fashion does nothing more than add unnecessary duplicative content to the CIP application. As set forth above, applicants have established in their prior submissions that all of the fundamental teachings of the 1981 disclosure were in fact carried forward to the CIP application, albeit in an integrated fashion with the many enhancements and improvements of the CIP application. Thus, there was no need for applicants to explicitly incorporate the parent application into the CIP application in full-text format or by reference.

G. Response to the Interview Summary's Discussion of the Term "Programming"

Part II of the Interview Summary alleges that applicants made an admission during the interview with respect to the term "programming." Applicants respectfully submit that no such admission was made. Applicants have consistently maintained (see Applicants' Amendment and

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Request For Reconsideration filed February 4, 2002) that there is nothing about the use of the term "programming" in the 1981 and 1987 specifications that precludes applicants from claiming the benefit of the 1981 filing date for claims that recite that term. For the reasons set forth below, the term "programming" is not used inconsistently in the 1981 and 1987 specifications.

The Examiner's assumptions about the definition of programming in the two specifications and his conclusions about the effect the of those definitions on applicants' claim to a 1981 priority date are misplaced. Particularly telling is the fact that the Examiner had to craft an entirely new definition of programming in order to advance this argument. Specifically, in the Final Office Action dated September 4, 2001, the Examiner stated that applicants' 1981 definition of programming was limited to "scheduled radio and television shows." Yet nowhere in the 1981 specification is the term so limited. Indeed, the abstract of the 1981 application states: "'Programming' here means everything that is transmitted over television or radio intended for communication of entertainment or to instruct or inform."[2] U.S. Pat. No. 4,694,490 Abstract, ll. 4-7. Moreover, the 1981 specification demonstrates that the term is not limited as suggested by the Examiner. The 1981 specification states:

> It is the object of this invention to unlock this potential by the development of means and methods *which permit programming to communicate with equipment that is external to television and radio receivers, particularly computers and computers peripherals such as printers.*

1981 Spec., col. 1, ll. 36-41 (emphasis added); *see also* 1981 Spec., col. 4, ll. 26-28 ("Signals may also be transmitted on frequencies outside the ranges of television and radio.")

[2] The verb "instruct" in various forms is used about 38 times throughout the 1981 specification to consistently refer to signals that control equipment. For example, at column 19, lines 48-67 of U.S. Patent 4,694,490, programming specifically includes signals that instruct the microcomputer.

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The Examiner offers no support for his assertion in the Final Office Action that the 1981 definition is more narrow than the 1987 definition and limited to "scheduled radio and television shows." In direct contrast to the Examiner's narrow interpretation, the 1981 definition is expansive and, like the 1987 definition, the only type of information that does not fall under the definition is transmitted information that is not intended to entertain, instruct or inform. Other types of transmitted information besides television and radio shows that are disclosed in the 1981 specification, such as signals, codes, instructions and broadcast print in electronic format, clearly fall within the definition of programming. Such information may be embedded in a television show transmission and is intended to entertain, instruct or inform.

There is thus no basis for the Examiner to attempt to limit the 1981 definition of "programming" to "scheduled radio and television shows." To the contrary, the 1981 definition implicitly includes, and the 1987 definition expressly includes, computer programming in the definition. As set forth above, the instruction signals disclosed in applicants' 1981 specification (*see* col. 19, ll. 48-53 and 60-67) clearly constitute a computer program. *Webster's Seventh New Collegiate Dictionary* (copyrighted 1977 by G. & C. Merriam Co., Springfield, Mass.) defines a program in the context of a computer as "a sequence of coded instructions that can be inserted into a mechanism (as a computer)." The instruction signals disclosed in the 1981 specification and implicitly included within the definition of programming must be considered to be what is now, and was in 1981, widely known as a computer program or computer programming.

The instructions, codes and signals included in a television transmission clearly fall under the definition of programming. Limiting the 1981 definition of programming to "scheduled radio and television shows" directly contradicts the entire purpose of the inventions disclosed in 1981. Accordingly, applicants have not defined the term programming inconsistently in the two

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specifications, and their use of the term "programming" in the pending claims finds consistent and sufficient support in both the 1981 and 1987 applications.

The Interview Summary also asserts, without providing any examples or support, that other claim terms are used inconsistently in the 1981 and 1987 specifications. (Int. Sum. P. 6-7). Applicants respectfully disagree, and reserve the right to address this point further if any specific examples are ever provided.

II. Best Mode

A. The Proposed Best Mode-Based Test for Continuity Under § 120 is Unsupported

The discussion in Parts VI, VII, XI, and X of the Interview Summary asserts that applicants cannot be entitled to priority under 35 U.S.C. § 120 because applicants updated the best mode upon filing their CIP application. The best mode analysis advanced in the Interview Summary is legally flawed and not based on facts presented during the prosecution of the instant application.

The Interview Summary asserts, but fails to demonstrate, that the technology of applicants' 1981 disclosure was not carried forward into applicants' 1987 disclosure. Based on this erroneous assumption, the Interview Summary applies a heretofore unheard of best mode analysis to deny applicants the benefit of the 1981 priority date. Of course, if it were true that none of the 1981 disclosure was carried forward into the 1987 disclosure, it would be axiomatic that any claims based on the 1987 disclosure would not be entitled to the benefit of priority under 35 U.S.C. § 120. But if that were the case, the Examiner would not need to resort to a novel application of the best mode requirement.

In its attempt to deny applicants the benefit of their 1981 priority filing date using a "best mode" analysis, the Interview Summary fails to take into account several fundamental principles

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of the best mode requirement. When these basic principles are taken into account, it should be clear that this new best mode-based test for continuity will not withstand scrutiny.

First, applicants are not required to consider one mode better than any other. *Chemcast Corp. v. Arco Industries Corp.*, 913 F.2d 923, 927-28 (Fed. Cir. 1990); *see also* M.P.E.P. § 2165 (8th ed. 2001). In the situation where an applicant does not consider one mode of practicing his invention better any other, there will be no "best mode" in the disclosure. *See Minco, Inc. v. Combustion Eng'g, Inc.*, 95 F.3d 1109, 1115 (Fed. Cir. 1996). ("Before an inventor can conceal a best mode, the record must first show his appreciation of the superiority of one mode over those modes disclosed in the specification"). There is thus no requirement that an applicant have a best mode. Rather, the requirement is *if* applicants have a best mode at the time of filing the patent application *then* that best mode must be set forth in the specification. The Examiner has not determined that applicants considered one mode of practicing the invention to be better than any other. For many of the inventions claimed in this and applicants' related applications, applicants' did not consider any particular embodiment to be better than any other.

Second, even if applicants have a best mode, they are not required to identify which disclosed embodiment is the best mode. *See* M.P.E.P. § 2165.01 III (citing *Ernsthausen v. Nakayama*, 1 USPQ2d 1539, 1549 (Bd. Pat. App. & Inter. 1985)). Thus, if several embodiments are disclosed, any unknown one may be the best mode (assuming the inventor had one at all).

Third, the M.P.E.P. specifically acknowledges that these issues[3] are very unlikely to be known to the Examiner:

---

[3] Another issue related to best mode concerns the allegation that an applicant has concealed the best mode during prosecution. *See* M.P.E.P. § 2165.04 (in determining the adequacy of a best mode disclosure, *only* evidence of concealment is to be considered by the Examiner). Applicants have not concealed any preferred embodiment from the public, nor has (continued...)

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> "The information that is necessary to form the basis for a rejection based on the failure to set forth the best mode is rarely accessible to the examiner . . . . "
>
> "There is no requirement in the statute that applicants point out which of their embodiments they consider to be their best; that the disclosure includes the best mode contemplated by applicants is enough to satisfy the statute."
>
> "The absence of a specific working example is not necessarily evidence that the best mode has not been disclosed, nor is the presence of one evidence that it has."
>
> "The failure to disclose a better method will not invalidate a patent if the inventor, at the time of filing the application, did not know of the better method OR did not appreciate that it was the best method."

M.P.E.P. §§ 2165 - 2165.03.

The Interview Summary offers nothing to demonstrate how these barriers can be overcome in conducting the Examiner's new best mode-based test for continuity. Instead, *for each claim*, the Examiner is forced to: 1) assume that applicants had a best mode in 1981; 2) guess at what that best mode might have been; 3) assume applicants had a best mode in 1987; 4) guess at what that best mode might have been; and 5) surmise, based on these unsupported assumptions and guesses, that the hypothetical best mode changed from 1981 to 1987.

The new test proposed by the Examiner is plainly unworkable. It should come as no surprise that applicants have been unable to locate a single case that even arguably supports this test. Applicants respectfully request consideration of the following point: if it is assumed, *arguendo*, that applicants had no best mode in 1981 or in 1987 for a given claim (i.e., that

---

the Examiner asserted that they have. To the contrary, the Examiner proposes to penalize applicants for providing later conceived embodiments in the CIP application. The Examiner's attempt to penalize applicants for providing additional disclosure is antithetical to the best mode requirement, which promotes the full disclosure of the invention in return for the exclusive rights bestowed by the patent grant.

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applicants considered no embodiment better than any other for a given claim), what would be the outcome of the newly proposed best mode-based test for continuity? Clearly, the test does not work. Accordingly, applicants request that this test no longer be applied, and that applicants' claim of priority to the 1981 application be properly examined — on a claim-by-claim basis — under the clear guidelines established in the controlling authorities discussed in Section I.B above.

B. The Examiner's Best Mode Analysis is Based on Unsupported Assumptions

Notwithstanding the fact that the Interview Summary's test for continuity based on the best mode is fundamentally flawed, the application of the test to the instant circumstances is based on numerous errors and unsupported assumptions. The Interview Summary states that "it appears that 'SPAM' represents the 'best mode' that was described within applicant's instant 1987 disclosure whereas something other than 'SPAM' represents the 'best mode' that was described in applicant's 1981 disclosure; i.e. . . . assuming that the best mode was described in both applications." (Int. Sum. P. 14). To reach this conclusion, the Interview Summary must improperly assume that: 1) that applicants had a best mode of carrying out the invention; 2) that the disclosure has a single best mode for all of applicants' pending claims; and 3) that applicants chose to update their best mode (if one exists) in their CIP application. (Int. Sum. P. 13).

As an initial matter, without reference to a particular claimed invention it is impossible to state whether applicants did or did not contemplate a best mode of carrying out the invention. Accordingly, each of the three erroneous assumptions are flawed because they bypass any attempt to first identify the claimed invention. "[T]he first task in any best mode analysis is to define the invention at hand." *Northern Telecom Ltd. v. Samsung Elecs. Co.,* 215 F.3d 1281, 1286 (Fed. Cir. 2000). Both the 1981 specification and the 1987 specification describe systems

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with multiple configurations and operations. It simply cannot be said which of these configurations and operations, if any, were considered by applicants to be the best mode without reference to a claim that defines the invention at issue. It is error for the Examiner to make any assumptions about a best mode by reference only to the disclosure without identifying the invention at issue.

C. The Examiner Mischaracterizes Applicants' Disclosures

In addition to the erroneous assumptions, the Interview Summary incorrectly characterizes the 1981 and 1987 disclosures. The Interview Summary states "the 1987 disclosure and the 1981 disclosure represent different 'best modes': e.g. the 'on'/'off' trigger/cueing signals of the 1981 disclosure were replaced by 'SPAM', the circuit configurations of the 1981 disclosure were replaced by 1987 circuit configurations, new modes for processing 'SPAM' were incorporated into all the added 1987 illustrated structures, etc." (Int. Sum. P. 14-15). The fact that applicants' CIP application includes new matter is not evidence that applicants did not carry forward previously disclosed modes of carrying out the claimed inventions. Many of the signals described in the 1987 specification under the discussion of SPAM perform the same functions in the same systems as signals described in the 1981 specification. Although the drawings of the 1987 specification are updated with respect to the drawings of the 1981 specification, there are many illustrated features that remain exactly the same (for example, compare 1987 Spec. Fig. 2 and U.S. Patent No. 4,694,490 Fig. 1 which are substantially identical) and many other close similarities between the drawings (for example, compare 1987 Spec. Figs. 6A & 6B and U.S. Patent No. 4,694,490 Figs. 3A, 3B & 3C). Specific structures of "SPAM" signals and new manners of processing them were disclosed in the 1987 specification, however, there is no support for the assumption applicants replaced the disclosure

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of a best mode of carrying out a claimed invention with the added matter. To the contrary, applicants may not have had a best mode or the best mode may have been described in the subject matter that is included in both the 1981 specification and in the 1987 specification. Again, it is impossible to make this determination without reference to a particular claimed invention.

The Interview Summary asserts that "the validity of all of the currently pending claims necessarily rests on 'SPAM', e.g. being that 'SPAM' was introduced via the 1987 disclosure and comprises all of the control/instruct signals that are transmitted by the 1987 alleged inventions, all of the currently pending claims only get the 1987 filing date." (Int. Sum. P. 14) This premise is unsupported and wrong. Although the term "SPAM" was introduced in the 1987 disclosure, all of the control and instruct signals so labeled were not introduced in the 1987 disclosure. Many of the control signals and instruct signals labeled "SPAM" in the 1987 disclosure were originally disclosed in the 1981 disclosure[4] (for example, compare U.S. Pat. No 4,694,490, col. 2, l. 64 - col. 3, l. 12 and col. 4, ll. 36-46 with 1987 Spec., p. 14, l. 25 - p. 15, l. 6 and p. 40, l. 16 - p. 43, l. 23; further details of SPAM signal structure disclosed at p. 43, l. 30 - p. 84, l. 23). Accordingly, the validity of claims directed to "SPAM" signals do not necessarily rest on new matter introduced in the 1987 CIP disclosure.

Part X of the Interview Summary states, "[T]he old system configurations and the old transmission system technology of the 1981 disclosure were not carried forward into the 1987 disclosure." To the contrary the system configurations and the transmission system technology of the 1981 disclosure were carried forward into the 1987 disclosure. Applicants have demonstrated this with regard to specific claimed subject matter in prior submissions in this and

[4] In fact the title of the 1981 application is "Signal Processing Apparatus and Methods."

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many of applicants' related applications. It is error to make a blanket, wholly unsupported statement that subject matter was not carried forward. The Examiner's statement that subject matter was not carried forward must be directed to specific claimed subject matter. The statement should also be the conclusion of an argument properly supported by evidence on the record of the application. It is improper for the Examiner to simply presume that claimed subject matter was not carried forward as a foundation for constructing any rejection under the first paragraph of 35 U.S.C. § 112.

D. The Examiner Misinterprets *Transco*

The Interview Summary attempts to rely on the following quote from the *Transco* decision:

> It must be understood that the introduction of a new best mode disclosure would constitute the injection of "new matter" into the application and automatically deprive the applicant of the benefit of the earlier filing date of the parent or original application for any claim whose validity rests on the new best mode disclosure.

Transco Products Inc. v. Performance Contracting, Inc., 38 F.3d 551, 558 (Fed. Cir. 1994). The Interview Summary grossly misinterprets the above quote, which simply stands for the well-established proposition that an applicant cannot claim the benefit of an earlier date if the earlier application does not support the claim under § 112. Significantly, the Interview Summary acknowledges that the above quote is *dicta* and not authoritative with respect to the new best mode-based test for continuity set forth in the Interview Summary. Given that (i) the one cited case has been admitted to be non-authoritative, and (ii) no other supporting authority has been provided, the new best mode-based test for continuity under § 120 set forth in the Interview Summary must be considered without merit and therefore withdrawn and not further applied.

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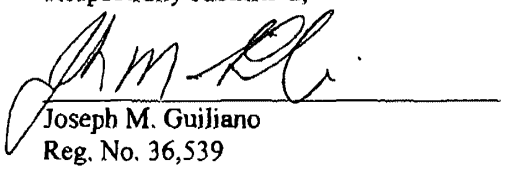
III. Conclusion

Applicants have demonstrated in the foregoing remarks that the various legal theories advanced by the Interview Summary relating to continuity under § 120 are unsupported, and are indeed contrary to the controlling legal authorities. Moreover, applicants have set forth the proper test for continuity, and have established in these remarks and in prior submissions why those claims of the instant application for which applicants assert a 1981 priority date are entitled to the benefit of the 1981 filing date. Reconsideration and allowance of the instant application are therefore respectfully requested.

Date: May 6, 2002

Respectfully submitted,



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/487,526	06/07/1995	JOHN C. HARVEY	5634.355	7792

21967 7590 03/12/2002

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HARVEY, DAVID E	
ART UNIT	**PAPER NUMBER**
2614	

DATE MAILED: 03/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Advisory Action

Application No.	Applicant(s)
08/487,526	Harvey et al.
Examiner	**Art Unit**
David E. Harvey	2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED *Feb 4, 2002* FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid the abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

THE PERIOD FOR REPLY [check only a) or b)]

a) ☒ The period for reply expires *5* months from the mailing date of the final rejection.

b) ☐ In view of the early submission of the proposed reply (within two months as set forth in MPEP § 706.07 (f)), the period for reply expires on the mailing date of this Advisory Action, OR continues to run from the mailing date of the final rejection, whichever is later. In no event, however, will the statutory period for the reply expire later than SIX MONTHS from the mailing date of the final rejection.

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will be entered upon the timely submission of a Notice of Appeal and Appeal Brief with requisite fees.
3. ☒ The proposed amendment(s) will not be entered because:
   (a) ☒ they raise new issues that would require further consideration and/or search. (See NOTE below);
   (b) ☐ they raise the issue of new matter. (See NOTE below);
   (c) ☒ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ they present additional claims without cancelling a corresponding number of finally rejected claims.

   NOTE: *see paragraph 2 of the attachment*
4. ☐ Applicant's reply has overcome the following rejection(s):
5. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in separate, timely filed amendment cancelling the non-allowable claim(s).
6. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because:
7. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
8. ☒ For purposes of Appeal, the status of the claim(s) is as follows (see attached written explanation, if any):

   Claim(s) allowed: *none*

   Claim(s) objected to: _____

   Claim(s) rejected: *all pending*
9. ☐ The proposed drawing correction filed on _____ a) ☐ has b) ☐ has not been approved by the Examiner.
10. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ .
11. ☐ Other:

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1. In the response filed 2/4/2002, applicant requests that the "Finality" of the Office action mailed on 9/4/2001 be withdrawn. Applicant's request is denied for the following reasons:

a) The supplemental amendment filed by applicant on 3/8/1999 was filed in response to an outstanding "first" non-final Office action;

b) The supplemental amendment filed by applicant on 3/8/1999 effected wholesale changes in those pending claims which had been previously considered and addressed by said "first" non-final Office action;

c) Given the above, any action issued by the Office in response to applicant's supplemental amendment of 3/8/1999 could properly be made "FINAL". The Office action mailed 9/4/2001 was issued in response to the supplemental amendment filed 3/8/1999 and was therefore "Final".

As applicant notes, applicant's supplemental amendment filed 3/8/1999 crossed in the mail with a "second" non-final Office action issue by the PTO on 1/13/2000. Applicant notified the Office that this "second" non-final Office action failed take the wholesale changes of the supplemental amendment into consideration and, being such, applicant requested that a new Office action be issued. The Office agreed to issue a new Office action and did so on 9/4/2001.

The Office never stated or promised that this new Office action would not be made, and properly so, "Final".

2. The examiner notes that the amendments filed 2/4/02 extensively amends the pending claims by both adding and deleting limitations from the claims [e.g. note appendix "A" of applicant's last response]. These extensive amendments raise new issues that would require further search and/or consideration.

3. **A personal interview was held between applicant and the PTO on 9/26/01. Attending this meeting were: Mr. John C. Harvey, Mr. Joseph M. Guiliano, Mr. Jay Lecher, Mr. Andrew Faile, and David Harvey. The following has been provided in and attempt to best summarize/characterize/clarify the issues and positions that were discussed and taken by the respective parties:**

> **Part I:** During the interview of 9/26/01, applicant took the position that "the claim" itself is the invention. Being such, it was applicant's belief that the same invention is always being claimed by a given "same" claim; i.e. regardless of the disclosure from which said same claim derives its required section 112 support. Applying this belief to the issue of priority, it was applicant's position that he is entitled to the 1981 priority date of his 1981 parent application for each of the pending claims simply by showing that each of the pending claims might be given a different 1981 and 1987 claim interpretation which allowed them to be separately/independently read back onto teachings from the respective 1987 and 1981 disclosures. To applicant, the fact that each claim had to be given different 1981 and 1987

interpretations to be read back onto the 1981 and 1987 disclosures was irrelevant to the issue of priority. The examiner continues to disagree.

The examiner agrees that "the claim" defines the invention. However, unlike applicant, the examiner believes that meaning and scope of a claim's limitations are determined by the disclosure from which the claim's section 112 support is derived. Namely, "the claim" defines the invention while the disclosure defines the meaning and scope of the claim. Therefor, if identically worded claims are drafted within significantly different disclosures, then it is the examiner's belief that the scope/meaning/"broadest reasonable interpretation"of these identically worded claims will (most likely) differ too. And if the scopes/meanings/"broadest reasonable interpretations" of the respective claims do in fact differ, e.g. if the respective interpretations provided by the respective disclosures fail to *perfectly* circumscribe the same subject matter, then "*common subject matter*" is not being claimed with respect to the two different disclosure even though the claims' wording is identical.

Because each of applicant's currently pending amended claims derives at least part of its section 112 support from teachings and subject matter that is found only in applicant's current 1987 disclosure, each of the currently pending claims is (at best) only entitled to the 1987 original filing date of the current disclosure. Specifically, the mere fact that the *scope and meaning* [1] of each claim as defined by the current 1987 disclosure necessarily differs from the *scope and meaning* of each claim as defined by the 1981 disclosure, is enough to deny applicant his claim to the earlier 1981 filing date; e.g. because it shows that the current 1987 *scope and meaning* of each claim does not constitute/encompass "*common subject matter*" with respect to the 1981 *scope and meaning* that might have been afforded it had section 112 support been properly derived from the earlier filed 1981 parent.

In summary:

---

[1] The wording of the respective descriptions may be different provided that they describe the same subject matter.

1) It seems to be applicant's position that two identically worded claims are necessarily claiming the "same invention"/"common subject matter", i.e. even when the two claims derive section 112 support from vastly different disclosures, simply by the fact that the respective claims are identically worded; whereas

2) It is the examiner's position that such identically worded claims are only claiming the "same invention"/"common subject matter" if the section 112 support provided by the respective disclosures is the same and/or is exactly equivalent.

Part II: During the interview held on 9/26/01, applicant indicated that the examiner should always give a claim its broadest reasonable interpretation during the examination process. The examiner agrees. If the broadest reasonable interpretation were/could always applied to a claim's recitations in a vacuum, then the broadest reasonable interpretation of a given claim would always be the same regardless of the disclosure that supports it under section 112. However, claims are not read in a vacuum. Specifically, one must use the instant disclosure to determine the metes and bound of the claim's limitations. In the present prosecution, the "instant application" from which the "broadest reasonable interpretation" must be derived for all pending claims is the 1987 disclosure alone (i.e. because the 1981 disclosure was left behind and was not carried forward into the 1987 disclosure). The following is noted:

A) Much of the terminology that is now recited in the pending claims has been explicitly defined within the written description of the instant 1987 disclosure: e.g. the term "programming" being but one example. Because the instant 1987 disclosure provided the "intrinsic" dictionary by which such recited claim terminology should be defined, the limitations of the claims necessarily gets these explicitly defined definitions.

B) The examiner notes that applicant's originally filed 1981 disclosure also explicitly defined much of this same claim terminology; e.g. again, the term "programming" being but one example. However, the definitions given to the recited terminology by the 1981 often differs from the definitions given to this same terminology via the 1987 disclosure. Being such, when the 1981 disclosure is used as an "intrinsic" dictionary by which the recited terminology of a claim is defined, the resulting claim interpretation is quite different from that which is obtained via the instant 1987 disclosure. For this reason alone, any claim which contains such differently defined terminology is not entitled to the 1981 effective filing date of the 1981 disclosure.

C) During the interview, applicant admitted that the "programming" terminology was broader when defined via the instant 1987 disclosure than it was when defined via the 1981 disclosure. Being such, applicant pointed out that the 1987 interpretation of the "programming" terminology encompasses the 1981 interpretation of this same terminology and is thus entitled to priority. The examiner disagrees. The mere fact that the 1987 definition is broader and encompasses more than the 1981 definition by itself refutes applicant's claim to the 1981 priority date for such recitation. Specifically, the only subject matter which is "common" to both the 1981 and 1987 disclosures in this case, i.e. with respect to the respective 1981 and 1987 "programming" definitions, is that portion of the 1981 definition which has been encompassed by the broader 1987 definition. That is, the"common subject matter" that exists between the 1987 and the 1981 definitions of "programming" is the 1981 definition itself. By alleging the 1981 priority date of the recited "programming" terminology, applicant must be suggesting one of the following:

1) That the currently recited "programming" terminology should be held to its "common" meaning/definition, meaning

that the "programming" terminology should be given a definition corresponding to that portion of the 1981 definition which was circumscribed by the instant 1987 definition. [*NOTE: Such an interpretation would be improper because the 1987 disclosure is the instant disclosure from which all section 112 issues must be determined (i.e. the 1981 disclosure is not part of the instant disclosure and thus cannot be properly relied on as the "intrinsic" dictionary by which a claims terminology is defined*]; or

2) That the currently recited "programming" terminology should be held to its broader 1987 meaning/definition and yet be given the 1981 effective filing date of its earlier and more narrow 1981 definition/meaning
[*NOTE: Such an interpretation would also be improper because it transports the broader 1987 definition of programming back in time to the 1981 filing date of a vastly more limited 1981 "programming" definition (i.e. a 1981 definition which was, one again, left behind in the drafting of the 1987 disclosure)*].

For the record, it is the examiner's position that this kind of recited terminology, e.g. terminology which has been defined differently within the 1981 disclosure and the instant 1987 disclosure, gets its 1987 definition and the 1987 filing date to boot.

PART III: The examiner maintains that the situation cited in "PART II" of this communication illustrates one reason why the same claim can be read on different disclosures within continuing applications and yet the claims of the child still not be entitled to the priority date of the earlier filed parent application; e.g. a situation in which the terminology of the same claim takes on vastly different meanings/scopes when read in light of the intrinsic evidence that is provided by the different disclosures. Thus, the examiner

strongly disagrees with applicant suggestion that a given claim is necessarily entitled to the filing date of a parent application simply by showing that the claim can read on the different disclosures of the continuing applications; e.g. for priority to be established, it must also shown that what is circumscribed by the pending claim(s) is "common subject matter" [note "PART I" of this communication].

PART IV: In trying to address the issues cited above, during an interview held on 9/26/01, applicant set forth the following example:

1) Applicant's Example:

a) a parent application A discloses a bridge for traversing water;
b) a child application B discloses a boat for traversing water;
c) Application B includes a statement stating that it is a continuation of application A, however, application B fails to incorporate the disclosure of application A (either physically or by reference).

Given the fact pattern set forth above, applicant contended that one or more claims could be introduced into application B which would be entitled to the filing date of application A. Specifically, applicant contented that application A and application B contained "common subject matter" in that they both described structures, albeit different structures, for traversing water. Therefore, applicant took the position that a claim which broadly recited an "apparatus for traversing water" could be introduced into application B which was also entitled to the earlier filing date of application A. The examiner disagrees. Specifically, the examiner maintains that the broadest reasonable interpretation for "an apparatus for traversing water" is defined by "boat" when introduced into application B. The examiner maintains that the broadest reasonable interpretation for "an apparatus for traversing water" is defined by "bridge" when introduced into application A. These respective "broadest reasonable interpretations" do not circumscribe

the same subject matter and therefor do not constitute the required "common subject matter." Therefor the "an apparatus for traversing water" of the B application would not be entitled to the filing date of the A application.

PART V: In the example cited by applicant:

1) The two A and B disclosures have been presented as having described different solutions to a common problem wherein the common problem being solved was explicitly identified by applicant [namely, the boat and bridge solved the problem of traversing water];

2) The proposed claim was "generic" in the sense that it was presented so as to be directed to the "common problem" which was being solved and therefor the meaning of the proposed claim read in an analogous manner on both the A and B disclosures (i.e. "corresponding subject mater" was clearly being claimed); and

3) The limitations of the proposed "generic" claims was "immediately discernible" within both of the A and B disclosures.

This is not true of the claims which have been introduced in the 1987 ("B") applications of the present prosecution. Specifically, the examiner maintains that the example cited by applicant does not accurately portray the present situation. Therefor, the examiner now sets forth his own example which he believes to be a more accurate representation of the state of the present prosecution.

1) The examiner's example:

a) a parent application A discloses a steam engine as comprising a vehicle which transverses water by riding over the water via a train trestle;
b) a child application B discloses a boat as comprising a vehicle which transverses over water via the water;
c) Application B includes a statement stating that it is a continuation of application A, however, application B fails to incorporate the disclosure of application A (either physically or by reference).

An applicant introduces a claim into application B reciting:

"A vehicle for traversing water comprising:

1) a wheel for guiding the vehicle; and

2) a component that propels the vehicle over the water by modifying a state of water."

The applicant notes that the introduced claim is supported by the disclosure of application B because the disclosed "boat" comprises a steering wheel for guiding the vehicle and a propeller for propelling the vehicle by modifying a state of water. The applicant then alleges that he is entitled to the earlier filing date of the A application because the same claim finds support in the A application too. Specifically, the applicant notes that the steam engine also comprises a wheel which run along the tracks of the trestle thereby guiding the engine over the water, and the steam engine comprises a boiler for modifying a state of water, e.g. turning it to steam, in order to propel the steam engine over the water.

While it is true that the introduced claim may be distorted from it actual scope/meaning (e.g. as properly defined by the B disclosure) so as to read in a different way on different subject matter contained in the A disclosure, the subject matter that is being cited for support of the claim in the two disclosures is very different and does not comprise "common subject matter" that is required to support priority to the earlier filing date. For the same reason, the claims which are based on applicant's 1987 disclosure, e.g.

claims whose recitations rests on the "SPAM" technology that exists only within the 1987 disclosure (i.e. as alleged by applicant's own submission), are not entitled to the 1981 filing of the 1981 disclosure; i.e. even if applicant can distort the meaning of each of the introduced claims (e.g. as properly defined by the instant 1987 disclosure) to read on **different** subject matter from the 1981 disclosure.

Specifically, unlike "applicant's example" cited above, the claims which have been introduced into the B applications of the present prosecution are not even "generic" in the sense that they can be "**simultaneously read**" on both of the A and B disclosures. For example, Applicant has never identified the alleged "common invention" that can be found in both of the 1981 and the 1987 disclosures to which each of the pending claims is directed; e.g. in the same way that applicant identified it with respect to "applicant's example" above. To the contrary, it is the examiner's belief that such a "common invention" cannot be identified in the context of **all** limitations of the introduced claims because such a common invention/disclosure does not exist (e.g. the 1981 disclosure and inventions were not carried forward).

More to this issue, Applicant can certainly point in the direction of the "WALL STREET WEEK" application being representative of an alleged "common theme", however the recitations of all of the introduced claims go far beyond the broad "WALL STREET WEEK" concept. At best, when one reads the alleged support for each claim that has been submitted by applicant, one finds that different meanings/interpretations must be applied to the limitations of each introduced claim so as to allow them to be "**sequentially read**", with different meaning, on different subject matter from the different 1981 and 1987 disclosures, respectively; e.g. as in the "examiner's example" cited above. Thus, that which is being claimed from the two disclosures does not represent "common subject matter" and, being such, the claims that are introduced into application having the instant 1987 disclosure are not entitled to the 1981 priority date of the 1981 parent application.

PART VI: The examiner notes that the basic requirements of section 120 include "continuity of disclosure". Specifically, for priority to an earlier filing date to be established, section 120 requires that the invention now sought to be patented in a child application to have been "disclosed in the manner provided by the first paragraph of section 112" within the disclosure of the parent application. Significantly, section 120 does not indicate that only the descriptive requirement of section 112-1 must be met, but instead it indicates that all of the requirements of section 112-1 must be met [e.g. this includes the "enablement" requirement and the "best mode" requirement too].

TRANSCO [38 F.3d 551; 32 U.S.P.Q.2D (BNA) 1077] was cited in the last Office action. The TRANSCO decision determined that one is not required to update his "best mode" when filing a continuation. Thus, it is true that the current applicant was not required to update his "best mode". However, applicant chose to update it. Unfortunately, in *dicta*, Judge Rich warned that requiring an applicant to update the best mode when filing the continuation application defeats the purpose of the "continuation":

> **"It must be understood that the introduction of a new best mode disclosure would constitute the injection of 'new matter' into the application and automatically deprive the applicant of the benefit of the earlier filing date of the parent or original application for any claim whose validity rests on the new best mode disclosure".**

During the present prosection, the examiner has simply adopted the position of Judge Rich as set forth in this decision. The examiner acknowledges that TRANSCO has been cited by the examiner for the clarity in which its *dicta* explains the current examiner's understanding of the present issues, and not for "authority" given by the decision.

PART VII: During the interview, applicant stated his belief that TRANSCO [38 F.3d 551; 32 U.S.P.Q.2D (BNA) 1077] actually supports his position. The examiner does not understand why applicant has this belief. Clearly, TRANSCO indicates that one does not have to update the "best

mode" when filing a continuation. However, in the present prosection, applicant decided to update his "best mode" anyway; e.g. via the introduction of "SPAM" transmission technology and new circuit configurations (i.e. issues which were addressed in detail via the last Office action). The *dicta* in the TRANSCO decision clearly warns against the path chosen by present applicant if priority to the earlier filing date is desired.

PART VIII: During the interview, applicant indicated that leaving the 1981 disclosure behind when drafting and filing of the 1987 disclosure was a good thing. Applicant noted that one could just imagine the difficulty which would now exist in the present 1987 disclosure had the 1981 disclosure actually been incorporated; i.e. given that the same terminology was defined differently by respective disclosures. Applicant's position is telling. By acknowledging that conflicts would have been created had the 1981 disclosure been incorporated into the 1987 disclosure applicant, in effect, seems to be admitting that the 1981 disclosure was not incorporated into the 1987 disclosure; e.g. an apparent departure from positions that applicant has taken in the last response and in testimony given before the ITC. Specifically, had the 1981 disclosure actually been incorporated into the 1987 disclosure, as applicant has previously alleged, then the conflicts which now exist between the respective 1981 and 1987 disclosures would have necessarily found their way into the instant 1987 disclosure itself. The simple fact that the conflicts did not find their way into the present application seems to be a good indication that the 1981 disclosure was not carried forward as is required for a claim of "priority" to be granted.

PART IX: In both of the "examples" cited above, the respective A and B disclosures clearly set forth different "best modes" in terms of the "apparatus for traversing water". Namely, "steam engine" or "bridge" represented the best mode in applications A, whereas "boat" represented the best mode in applications B; i.e. assuming that the disclosed modes are in fact the "best

mode" that was known to applicant at the time of filing. Likewise, it appears that "SPAM" represents the "best mode" that was described within applicant's instant 1987 disclosure whereas something other than "SPAM" represents the "best mode" that was described in applicant's 1981 disclosure; i.e. again, assuming that the best mode was described in both applications. It is this lack of continuity of the "best mode" between applications, e.g. the fact that the disclosed "best mode" has changed from the 1981 disclosure to the 1987 disclosure, that denies applicant his claim to the 1981 filing date for any introduced claim whose validity rests on the new "best mode" of the 1987 disclosure (e.g. "SPAM"). Because the validity of all of the currently pending claims necessarily rests on "SPAM", e.g. being that "SPAM" was introduced via the 1987 disclosure and comprises all of the control/instruct signals that are transmitted by the 1987 alleged inventions, all of the currently pending claims only get the 1987 filing date (at best).

During the interview of 9/26/01, applicant expressed concern that the examiner was raising the issue of "best mode" in the form of a "best mode" rejection. The examiner is not. To the contrary, the examiner has assumed that applicant has fulfilled the "best mode" requirement in both his 1981 and the 1987 disclosures. However, because the "best mode" has clearly changed between disclosures, i.e. a fact which is self-evident by the introduction of "SPAM" in the 1987 disclosure, applicant's claim to priority of the 1981 filing date is being refuted. Again, the scope/meaning of any introduced claim is necessarily determined by the "best mode" of the instant 1987 disclosure (e.g. by the disclosure of "SPAM") and being such, the 1987 scope/meaning of each claim is not entitled to the 1981 priority date of a disclosure in which the new best mode (e.g. "SPAM") was not described; i.e. the 1981 scope/meaning for each claim is different due to the absence of the "SPAM" disclosure.

In summary, to the extent of the examiner's understanding, the 1987 disclosure and the 1981 disclosure represent different "best modes": e.g. the "on"/"off" trigger/cuing signals of the 1981 disclosure were replaced by "SPAM", the circuit configurations of the 1981 disclosure were replaced by 1987 circuit configurations, new modes for processing "SPAM" were

incorporated into all the added 1987 illustrated structures, etc... Because a "new best mode" has been introduced via the 1987 disclosure, in the words of Judge Rich, applicant has "automatically deprived" himself of the 1981 filing date.
[It must be noted that there are many other reasons why applicant has lost this 1981 effective filing date too (i.e. reasons which have been addressed above and in the last Office action)]

PART X: As was addressed in the previous Office action, the 1987 disclosure literally replaced the 1981 disclosure. Therefor the 1987 disclosure alone constitutes the "instant disclosure" on which all section 112 issues must be considered for the currently pending claims. Because the "instant" 1987 disclosure introduced new system configurations and new signal transmission technology, and because the old system configurations and the old transmission system technology of the 1981 disclosure were not carried forward into the 1987 disclosure, it would appear that the "instant" disclosure has to represent a "new best mode disclosure" with respect to the earlier filed 1981 disclosure. However, the examiner does not dismiss the possibility that the 1987 disclosure actually described completely different inventions with respect the those of the earlier filed 1981 disclosure; i.e. wherein the respective inventions "correspond" to each other only with respect to the overall operations that they produce. In either case, the inventions described in the subsequently filed 1987 disclosure represent "new matter" with respect to the inventions previously described in the 1981 disclosure and therefor "automatically deprives" applicant of the earlier filing date for any claim whose validity depends on this new matter. That is, all of the pending claims are not entitled to priority in view that they all must rely on the instant 1987, and its newly introduced inventions, for their validity.
Again, the subject matter now sought to be patented within the pending child applications must be those which were introduced via the instant 1987 disclosure. These currently claimed 1987 inventions were not described in

applicant's 1981 disclosure accordance with all of the requirements of the first paragraph of section 112 as required under section 120 and thus are not entitled to the 1981 filing date [note "PART VI" above].

PART XI: The examiner noted that "Appendix A-C", as provided in applicant's most recent responses, were most helpful. Applicant stated that they would continue to submit such showings with their responses. The examiner also indicated that it would be helpful if applicant would provide a short "narrative" identifying the alleged "common subject matter", that can be found in both the 1981 and 1987 disclosures, that is being recited by each of the claims. Applicant indicated a willingness to provide such a showing too (i.e. in addition to the claim charts).

****

Any inquiry concerning this communication should be directed to **David E. Harvey** whose telephone number is **(703) 305-4365.** The examiner can normally be reached Monday-Friday between the hours of 9:30 AM and 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Andrew Faile, can be reached at (703) 305-4380.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose number is (703) 306-0377.

DEH 10/4/01

DAVID E. HARVEY
PRIMARY EXAMINER

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PATENT & TRADEMARK OFFICE

#83

Serial No. 08/487,526
Docket No. 5634 0355
BA 315-02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/487,526
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	Harvey, D.

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Technology Center 2600

Box: AF
Commissioner for Patents
Washington, D.C. 20231

PETITION FOR EXTENSION OF TIME

Sir:

Applicants respectfully request a three month extension of time under 37 C.F.R. § 1.136(a) for responding to the Office Action dated September 4, 2001, in the above-identified patent application, thereby extending the period for response to March 4, 2002.

Submitted herewith is a check including the amount of $520 to cover the fee for the extension under 37 C.F.R. § 1.17(a)(2). The fee for a three-month extension of time is $920, of which $400 was paid on January 28, 2002. Any deficiency in or overpayment of this fee should be charged or credited to Deposit Account No. 06-1075.

03/05/2002 TGEDAMU1 00000092 08487526
01 FC:117 520.00 OP

Respectfully submitted,

Date: March 4, 2002
FISH & NEAVE
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MAR 04 2002
PATENT & TRADEMARK OFFICE

#34

PTO No. 08/487,526
Docket No. 5634.0355
PATENT

BH 3/16/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/487,526
Docket No.	:	5634.0355
Filed	:	June 7, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	HARVEY, D.

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Technology Center 2600

BOX: AF
Commissioner for Patents
Washington, D.C. 20231

NOTICE OF APPEAL FROM THE EXAMINER TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants hereby appeal to the Board of Patent Appeals and Interferences from the decision of the Examiner dated September 4, 2001 that resulted in Applicants having claims that have been finally rejected.

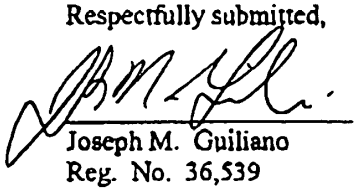
The fee for filing a Notice of Appeal from the Examiner to the Board of Patent Appeals and Interferences (37 C.F.R. § 1.17(b)) of $320.00, along with any necessary extension fees (37 C.F.R. § 1.17(a)), is included in our Check No. 2050542.

03/05/2002 TGEDAKU1 00000091 08487526
01 FC:119 320.00 OP

Google Exhibit 1002, Page 4135 of 6435

However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefore are hereby authorized to be charged to our Deposit Account No. 06-1075.

Respectfully submitted,



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Date: March 4, 2002
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Google Exhibit 1002, Page 4136 of 6435