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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN CHRISTOPHER HARVEY and JAMES
WILLIAM CUDDIHY

Appeal 2016-002347
Application 08/447,611
Technology Center 2400

Before HOWARD B. BLANKENSHIP, MARK NAGUMO, and
KARL D. EASTHOM, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

DECISION ON APPEAL

I. INTRODUCTION

Appellants timely appeal under 35 U.S.C. § 134(a) from the Examiner's Final Office Action (mailed Nov. 25, 2013) ("Final Act.") rejecting claims 41–136. Oral argument occurred May 4, 2016; the transcript is of record. Appellants identify the real party in interest as Personalized Media Communications, LLC. App. Br. 2. We have jurisdiction. 35 U.S.C. § 6. We affirm-in-part.

A. Specification

The Specification discloses a Signal Processing Apparatus and Method ("SPAM" (Spec. 40:21–23)) system for viewing a conventional broadcast program simultaneously with other information embedded in the television signal at a subscriber station. *See* Spec. 19:1–28:3, Fig. 1¹. The Appeal Brief describes the disclosed invention with respect to 20 different claimed inventions. *See* App. Br. 11–37. Figure 1, below, illustrates one of many aspects of the disclosed system and claimed system.²

¹ We refer to the Specification filed May 23, 1995 (claiming continuation via a chain of applications to September 11, 1987 and then continuation-in-part status via a chain of applications to November 3, 1981. Appellant's Reply Brief states that citations referring to the "'490 Spec." in their Appeal Brief "is an error" and should refer to "the instant specification which was originally filed with Application Serial No. 07/096,096 on September 11, 1987." Reply Br. 9.

² The 550 page Specification describes several embodiments related to the 96 claims on appeal.

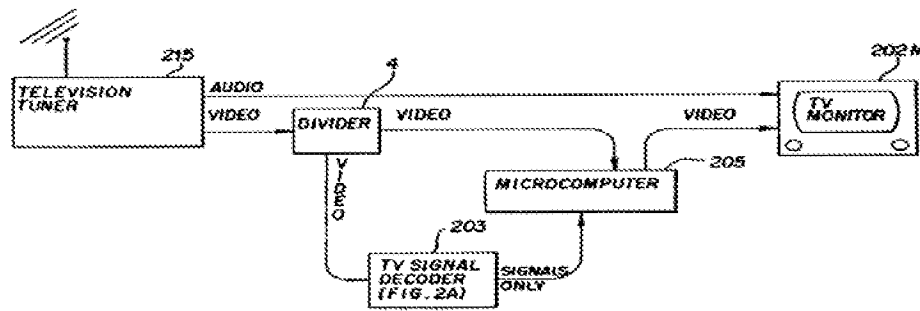


FIG. 1

Figure 1, above, “shows a video/computer combined medium subscriber station.” Spec. 19:6–7. The subscriber (receiver) station includes television tuner 215 for receiving a broadcast transmission, divider 4, TV signal decoder 203, microcomputer 205, and TV monitor 202M. Microcomputer 205 sends a query to a remote data source, and after receiving data from that source, generates graphics from that data that can be combined with the television broadcast video signal displayed by TV monitor 202M. *Id.* at 19–20.

According to the Specification, the term “‘programming’ refers to everything that is transmitted electronically to entertain, instruct, or inform, including television, radio, broadcast print, and computer programming, as well as combined medium programming.” Spec. 11:6–10.

The Specification provides an example of combining user-specific financial data with a graph of general market performance from a “Wall Street Week” broadcast television program. *Id.* at 21:21–24, 24:24–26, 25:23–26:12. In this example, subscriber station monitor 205 displays “Wall Street Week” at the same time a subscriber station processor uses the previously stored user-specific (stock portfolio) financial data to combine it into graphical form with the general market performance graph in the television program. *See id.* at 21:20–24, 25:23–26:12, Fig. 1C (below).

To implement this simultaneous presentation, prior to the “Wall Street Week” program, microcomputer 205 processes previously stored personal financial information via a floppy disk or otherwise. *See id.* at 20:5–31. Also prior to the program, signals transmitted and embedded with normal television signals may include a set of instructions that the system stores and microcomputer 205 executes at each subscriber station. *See id.* at 24:5–25:8. During the “Wall Street Week” program, a signal embedded in the television signal for the show instructs the microcomputer to overlay the stored graphics information onto the received video broadcast and transmit the combined information to TV monitor 202M, thereby displaying a dual graph showing a subscriber’s portfolio performance relative to the overall market performance generated during the “Wall Street Week” show. *Id.* at 25:23–26:32.

Figure 1C below represents this overlay:

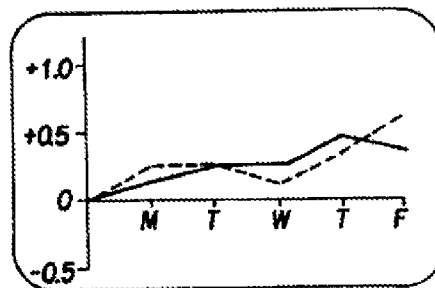


FIG. 1C

Figure 1C above depicts the dual graph described above and represents an individual subscriber’s portfolio performance overlaid on the general “Wall Street Week” graph that represents overall market performance. *Id.* at 26:4–11. As an example of creating the instruction

signal to stimulate the overlay, during the broadcast of Wall Street Week, after the host describes overall market performance,

the host says, “[a]nd 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 instructs microcomputer, 205, . . . to overlay . . . composite video information and transmit the combined information to TV monitor, 202M.

Id. at 25:30–26:8.

B. Rejections on Appeal

A. The Examiner rejected claims 42, 44, and 97 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention. Final Act. 3–4, 7, 61.

The Examiner rejected claims under 35 U.S.C. § 102(b) and § 102(e) for anticipation as follows:

B. Claims 56–61 as being anticipated by U.S. Patent No. 4,829,569 to Seth-Smith et al. (“Seth-Smith”); and

C. Claims 62, 65, 78, 79, 81, 82, 89–101, 106–110, 114–124, and 126 as being anticipated by U.S. Patent No. 4,388,645 to Cox et al. (“Cox”).³

The Examiner rejected claims under 35 U.S.C. § 103(a) for obviousness as follows:

D. Claims 41–45, 51, 53–55, 63–64, 66, 112, 113, 133, and 134 based on the combination of Cox and Seth-Smith;

³ The Examiner rejects claim 62 as anticipated under 35 U.S.C. § 102(e), and rejects claims 65, 78, 79, 81, 82, 89–96, 97–101, 106–110, 114–124, and 126 under 35 U.S.C. § 102(b). *See* Ans. 2.

E. Claims 45–52 based on the combination of U.S. Patent No. 4,724,491 to Lambert, U.S. Patent No. 4,025,851 to Haselwood et al. (“Haselwood”), and Seth-Smith;

F. Claims 67–70, 72–76, 86, 88, and 135 based on the combination of Haselwood and U.S. Patent No. 4,422,093 to Pargee, Jr. (“Pargee”);

G. Claims 71, 77, and 87 based on the combination of Haselwood, Pargee, and Lambert;

H. Claims 80, 83–85, 102–105, and 127 based on the combination of Cox and U.S. Patent No. 4,536,791 to Campbell et al. (“Campbell”);

I. Claim 111 based on the combination of Cox and U.S. Patent No. 3,848,082 to Summers (“Summers”);

J. Claim 125 based on the combination of Cox and U.S. Patent No. 4,054,911 to Fletcher et al. (“Fletcher”); and

K. Claims 128–132 and 136 based on the combination of Haselwood, Lambert, and Cox.

II. ANALYSIS

A. The Indefiniteness Rejections

Appellants do not respond to the rejections of claims 42, 44, and 97, under 35 U.S.C. § 112, second paragraph, as set forth in the Final Office Action (mailed Nov. 25, 2013). *See* Final Act. 4, 7, 61. Subsequent to the Final Office Action, the Examiner entered an amendment to claim 97 in an Advisory Action, which possibly may have cured an alleged lack of antecedent basis as asserted by the Examiner, but it does not appear to have cured the other reasons for asserting a lack of clarity. *See* Final Act. 61;

Advisory Action (mailed Oct. 20, 2014).⁴ Accordingly, absent a timely response from Appellants, we *pro forma* sustain the rejections to claims 42, 44, and 97 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention. *See* 37 C.F.R. § 41.37(c)(iv) (“The arguments shall explain why the examiner erred as to each ground of rejection contested by appellant”).

B. Anticipation Rejections Based on Seth-Smith, Claims 56–61

1. Claims 56–58

Claim 56 follows (emphasis added):

56. A method of signal processing in a network having at least one intermediate transmission station and a plurality of ultimate receiver stations, said method comprising the steps of:

storing a first signal and at least one identification datum in said network;

modifying the information content of a second signal at said at least one intermediate transmission station based on at least one of said stored first signal and said stored at least one identification datum, said modified second signal operating at each of said plurality of ultimate receiver stations to output part of a combined medium programming presentation, said combined medium programming presentation which includes a simultaneous output of information of general pertinence at each of said plurality of ultimate receiver stations and *information of specific pertinence at each of said plurality of ultimate receiver stations*, wherein the same information of general pertinence is outputted in said simultaneous output at each of said plurality of ultimate receiver stations and said information of specific

⁴ We assume the Examiner entered the most recent amendments relative to the Advisory Action, submitted by Appellant on October 8, 2014, but the Advisory Action does not specify. Notwithstanding the entry of amendments, the Advisory Action states that “Claims 41-136 remain rejected as set forth in the Office action of 11/25/2013”—i.e., the Final Office Action.

pertinence that is outputted in said simultaneous output at a first of said plurality of ultimate receiver stations is different from the information of specific pertinence that is outputted in said simultaneous output at a second of said plurality of ultimate receiver stations; and

transmitting said modified second signal.

In the Final Office Action, addressing the lengthy intermediate clause of claim 56, including “said information of specific pertinence that is outputted in said simultaneous output,” the Examiner finds that “each receiver [in Seth-Smith’s system] may also display subscriber specific information with the template and television programming.” Final Act. 20 (citing Seth-Smith 4:24–29; 13:16–20).

Appellant responds that Seth-Smith

fails to teach the feature: “information of specific pertinence that is outputted in said simultaneous output at a first of said plurality of ultimate receiver stations is different from the information of specific pertinence that is outputted at second of said plurality of ultimate receiver stations.” The information transmitted in Seth-Smith is identical at all the receiver stations. The template that is transmitted from the originating station is the same that is received at all receiver stations that is sent to the users. The templates are not modified until they are received by the user in their decoder, at which point the decoder inserts the pertinent data.

App. Br. 46–47.

In the Answer, the Examiner responds that

the template forms only a portion of the “information of specific pertinence” output at the receiver stations, which also includes personal messages that differ for each subscriber.

Seth-Smith repeatedly and clearly discloses that broadcasters may send “personal messages” to “particular subscribers” (Seth-Smith; col. 12, ll. 64–68; col. 13, ll. 24–25; col. 15, ll. 51–53; col. 16, ll. 64–68). It is clear that personal messages transmitted to “individual subscribers” (Seth-Smith;

col. 15, ll. 51–53) will result in information of specific pertinence output at a first station (e.g., a personal message for a first subscriber) differing from the information of specific pertinence output at a second station (e.g., a personal message for a second subscriber).

Ans. 6.

This passage in the Answer relies on personal messages and/or templates to address the simultaneous output of “information of specific pertinence” limitation argued by Appellants. *See* Ans. 5–6. The Examiner also cites to other messages, including community danger messages and other message types. *See* Ans. 5 (citing Seth-Smith 6:5–23, 14:56–57, 17:61–66). In general, Seth-Smith’s decoder personalizes transmitted templates by filling in selected templates with certain message types, such as billing, but not all personal and community messages necessarily use a template. *See* Seth-Smith 12:14–13:25; Fig. 12.

At one of the passages cited by the Examiner, Seth-Smith discloses that “personal messages to the subscriber” and other messages such as “broadcaster-initiated messages can be ‘forced’ . . . so that they are displayed immediately upon actuation of the user’s television.” Seth-Smith, 13:24–29; Ans. 5–6. With respect to these “forced” messages, Seth-Smith states that “it is important that the system itself be able to urge a teletext message upon the decoder and hence on the viewer, for indication of emergency conditions, for announcing changes in service, and for providing personal messages to the subscriber, among other reasons.” Seth-Smith 13:21–25. At another cited passage, Seth-Smith discloses displaying teletext “in response to the broadcaster’s transmitting a message to the individual subscribers.” *Id.* at 15:51–53; Ans. 5–6. Seth-Smith also describes forced messages as including when the message is “superimposed over any

programming which [the user] might presently be viewing.” Seth-Smith 17:14–16.

To implement the forced (immediate) display of personal messages, emergency messages, teletext, and other messages, Seth-Smith describes using flags 94, including flag 94d, so that, for example, important community messages in a subsequent page may be displayed under two options: against a plain background (for more “dramatic[.]” effect) or over “whatever video is on the screen.” Seth-Smith 14:47–60. Similarly, closed-captioned text, essentially another forced type of group message, may be displayed over video “so that the hearing impaired can follow the text of a film.” *Id.* at 14:53–54. At one passage cited in the Answer, Seth-Smith discloses that a broadcaster may send a personal message to a particular subscriber or “announce an increase in the price of a service, or the availability of a new service, or the like.” *Id.* at 16:65–66; Ans. 5. The Examiner also cites to Seth-Smith’s disclosure that the transmitter sends one or more messages causing the receiver to display “one or more messages to ‘all or a predetermined subcategory of subscribers.’” Ans. 7 (quoting Seth-Smith 6:17–19).

To implement the message scheme, Seth-Smith uses addressed packets that are “individually addressed and received” from a vertical blanking interval of the television signal. *See id.* at 18:64–65. Using these packets, Seth-Smith employs a banking address scheme so “that messages may be commonly addressed to [a group of users with common characteristics], for example, common time-zone residence, common language, etc.” *Id.* at 19:1–7; *see* Ans. 5 (citing “community danger” and other messages in Seth-Smith 6:5–23, 14:56–57, 17:61–66). In other words,

Seth-Smith describes these “warnings of community danger” using a “flag,” in the same context of using closed-captioned television, to superimpose such messages simultaneously over television video. *See* Seth-Smith 14:51–57 (using flags to provide community warnings and “closed-captioned teletext, providing lines of dialogue and the like so that the hearing-impaired can follow the text of a film, . . . such that a viewer can simultaneously see the text and the video”).

The teachings about community messages, including “closed-captioned” teletext, forcing these messages upon commonly addressed groups to receive a “common language,” and the related sending of such forced messages to “one or more messages to ‘all or a predetermined subcategory of subscribers’” (Ans. 7 (quoting Seth-Smith 6:17–19)), imply and disclose sending and presenting community warnings and different language closed-captioned teletext or other messages simultaneously to different groups/subcategories of users (i.e., “specific pertinence” information), along with the normal television signal (i.e., “general pertinence” information). *See* Seth-Smith 14:51–57, 19:1–7. Figure 12 of Seth-Smith further supports this finding, as it portrays addressed packets, and shows that any address, including a common address for one or more groups of users, can be inserted into addressed packets along with any common or unique message in an address packet. In addition, Seth-Smith states that “[a]ddressed packets addressed to different decoders may be transmitted in a single field.”

In their Reply Brief, Appellants respond to the Examiner’s findings and argue that Seth-Smith’s system “includes no teaching of simultaneous output of information of specific pertinence at each of a plurality of ultimate

receiver stations as set forth by claim 56.” Reply Br. 17. According to Appellants, in Seth-Smith, “[e]ach addressable packet is addressed to a single addressable decoder.” *Id.* According further to Appellants, “the display of an individual message of Seth-Smith is triggered by the transmission of an addressed packet to an addressable decoder.” *Id.*

Appellants’ arguments do not address the Examiner’s finding that Seth-Smith teaches sending generic community messages to predetermined subcategories of users. *See* Ans. 5 (citing Seth-Smith 6:5–23, 14:56–57, 17:61–66 (community danger and other general messages); Ans. 7 (citing Seth-Smith 6:17–19, “all or a predetermined subcategory of subscribers,” for similar claim 59). With respect to these types of messages, a group of users in one community can receive a different message than another group of users in another community—via language or time zone, etc. *See, e.g.*, Seth-Smith 19:1–7; Fig. 12 and discussion above. As indicated above, a similar type of community or group message involves different language closed-captioned teletext sent to different regions. *See id.* at 14:53–54, 19:1–7.

To highlight a hypothetical example for purposes of explanation, which an ordinarily skilled artisans easily could contemplate upon reading Seth-Smith’s disclosure, Seth-Smith’s system generally describes the capability of sending one type of warning (e.g., tornado watch) to one region and another (more urgent) type of warning (e.g., tornado spotted) to an adjacent region, each forced upon different groups of viewers. *See id.* at 14:53–54, 19:1–7. As found above, Figure 12 of Seth-Smith indicates that any address, including a common address for a group of users, can be input along with any common or unique message in an address packet. Therefore, Appellants’ arguments do not show that the Examiner erred in finding that

Seth-Smith teaches the simultaneous output of information of specific and general pertinence.

Appellants also contend that “the datum and signal are not stored in the network,” and are not stored at “an intermediate transmitter,” allegedly according to claim 56. *See* App. Br. 45. The Examiner responds that claim 56 does not specify where in the network to store the datum and signal, and that Seth-Smith’s system necessarily stores the datum (e.g., address of subscriber in a packet) and the signal (e.g., message or indication of a message to send) somewhere in the network “for at least some period of time” in order to process and send them. *See* Ans. 4.

Even if claim 56 does require storage at an “intermediate transmission station,” the Examiner alternatively explains that Seth-Smith’s transmitter station 10 constitutes an intermediate transmission station, because Seth-Smith’s transmitter 10 obtains messages from external sources that it rebroadcasts, including “community danger” messages, “financial quotations,” “flight information,” and other messages. Ans. 5 (citing Seth-Smith 6:5–23, 14:56–57, 17:61–66). Seth-Smith elsewhere supports the Examiner’s finding that transmitter 10 constitutes an intermediate transmission station. For example, Seth-Smith describes rebroadcasting a wide variety of information from external sources to transmitter 10 in the form of Seth-Smith’s “addressed packet/teletext transmission arrangements previously discussed.” Seth-Smith 17:61–18:18 (listing “Wall Street or Chicago Board of Trade quotations, or world-wide gold prices from a menu of a wide variety of financial information services,” “electronic bulletin boards,” “computer shopping services,” “Reuters, United Press International, Associated Press and other news gathering services not generally available

to the public”). Claim 56 does not require any particular type of message to be sent to the “intermediate transmission station” to render it an “intermediate” transmission station. Claim 56 does not recite another (originating) transmitter, or such a transmitter that transmits anything to the “intermediate transmission station.” It does not require the “intermediate transmission station” to retransmit the same messages from a non-recited (originating) transmitter. In other words, receiving messages from another transmitter (which claim 56 does not recite), as occurs in Seth-Smith, renders transmitter station 10 an intermediate transmitter station under a broadest reasonable construction of the term, regardless of whether transmitter station 10 relays those same messages to subscribers. Moreover, the Specification discloses that “conventional television network feed transmission means” involves “well known in the art” methods, including use of “intermediate transmission stations,” that receive transmissions from “transmission means” such as “so-called landlines, microwave transmissions, a satellite transponder, or other means.” Spec. 20:32–21:5.

In addition to the above findings, the record elsewhere supports the Examiner’s finding of storage at an intermediate transmission station. Seth-Smith specifically describes that “as much of the data as possible is *stored at the transmitter location*” 10. Seth-Smith 12:60–61 (emphasis added); Fig. 1. The transmitter must store the data and signal to assemble it with the television signal and send it as an addressed packet. *See* Seth-Smith Fig. 1 (encrypting video/audio/teletext frames at 16), Fig. 2 (video/audio/teletext frames); Fig. 9, Fig. 12 (“SYSTEM INITIATED” “ADDRESSED PACKET, . . . INDICATING PERSONAL OR BROADCAST MESSAGE”); Final Act. 19–20 (citing Seth-Smith 16:64–67). Seth-Smith stores the data in order to assemble

packets sent in the VBI (vertical blanking interval) of 16 fields of television data. Seth-Smith, Fig. 1, Fig. 2 (assembly 14, encryption 16), 6:30–39, 7:29–35, 8:30–9:10, 10:23–29.⁵ After assembly, the transmitter encrypts it, further necessarily requiring at least temporary storage at transmitter station 10. Seth-Smith Fig. 1 (assembly 14, encryption 16), 6:30–39.

Appellants also argue that “a phone call or a letter from the user to the broadcaster would never be considered . . . as a signal modifying a transmission at an intermediate transmission station within the network. . . . Thus, Seth-Smith fails to disclose this feature as well.” App. Br. 46. This argument fails to explain clearly what feature of claim 56 Appellants address. Assuming for the sake of argument that Appellants contend that Seth-Smith’s intermediate transmitter 10 does not satisfy the step of “modifying the information content of a second signal at said at least one intermediate transmission station based on at least one of said stored first signal and said stored at least one identification datum,” the argument is not persuasive. It does not address the Examiner’s findings. The Examiner does not rely on phone calls or letters as explained above (even though the Specification includes transmission by “so-called landlines” sources, Spec. 20:3), but relies on a first signal to send as an “indicat[ion]” of “[a] message to send,” and one identification datum as a “particular subscriber” (i.e., address). *See* Final Act. 19. The Examiner also explains that assembling Seth-Smith’s personal or community teletext messages or indication of such

⁵ According to Seth-Smith, conventional television format includes two fields per frame, with 30 frames per second—“30 ‘frames’ each comprising a still image are transmitted per second.” Seth-Smith 7:8–11. The VBI includes 16 lines within 525 lines of television. *See id.* at 6:31–35.

a message (stored first signal) and/or using the address of a packet (stored datum) into the television video/audio frame (modified second signal), satisfies the claim step, because the normal video/audio frames of a television broadcast become modified by the specific “subscriber specific messages”—teletext message or message indicator and unique subscriber address stored in the VBI, as explained above. *See* Final Act. 19 (“assembled signal is modified to include subscriber specific messages”); Seth-Smith Figs. 1, 2, 5 (depicting VBI information in modified television frames).

Based on the foregoing discussion, Appellants do not show that the Examiner erred reversibly with respect to claim 56. We adopt and incorporate the Examiner’s findings and analysis as our own. Claims 57 and 58 depend from claim 56, and fall therewith, because Appellants do not argue these claims separately. *See* App. Br. 47; Ans. 6.

2. Claims 59–61

Claim 59 follows:

59. A method of signal processing in a network having a plurality of receiver stations, each of said plurality of receiver stations being one of an intermediate transmission station and an ultimate receiver station, said method comprising the steps of:

receiving at least one instruct signal which is effective to perform one of:

(a) effecting a transmitter station to modify a signal to operate at said plurality of receiver stations to output part of a combined medium programming presentation; and

(b) effecting a first receiver station to modify a signal to operate at a second of said plurality of receiver stations to output part of said combined medium programming presentation;

receiving a transmitter control signal which operates in said network to communicate said at least one instruct signal to a transmitter;

transmitting said transmitter control signal and a first of said at least one instruct signal; and

wherein said combined medium programming is output at each of said plurality of receiver stations and includes a simultaneous output of information of general pertinence, the same information of general pertinence being outputted at each of said plurality of receiver stations, and information of specific pertinence at each of said plurality of receiver stations, the information of specific pertinence that is outputted in said simultaneous output at a one of said plurality of receiver stations being different from the information of specific pertinence that is outputted at another of said plurality of receiver stations.

App. Br. 47–48 (emphasis omitted).

Appellants argue that Seth-Smith does not disclose “receiving a transmitter control signal which operates in said network.” App. Br. 48 (emphasis omitted). The recited phrase to which Appellants refer follows: “receiving a transmitter control signal which operates in said network to communicate said at least one instruct signal to a transmitter.” In the Final Office Action, the Examiner finds that the instruct signal is a “signal received from [the] broadcaster indicating [a] message to send.” Final Act. 21. In the Answer, the Examiner appears to rely on an inherent transmitter somewhere within Seth-Smith’s transmitter station 10 as receiving a “transmitter control signal,” which allegedly causes it to generate the addressed packet with a personal message (an “instruct signal”).” Ans. 7. According to the Examiner, an inherent transmitter must receive a transmitter control signal, because something “causes the transmitter to perform a specific action.” *See* Ans. 7–8.

Responding to the Examiner’s Answer in their Reply Brief, Appellants assert that the Examiner relies on a theory of inherency that Seth-Smith does not support. Reply Br. 21–22. As Appellants contend, the

Examiner does appear to rely on a theory of inherency. *See* Ans. 7 (“Doing this necessarily requires sending a control signal from a broadcaster message source to the transmitter”).

Assuming that Seth-Smith implies transmitting community danger, personal, or closed-captioning teletext signals to transmitter station 10, to satisfy claim 59, Seth-Smith’s system must “receiv[e] a transmitter control signal which operates in said network to communicate said at least one instruct signal to a transmitter.” In Seth-Smith’s disclosed transmitter 10, teletext message assembly 12 builds message packets and signal assembly 14 processes the message packets (instruct signal). *See* Seth-Smith Fig. 1. On this record, the Examiner does not explain sufficiently how the system transmits the message packet (“instruct signal”) to transmitter 10 (“communicate[d] . . . to a transmitter”) pursuant to a received control signal. *See* Seth-Smith Fig. 1. In other words, the Examiner does not describe what part of Seth-Smith’s system receives the recited “control signal” and how that reception “operates in said network to communicate said at least one instruct signal to a transmitter.” The Examiner relies on a hypothetical control signal sent from an implied external transmitter source that allegedly transmits that control signal to transmitter 10 in order “to cause it to generate the addressed packet (instruct signal) and send it to the appropriate receiver.” *See* Ans. 7. Seth-Smith, however, discloses that transmitter 10 itself “causes an addressed packet to be sent indicating that a personal message is available at a particular page number.” Seth-Smith 16:68–17:2. Seth-Smith does not describe that transmitter 10 necessarily (or otherwise) receives a control signal from an external message source, contrary to the Examiner’s explanation.

Accordingly, the Examiner's explanation fails to establish anticipation via inherency or otherwise. *See, e.g., Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 639 (Fed. Cir. 2011) ("Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient" (internal quotation marks and citation omitted)).

Based on the foregoing discussion, Appellants show that the Examiner erred reversibly with respect to claim 59. Claims 60 and 61 depend from claim 59, and stand therewith. *See* App. Br. 44; Ans. 8.

*C. Anticipation, Cox, Claims 62, 65, 78, 79, 81,
82, 89–101, 106–110, 114–124, and 126*

1. Claim 62

Claim 62, recites the following limitations at issue:

62. A method of signal processing in a network having at least one intermediate transmission station and at least one ultimate receiver station, said method comprising the steps of:

receiving at said at least one intermediate transmission station instructions regarding programming to be transmitted;

controlling said at least one intermediate transmission station a first time in accordance with operating records stored at said at least one intermediate transmission station and with said instructions, said controlling including:

. . . .

altering said operating records to indicate that said at least a portion of a mass medium programming presentation has been received and stored

Appellants assert that Cox does not disclose "receiving at said at least one intermediate transmission station instructions regarding programming to be transmitted; controlling said at least one intermediate transmission station . . . with said instructions, said controlling including: . . . altering said operating records." App. Br. 50 (emphasis omitted). Appellants argue that

Cox's "keyboard or the like" shows that "the instructions are not received from a transmission." *Id.* at 51. Appellants also contend that "the operating records must be **manually modified** in Cox by a 'keyboard 34 or the like,'" but "claim 62 automates the alteration step of the records and therefore eliminates the manual processing step required by Cox." *Id.* Appellants also argue that the preamble "requires there to be an originating transmission station elsewhere within the network," which precludes manual entry by a keyboard. *Id.*

The Examiner responds by determining that claim 62 does not recite an originating transmitter and does not require automatic entry, or otherwise preclude adding instructions via a keyboard. *See* Ans. 9–10. To the extent an intermediate transmission station generally implies an originating transmitter for some instructions, the Answer also describes a satellite in Cox's system that transmits to the cable head end, rendering the cable head end an intermediate station. *Id.* at 9. The Examiner's findings and reasoning are persuasive and we adopt them.

We also adopt as persuasive the Examiner's remaining findings regarding claim 62. *See* Final Act. 24–25; Ans. 8–11. The thrust of the Examiner's Answer does not materially shift from the findings and rationale in the Final Office Action. *See* Final Act. 24–25 (citing Cox 5:14–18 (describing alternation of magazine and page number codes via keyboard 34)); Ans. 8–11. Rather, Appellants' arguments, outlined above, show that the central issue in dispute with respect to claim 62 and the Final Office Action involves whether claim 62 reads on Cox's keyboard 34 modifying operating records in Cox's system. *See* App. Br. 51 (arguing that Cox's system only shows that "operating records must be **manually modified**").

In Reply, Appellants shift their argument and contend that Cox does not disclose the “altering” step. Reply Br. 23. This argument is not responsive to the Answer and was not raised originally in the Appeal Brief in response to the Final Office Action. Therefore, we do not consider it. *See* 37 C.F.R. § 41.37(c)(iv) (“arguments shall explain why the examiner erred” and “[e]xcept as provided in §§ 41.41, 41.47 and 41.52, any arguments . . . not included in the appeal brief will be refused consideration by the Board”); *id.* at § 41.41 (b)(2) (“[a]ny argument raised in the reply brief which was not raised in the appeal brief, or is not responsive to an argument raised in the examiner’s answer . . . will not be considered by the Board . . . unless good cause is shown”).

Even if one considers the Reply Brief arguments to be responsive to the Answer (this panel does not), claim 62 does not preclude “altering said operating records” manually, because it does not recite the source of “receiving . . . instructions”—i.e., does not preclude receiving them from a keyboard. Furthermore, the Specification discloses that “[c]omputer, 73, has *means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.*⁶ Spec. 326:27–30 (emphasis added). Based on the foregoing discussion, and a review of the respective arguments and findings, Appellants do not show reversible error in the rejection of claim 62 for anticipation by Cox.

⁶ In contrast, see the determination below regarding a narrower “alter” clause in claim 89, which we determine below to preclude receiving a control signal from a local keyboard, where claim 89 recites “receiving an information transmission containing a control signal *from said origination station* at said intermediate transmission station.” (Emphasis added).

2. Claim 65

Claim 65 recites the following clause at issue:

effecting said at least one intermediate transmission station to control a computer to select a receiver and communicate said at least a portion of said programming presentation to a transmitter, and transmit to said at least one subscriber station a signal including said at a portion of a programming presentation[.]

Appellants argue that Cox does not disclose “effecting said at least one intermediate transmission station to control a computer to select a receiver and communicate said at least a portion of said programming presentation to a transmitter.” App. Br. 52. According to Appellants, “[f]or one, nothing in Cox discloses an intermediate station controlling a computer. Second, nothing in Cox teaches or suggests a computer station selecting a receiver.” *Id.*

The Examiner disagrees, finding as follows:

Cox discloses that the decoder (a computer) of the intermediate station is “responsive to” (controlled by) control data received at the intermediate station to read, decode and transmit stored programming guide pages to a set of subscriber receivers (col. 3, ll. 54-62). In doing so, the decoder “selects” the set of subscriber receivers to receive the transmission by rebroadcasting the signal to the subscriber receivers (col. 3, ll. 59-65). It is noted that the current claims fail to require selection of a particular receiver or set forth any criteria used in a selection process.

Ans. 11–12.

According to the passage above, the Examiner reads the claim limitation of “selecting a receiver” onto an alleged teaching in Cox of selecting “a set of subscriber receivers.” *See id.* at 11. Claim 65 recites two distinct phrases: “transmit to said at least one subscriber station” and “select

a receiver.” In context, reciting “*select* a receiver” (emphasis added) and “transmit to said at least one subscriber station” implies the selection of a single receiver instead of, as the Examiner reasons, selecting a set of receivers each located “at least one subscriber station.” Furthermore, Cox does not specify clearly whether or not the decoder selects subscriber receivers at the cited passages, contrary to the Examiner’s finding. *See* Cox 3:54–62; Ans. 11–12.

Based on the foregoing discussion, Appellants show reversible error in the rejection of claim 65 for anticipation by Cox.

3. Claims 78, 79, 81, and 82

Claim 78 recites the following limitations at issue:

78. An intermediate transmission station, comprising:

- a first receiver that receives from one or more remote programming origination stations a plurality of units of television programming and data that identify content of said units of television programming or a subject matter included in said units of a television programming;

- a first storage device that stores data of predetermined capabilities of said intermediate transmission station;

...

- a first controller that processes said data of one or more predetermined capabilities to identify one of said plurality of second storage devices at which to store at least one of said units of television programming.

The Examiner reads “data of predetermined capabilities” onto Cox’s stored programming guide pages, which may be transmitted for display in any desired pattern. Final Act. 46. The Examiner finds that this data, stored in page memories, represents “information the station is capable of transmitting,” and therefore, constitutes data of predetermined capabilities. Final Act. 46 (citing Cox 6:21–22).

Appellants contend that Cox does not disclose “data of predetermined capabilities” of the transmitter. App. Br. 54. Appellants explain that “predetermined capabilities” means something “such as, the kind of bandwidth or frequencies that can be transmitted by a transmitter, and how many programs can be sent at a given time by a transmitter.” *Id.* In making this argument, Appellants fail to provide any citation to the Specification to support such a limited reading, or explain why it corresponds to the broadest reasonable construction. *See id.*

The Examiner reasons that “data of predetermined capabilities” reads on Cox’s guide page data, because, according to the Examiner, that data represents the data that the station is capable of transmitting. Ans. 13 (citing Cox 6:21–43). In their Reply Brief, Appellants state that “the Specification teaches that computer 73 stores its operating records which show the capabilities of the intermediate transmission station,” and contends Cox does not show an “equivalent teaching.” Reply Br. 29 (citing Spec. 326:25–27; 330:5–35; 348:30–349:4).

The first cited portion of the Specification discloses that “[c]omputer, 73, has “capacity for maintaining records on the station’s programming schedule and records on the status of operating apparatus.” Spec. 326:25–27 (emphasis added). The second cited portion discloses that

[c]omputer, 73, has *capacity for determining what programming is prerecorded on the magnetic tapes* (or other recording media) loaded on the recorders, 76 and 78, *and capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. . . .* [Recorded] SPAM information can include not only “program unit identification code” information *but also information regarding of the distance from the point on the tape at which a*

given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point).

Id. at 330:5–19 (emphases added). The third cited portion does not appear to be relevant (absent an explanation by Appellants as to its import). *See* Spec. 348:30–349:1 (discussing computer 73 and altering operating records).

The cited portions of the Specification do not show a distinction or otherwise support Appellants’ argument. Appellants do not explain how their Specification at the cited portions support a claim distinction. *See* Reply Br. 29. As quoted above, the Specification describes, for example, “capacity for determining what programming is prerecorded” and “capacity for positioning the start points.” Spec. 330:5–10. Like the Specification portion that Appellants cite, the Examiner’s citation of page data in Cox relates to capacity or capability of transmitting “what programming is prerecorded” (Spec. 330:5–10). *See* Ans. 13. Appellants agree that Cox’s page data relates to “capacity,” stating that “[t]he programming guide pages which are stored, store content in a predetermined format which has a predetermined **capacity**.” App. Br. 54. Appellants maintain that “nothing in the cited section speaks to a ‘**data of predetermined capabilities**.’” *Id.* As noted above, the Specification portion upon which Appellants rely describes “capacity,” so it does not support Appellants’ alleged distinction between “capacity” and “capability.”⁷ *See id.* Despite Appellants’ attempt to create some type of distinction between “capacity” and “capability”

⁷ *See also* Appellants’ arguments and discussion of claim 67 (“this is capacity, not **capability**”). App. Br. 87. Appellants also contend they presented an amendment to claim 78 “to replace ‘capacities’ with ‘capabilities.’” App. Br. 54. It is not clear how that attempted amendment supports Appellants’ position.

without actually explaining any clear distinction (*see id.*), the plain meaning of these terms, like the Specification, also does not support it. For example, “capacity” means “[t]he ability to do something,” “capability” means “[t]he capacity to be used, treated, or developed for a certain purpose,” and “capable” means “[h]aving capacity or ability.”⁸

Faced with the Examiner’s *prima facie* rejection, “the burden of production falls upon the applicant to establish entitlement to a patent.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). Appellants fail to demarcate clearly their claimed invention pursuant to its burden, and instead, blur distinctions by attempting to create a distinction between capacity and capability without clearly explaining that distinction. In other words, “[t]he problem in this case is that the appellants failed to make their intended meaning explicitly clear.” *Id.* at 1056 (“It is the applicant’s burden to precisely define their invention, not the PTO’s”). “This [placement of the burden] promotes the development of the written record before the PTO that provides the requisite written notice to the public as to what the applicant claims as the invention.” *Id.* at 1054.

Claim 78 also requires processing the data by “a first controller that processes said data of one or more predetermined capabilities to identify one of said plurality of second storage devices at which to store at least one of said units of television programming.” The Examiner determines that processing Cox’s page data and then storing it satisfies the claim phrase. *See* Final Act. 46 (citing Cox 3:54–65). Appellants do not address this finding in their original Appeal Brief, but then address it in their Reply

⁸ The American Heritage Dictionary of the English Language 199 (1975). App’x.

Brief. Reply Br. 30 (“The rejection merely asserts that teletext pages are stored in page memories. Final Office Action at 46”). This Reply Brief argument is not responsive to the Answer, and it cites the Final Office Action, thereby showing that it is raising a new argument about the original finding there by the Examiner. *See* 37 C.F.R. § 41.37(c)(iv). Therefore, we do not consider the argument, because Appellants waived it. *See id.*

Even if the argument is considered somehow to be responsive (it is not by this panel), it is not persuasive. Appellants allege that a *quality* of the data (i.e., its capacity to be transmitted in “any desired pattern”) must be processed to satisfy the “processes” clause to identify storage devices. *See* Reply Br. 29–30. Claim 78 does not require such a determination of the data quality.

Appellants’ Appeal Brief also presents arguments related to Feature B (“a plurality of second storage devices”) and Feature C (“identify content of said units of television programming”). App. Br. 54–55. The first argument mischaracterizes the Answer, contending that the Examiner relies on teletext pages for storage devices. *Id.* at 54. The Examiner clearly identifies “page memories” of Cox, not pages. Final Act. 46. Cox supports the Examiner and discloses different page memories 38a, 38b, and 38c that constitute storage devices. Cox, Fig. 4. In Reply, Appellants raise several arguments for the first time that are not responsive to the Answer. For example, Appellants shift to arguing that Cox does not disclose a first storage device and a plurality of second storage devices. Reply Br. 30–31. *See* 37 C.F.R. § 41.37(c)(iv). Therefore, we do not consider the argument, because Appellants waived it. *See id.* Even if the first argument is considered timely or responsive (it is not by this panel), claim 78 does not preclude a first

storage device such as 38a from being located in proximity with a plurality of other second storage devices (38b, 38c) as Cox discloses. *See* Cox, Fig. 4 (showing multiple page memories).

The second argument contends that comparing time codes in row 25 and 24 fails to identify “any **content** embodied in the programming guide page.” App. Br. 55. The Examiner finds that page identifiers help to identify content of program guides. *See* Final Act. 45 (citing Cox 3:24–33; 4:3–7). The Examiner explains that “a page number code that identifies the content of the received page (i.e., page 1, page 2 etc.) by indicating which page of the programming guide is contained therein.” Ans. 14. The time codes and/or page identifiers, which Appellants describe as disclosed by Cox do not support Appellants. *See* App. Br. 55. Rather, Appellants’ description shows that Cox’s control codes satisfy the claim phrase, for reasons explained further below.

Appellants contend that the Specification describes “identification codes [that] do more than merely identify a page number of successive pages of information. These program unit identification codes *include information that permits the content of the program unit to be identified.*” Reply Br. 32 (citing Spec. 89:7–90:3). This argument does not present a clear distinction over Cox’s control codes. In Cox, by locating and specifying the desired content to be transmitted (using time codes and/or the page data), “the information permits . . . the content of the program to be identified.” *See* Reply Br. 32, Spec. 89:7–90:3.

Appellants and claim 78 do not specify that the term “identify content” must *describe* the *subject matter* of the content. Claim 78 recites “data that identify content of said units of television programming *or a*

subject matter included in said units of a television programming.”

(Emphasis added). This alternative phrasing indicates that Cox need not disclose this alternative “subject matter” information in order to satisfy the claim phrase of “identify content,” which Cox accomplishes, by identifying content for storage and transmission. The portion of the Specification cited by Appellants supports this broader reasonable interpretation of “identify content,” because it describes “information that identifies one of the following: the origin of said ‘Wall Street Week’ transmission, the subject matter of said ‘Wall Street Week’ program, *the program unit of said program, the day of said transmission . . .*” Spec. 89:16–35 (emphasis added). These disclosed non-limiting examples, in conjunction with Appellants’ Reply Brief arguments (“permits the content of the program unit to be identified” (Reply Br. 32)), and the claim language that embraces alternatives about “subject matter,” all indicate that “identify content” is broad enough to encompass pointers or other information that specify the location of the content, thereby identifying that specific content by its location, or permitting it to be identified.

Appellants raise another new Reply Brief argument related to a different aspect of the first claim phrase related to television programming and argue “[i]t is not clear whether the Examiner relies on teletext pages or the standard RF NTSC television signal.” Reply Br. 31. Appellants contend that Cox’s RF NTSC television signal is not received from the origination station or multiple page programming guides are not transmitted to a receiver station. *Id.* These arguments are not raised in the Appeal Brief and are not responsive to the Answer, and we do not consider them, as Appellants waived them. *See* 37 C.F.R. § 41.37(c)(iv). The arguments also

do not show reversible error or address the Examiner's finding that guide pages are units of television programming transmitted to subscriber receivers for viewing, and Cox's satellite 10 transmits standard television to different head end facilities. *See* Final Act. 46 (citing Cox 4:53–68; 6:8–21); Ans. 14–15; Cox, 1:63–68; 2:10–15, Fig. 1 (showing satellite 10, and TV receivers 16). Cox discloses “standard NTSC television signals transmitted by an orbiting satellite.” *See* Cox, 1:63–68; *see also* Cox 6:59 (“satellite operator” controls the satellite). The “one or more . . . origination stations” recited in claim 78 reads on either satellite 10 or an implied origination NTSC television origination source that transmits via satellite 10 to Cox's head end broadcasters. *See also* Spec. 20:32–21:5 (admitting that television transmissions to intermediate stations were conventional and well-known as noted above with respect to claim 56).

Appellants rely on their arguments for claim 78 to allege error in the rejections of claims 79, 81, and 82, which depend from claim 78. *See* App. Br. 56. Based on the foregoing discussion, Appellants do not show error in the anticipation rejection of claim 78, 79, 81, and 82.

3. Claims 89–94

Claim 89 recites the following phrases at issue:

89. A method of communicating units of programming to a subscriber in a network, said network including at least one programming origination station, an intermediate transmission station, and at least one subscriber station, said intermediate transmission station transmitting said units of programming to said at least one subscriber station, said method comprising the steps of:

receiving an information transmission containing a control signal from said origination station at said intermediate transmission station;

. . . .
controlling said intermediate transmission station based on said control signal to:

select a portion of said units of programming based on operating records stored at said intermediate transmission station;

. . . and alter said operating records stored at said intermediate transmission station to indicate at least one of reception and storage of said selected a portion of units of programming

The Examiner initially finds that Cox discloses the “select a portion of said units of programming” limitation by disclosing that “incoming pages are selected based on the magazine/page number codes in the decoder.” Final Act. 55 (citing Cox 4:53–58).

Appellants respond that

Cox does not disclose an operating record, let alone controlling an intermediate station to select units of programming based on operating records. The section cited by the Examiner states that the pages can be selected depending on the information within the page, but the magazine and page numbers that a decoder is authorized to receive and act upon must be entered via a “keyboard 34 or the like.” Cox at Col. 5, ll. 14. The alteration must be done manually in Cox. The claim on the other hand requires “controlling said intermediate transmission station **based on said control signal to . . . alter said operating records** stored at said intermediate transmission station.” Cox explicitly requires this to be done manually, not under the control of the control signal.

App. Br. 57.

Addressing the “select” step quoted above, the Examiner responds as follows:

Cox discloses a first “operating record” stored at the intermediate station that identifies each page of the programming guide the decoder is authorized to receive (col. 5, ll. 14–17). This

operating record is used to select received programming for storage in specific memory locations (col. 3, ll. 51–54; col. 5, ll. 40–54).

Ans. 15.

According to the Examiner’s findings as quoted above, Cox’s keyboard at the intermediate transmission station causes storage of the operating records introduced in the “select” step as Appellants contend. *See* Cox 5:14–18 (“keyboard 34” changes “magazine and page number code[s]” and “identifies each page of the . . . programming guide that the decoder is authorized to receive”). Consequently, the Examiner fails to show that Cox meets the “select” and “alter” clauses as argued by Appellants. Claim 89 requires “said operating records” in the “alter” clause to be altered “based on” a control signal transmitted “from said origination station,” instead of from a keyboard, which is not at the origination station in Cox. And “said operating records” in the “alter” step refer back to the “operating records” introduced in the “select” step, so that the “operating records” used to select programming units per the “select” step also must be altered via the control signal that must be transmitted from the origination station, instead of by a keyboard not at the origination station.

Based on the foregoing discussion, Appellants show reversible error in the Examiner’s finding of anticipation of claim 89 by Cox. Claims 90–94 depend from claim 89 and stand therewith.

4. Claims 95 and 96

Claim 95 recites “receiving a set of computer instructions at said intermediate transmission station,” wherein the computer instructions, among other things “caus[e] said intermediate transmission station to one of select and generate at least one unit of said at least a portion of said mass

medium programming.” Claim 95 also recites “receiving a control signal, said control signal causing a computer . . . to execute said set of computer instructions at a specific time, said computer instructions causing said intermediate transmission station to one of select and generate at least one unit of said at least a portion of said mass medium programming.”

Addressing the set of computer instructions, the Examiner cites to portions of Cox that disclose sending certain control data, including time codes, with a programming guide that Cox’s system stores. *See* Final Act. 58 (citing Cox 3:21–39 (discussing “certain control data” and stating “[t]he control data comprises first and second auxiliary data rows”)); Ans. 18. The cited control data (computer instructions) includes time-on and time-off codes transmitted and stored. *See* Cox Fig. 2 (showing auxiliary row 24 with the time codes).

With respect to the control signal, the Examiner cites to Cox’s description of decoder 22, which “is responsive to the control data for storing each programming guide page in a respective page memory. In addition, decoder 22 is responsive to the control data for automatically reading and decoding the stored programming guide pages during selected times of the day and coupling the decoded pages in a predetermined cyclical manner to the input of a television channel modulator 24.” Cox 3:51–57; Ans. 18; Fin. Act. 58 (citing Cox 3:54–62).

To implement this automatic rebroadcasting, Cox describes comparing time codes sent continuously in a control signal in row 25 to those stored in previous transmissions including row 24, and rebroadcasting programming content based on matched time codes. *See* Cox 4:47–69, *see also* Fig. 2 (showing row 24 to be stored and row 25); Cox 4:60–62

(comparing “time-on and time-off codes . . . to determine when the associated programming guide page is to be rebroadcast”). To capture the initial time codes in row 24, Cox also discloses control signal data in the form of magazine, page number codes, and address bytes, as rows of a pseudo page header, to facilitate initial programming page acquisition and storage. *See* Cox 4:18–63, Fig. 2; Fig. 6.

In response to the Examiner’s findings, Appellants contend that Cox fails to disclose “computer programming.” App. Br. 59. According to Appellants, “[i]nstead, it only teaches control data which is separate from computer programming. Further, nothing in Cox teaches or suggests receiving or storing **computer instructions and a control signal** that causes the computer instructions to be executed.” *Id.*

Addressing the “computer instructions,” the Examiner replies as follows:

Claims 95 and 96 use only the term “computer instructions”, which are disclosed by Cox, which receives a program guide and control data that “instructs” the intermediate transmission station to select stored program guide pages for retransmission to receivers at the appropriate time (col. 3, ll. 54–63; col. 4, ll. 18–32; col. 6, ll. 12–17). The time codes in the program guide fall within the broadest reasonable interpretation of “computer instructions”, since they instruct the intermediate station to transmit specific programming guide pages at specific times (col. 4, ll. 18–32; col. 4, ll. 58–63; col. 6, ll. 21–43).

Ans. 18.

Addressing whether the “control signal” causes the “computer instructions” to be executed, the Examiner “respectfully disagrees” with Appellants and finds that

“[r]esponsive to” the received control data signal, the decoder of the intermediate station begins decoding the stored guide and

transmitting pages in accordance with the time codes instructing the intermediate transmission station to transmit specific guide pages at specific times (col. 3, ll. 54–59; col. 4, ll. 18–32; col. 4, ll. 58–63; col. 6, ll. 21–43).

Id.

Replying to the Examiner’s findings, Appellants contend as follows:

As described in the specification, *a control signal may instruct a station to perform a particular task*. However, such a control signal is not a set of computer instructions. *Such a control signal is responded to; it is not executed. . . .* The time codes of Cox are at best control signals. The time codes of Cox are not a set of computer instruction[s] in that they are *not executed as a set by a computer*.

Reply Br. 37–38 (emphases added).

Appellants’ collective arguments are not persuasive. It is not clear how codes that “instruct a station to perform a particular task” differ materially, if at all, from codes “executed as a set by a computer.” Reply Br. 37–38. Appellants do not explain the difference between “executed by a computer” and “instruct a” computer. Furthermore, contrary to their arguments with respect to claims 41 and 95, Appellants actually describe the control codes in Cox as being *executed* in challenging another claim: “Cox explicitly cites that the decoder is ‘responsive to the control data for storing each programming guide page in respective memory.’ The *control data is executed* at the intermediate transmission station but is never stored.” App. Br. 75 (quoting Cox, 3:53–54) (discussing claim 45).

The Specification indicates that a set of signals or instructions may be transmitted separately and from different locations: “In *all cases*, signals may convey information in discrete words, *transmitted at separate times or*

in separate locations.” Spec. 14:18–24 (emphasis added).⁹ The Specification also discloses that a decoder detects “embedded instruction information” and “converts it into digital signals usable by microcomputer, 205.” Spec. 22:23–27. It also discloses that “*instructions* of said series are addressed to and *control* the microcomputer, 205, of each subscriber station.” *Id.* at 22:6–8 (emphasis added). It refers to “control instructions . . . embedded sequentially on said . . . lines of the vertical interval.” *Id.* at 22:1–3. These disclosed computer instructions described in the Specification do what Appellants agree Cox’s control codes do—they control a decoder.

Appellants have a duty to explain how the claimed invention differs from the prior art. *Morris*, 127 F.3d at 1056 (“It is the applicant’s burden to precisely define their invention, not the PTO’s”). Appellants’ explanation in their Reply Brief outlined above, along with the language of dependent claim 42 (“wherein said computer programming is television programming”—discussed further below), blurs any alleged distinction between “execute” and “responds to” or “processes” in the context of a “set of computer instructions.” Referring to the execution of signals in Seth-Smith also blurs distinctions with respect to Cox’s execution. *See* App. Br. 84 (“decoder determines what is executed and what is not”). As discussed further below in connection with claims 41–44, which recite a similar term (e.g., claim 41 recites “computer programming for execution”), the inventors

⁹ The Specification carefully delineates narrower instances of signals by noting that “the term ‘signal unit’ hereinafter means one complete signal instruction or information message unit.” Spec. 14:26–27; *see also id.* at 14:33–35 (“‘signal word’ hereinafter means one full discrete appearance of a signal as embedded at one time on one location on a transmission.”)

imply through their claims and disclosure that the term “executes” in the context of a set of instructions carries a broad meaning that includes “processes” or “responds to.” That is, as discussed further below, claim 42 depends from claim 41 and recites “wherein said computer programming is television programming.” This claim recitation shows that the inventors deem “computer programming” and its execution to be broad, because the disclosed system merely processes computer (i.e., television) programming (“computer programming is television programming”) in typical fashion, as described above, for example, in connection with the disclosed “Wall Street Week” embodiment.

In their Reply Brief, Appellants raise new arguments that are not responsive to the Examiner’s Answer. The non-responsive arguments follow:

Claim 95 recites a *control signal causing a computer at said intermediate transmission station to execute said set of computer instructions at a specific time*. Claim 96 recites a *computer that executes said set of computer instructions at a specific time based on said control signal*. The Examiner fails to identify a control signal in the control data of Cox that executes the time-on and time-off codes. As noted above, the time-on and time-off codes are not executed on command, rather they are continuously accessed to determine if the associated program page should be transmitted at the current time.

Reply Br. 38.

These new Reply Brief arguments raise a new issue related to “execut[ion] . . . *at a specific time*” (emphasis added) limitation that Appellants do not raise in the original Brief and are not responsive to the Answer. Accordingly, we do not consider them, as they are deemed waived. *See* 37 C.F.R. § 41.37(c)(iv). In the event one considers the Reply Brief

arguments to be responsive (this panel does not), as noted above, the Examiner identifies a control signal in Cox at column 3, lines 54–59. *See* Final Act. 58 (citing Cox, 3:54–59); Ans. 18 (“‘Responsive to’ the received control data signal, the decoder of the intermediate station begins decoding the stored guide and transmitting pages in accordance with the time codes instructing the intermediate transmission station to transmit specific guide pages at specific times.”) (citing Cox 3:54–59; 4:18–32; 4:58–63; 6:21–43). As also noted above, the partially quoted passage states that “decoder 22 is *responsive to the control data* for automatically reading and decoding the stored programming guide pages *during selected times* of the day and coupling the decoded pages in a predetermined cyclical manner to the input of a television channel modulator 24.” Cox 3:51–57. This passage describes and implies decoding and time code comparison (computer programming) *during selected times of the day* “responsive to . . . control data” (the recited “control signal”). Appellants do not address that control signal identified by the Examiner persuasively, which Cox describes separately from the “cyclical” signal Appellants newly raise in their Reply Brief arguments. *See* Reply Br. 38 (conflating continuous transmission of row 25 with cyclical retransmission). Moreover, by sending row 25 continuously, Cox’s system responds to that row 25 control signal at the specific time it receives it, and also processes other computer instructions if a match occurs at a specific time based on the received time of row 25, and then processes computer instructions as stored in row 24 and as temporarily stored and received in row 25 to select programming for retransmission. *See* Cox, 4:47–67 (describing rebroadcasting select pages by processing rows 24 and 25 with row 25 transmitted on a continuous basis).

Appellants do not argue claim 96 separately (except as noted above, i.e., in an untimely non-responsive Reply Brief argument). *See* App. Br. 59. Based on the foregoing discussion, Appellants have not shown error in the rejection of claims 95 and 96.

5. Claims 97–101, 106–110, 114–124, and 126

Claim 97 recites a “method of communicating programming to subscribers in a network,” including as follows:

97. A method of communicating programming . . . the method comprising the steps of:

storing a plurality of audio or video programming units in said network;

scheduling at least a first time for transmitting at least a first of said stored programming units from at least a first of said plurality of transmission stations;

controlling said network, based on said step of scheduling, to organize said stored plurality of audio or video programming units for transmission by arranging the programming in an order for sequential transmission; and

controlling said at least said first of said plurality of intermediate transmission stations based on said control signal to transmit said at least said first of said stored plurality of audio or video programming units to at least one of said subscriber stations at said at least said first scheduled time from said step of scheduling, wherein two of said plurality of intermediate transmission stations transmit units of said plurality of audio or video programming at different times in said order for sequential transmission.

The Examiner finds that Cox discloses at least two intermediate transmission stations (“a plurality of head end facilities,” Cox, 4:58), and each one transmits units of programming (in the form of a programming guide) at different times in said order for sequential transmission, based on time codes in the programming guide. *See* Final Act. 62 (citing Cox 4:54–5:5; 6:26–42). The Examiner reasons that “pages are organized in an order

and sequentially read for transmission” and that “each headend may receive and transmit different programming guide portions/sequences.” *Id.* (citing Cox 4:54–5:5; 6:26–42).

Appellants stress that “Cox is limited to a single intermediate transmission station, *not multiple stations working in concert.*” App. Br. 61 (emphasis added). Appellants make similar arguments, for example, that with their respect to their invention, “[t]he programs are transmitted from different intermediate transmission stations. The order of their sequential transmission is controlled by the program origination station through the step of scheduling the transmissions.” App. Br. 61.

In response, the Examiner maintains the rationale in the Final Office Action, contending, for example that “[c]laim 97 simply does not require coordinated, sequential transmission of programming from multiple intermediate stations to the same receiver in an order specified by an origination station.” Ans. 20.

Appellants’ arguments are not persuasive to show reversible error in the Examiner’s determination. As the Examiner determines, claim 97 does not require the argued coordination between different intermediate stations. The phrase “wherein two of said plurality of intermediate transmission stations transmit units of said plurality of audio or video programming at different times in said order for sequential transmission” does not recite any coordination. It is broad enough for each station (of the multiple cable head ends) independently to transmit units “in said order for sequential transmission.”

The phrase “said order for sequential transmission” nominally appears to refer back to its antecedent in the phrase “controlling said network, based

on said step of scheduling, to organize said stored plurality of audio or video programming units for transmission by arranging the programming in an order for sequential transmission.” The “stored . . . plurality” refers back to “storing . . . programming units in said network.” None of these phrases preclude “arranging the programming in an order for sequential transmission” individually at each intermediate transmission station. Furthermore, Appellants do not specify what “arranging . . . in an order for sequential transmission” means. The plain terms imply arranging stored units of programming so that they are transmitted one after another.¹⁰ Claim 97 does not preclude arranging the units just prior to transmission, arranging them by storing them, arranging them by using some form of control, or some combination of all of these, provided they are arranged for sequential transmission (as opposed to, for example, parallel or some other form of non-sequential transmission as an alternative to “sequential” that may have existed at the time of the invention).

As the Examiner finds, Cox discloses transmitting different pages pursuant to time codes, in sequential transmission at each head end (intermediate transmission station). *See* Cox 4:18–5:5, Fig. 2; Ans. 20. Also, different head end transmission stations transmit programming units at different times, with each one transmitting them in “an order for sequential transmission,” as claim 97 requires. *See* Cox 4:18–5:5. In other words, each transmission station transmits a given set of pages according to time codes and content as set by the originating satellite. *See* Ans. 20. Even within a

¹⁰ As noted above, the Examiner rejected claim 97 for indefiniteness. Final Act. 61 (stating that “order for sequential transmission” is “unclear”).

page, Cox's system transmits content (e.g., rows 1–23) of a single page in sequential order. *See* Cox, Fig. 2, 4:25–37.

The Examiner also reasons that the disputed claim phrase requires Cox's system to transmit programming pages in sequential order, not necessarily store pages in a sequential storage order. Final Act. 60; Ans. 20. Stated differently, Cox's system includes stored programming pages or rows that the system arranges in an order for sequential transmission as dictated by the time codes. *See* Final Act. 61–62 (citing Cox, 4:25–32, 4:53–69, 6:26–43).

Cox supports the Examiner's findings and reasoning at a number of places. At one cited passage, Cox discloses automatically rebroadcasting "any sequence of pages" based on "suitably specifying" with time codes in row 25 to compare to time "codes stored in row 24 of each memory to determine when the associated programming guide is to be rebroadcast." Cox, 4:58–67. Cox's system arranges the pages by "stor[ing each] at a memory page . . . corresponding to the memory page address of row 24." Cox, 4:37–40. Cox's system also uses the addresses to determine where to store the appropriate time codes for each page. Cox, 5:30–45. In other words, Cox's system "organize[s] said stored plurality of audio or video programming units for transmission by arranging the programming in an order for sequential transmission," with organizing for transmission by arranging occurring in Cox (separately or in conjunction) as follows: 1) by storing the correct time codes with the correct pages at the correct addresses, and/or 2) comparing time codes in row 25 to with those stored in row 24 and associated with correct guide content (per the time codes associated therewith) in order to arrange and send the correct pages in sequential order.

Appellants' Reply Brief tracks the Appeal Brief to a certain extent, but also shifts and adds a new argument. *See* Reply Br. 39–41. As to the former, Appellants argue that Cox does not disclose “an order for sequential transmission” and contends that Cox must transmit “the programming in correct order from multiple intermediate transmission stations.” Reply Br. 40. Contrary to this argument, Cox’s system necessarily transmits program schedules “in correct order” from multiple intermediate stations (independently as noted above), otherwise there would be no reason to transmit the program guides to subscribers for use. *See* Cox 2:15–35 (“maintaining an accurate time base” to provide information to subscribers), 4:32–40 (transmitting and storing rows 1–23 pursuant to time-off and time-on codes), 4:65–66 (providing for transmitting “any sequence of pages” based on the time codes).

As to Appellants’ new argument, Appellants allege that Cox “teaches that pages need not be organized in any manner,” because Cox transmits according to time codes, such that “[m]ere storage is insufficient to teach organizing by arranging in an order for sequential transmission.” Reply Br. 39–40. These newly presented arguments in the Reply Brief are not responsive to the Answer. We do not consider them, as they are deemed waived. *See* 37 C.F.R. § 41.37(c)(iv).

Even if one considers the Reply Brief arguments to be responsive (not this panel), they are not persuasive. The arguments appear to allege a failure in Cox to store the rows or pages in a sequential or some other order, but nothing in claim 97 requires storing pages in an order other than to facilitate sequential transmission. Claim 97 recites “storing a plurality of . . . programming units in said network.” This phrase does not mention any

order. The phrase discussed above recites “controlling said network, based on said step of scheduling, to organize said stored plurality of audio or video programming units for transmission by arranging the programming in an order for sequential transmission.” As discussed above, Cox discloses stored rows and pages “organize[d] . . . for transmission by arranging the programming in an order for sequential transmission.”

Based on the foregoing discussion, Appellants have not shown that the Examiner erred in the anticipation rejection of claim 97 based on Cox. Appellants rely on arguments for patentability of claim 97 to allege Examiner error in the rejection of claims 98–101, 106–110, 114–124, and 126. App. Br. 61. We adopt the Examiner’s rationale and findings with respect to claims 97–101, 106–110, 114–124, and 126, which depend (or ultimately depend) from and fall with claim 97. *See* Final Act. 60–69, Ans. 18–21.

*D. Obviousness, Cox and Seth-Smith,
Claims 41–45, 51, 53–55, 63, 64, 66, 112, 113, 133, 134*

1. Claims 41–44 and 133

Claims 41 and 43 recite a method for communicating computer programming to users via intermediate transmission stations. Claim 41 recites the following claim limitation at issue:

scheduling one of a channel and a frequency for transmitting said at least some of said computer programming from each of said plurality of intermediate transmission stations to said at least one user station, said at least some of said computer programming for execution by a computer at one of said plurality of user stations, said one of said scheduled channel and said scheduled frequency differing from intermediate station to intermediate station.

Appellants argue that the “Examiner admits that Cox fails to teach the features of . . . at least some of the computer programming to be executed by a computer at a plurality of user stations.” *See* App. Br. 66. Appellants note that the Examiner relies on Seth-Smith to teach the alleged deficiency in Cox, and then states “[h]owever, as discussed below, Cox fails to teach several limitations of Claims 41 and 43, including the features identified above by the Examiner” and “Seth-Smith fails to obviate the deficiencies of Cox.” App. Br. 70; *see* Final Act. 5–6 (relying on Seth-Smith to modify Cox with particular reasoning).

Appellants allege deficiencies in the combined teachings of Cox and Seth-Smith with respect to “Feature[s]” A, B, C, D, and E. *See* App. Br. 66–71. Feature A, “computer programming” appears in each of the other Features, and Appellants primarily rely on an alleged lack of “computer programming” to allege a lack of a showing with respect to all the Features *See id.*

For example, with respect to Feature B, “transmit said at least some of said computer programming to said at least one user station,” Appellants allege that “[e]ven if the teletext code [in Cox] is considered to be computer programming, the teletext code never reaches a user station as required by the claim preamble and the claim limitations.” App. Br. 69. This argument turns on the breadth of “computer programming,” and fails to account for the teachings of Seth-Smith, as discussed further below.

Appellants also argue that Cox “fails to teach” and Seth-Smith “fails to teach” “Feature C”: “the feature [of] ‘each one of said scheduled channel and said scheduled frequency differing from intermediate station to intermediate station’ because each intermediate transmission station receives

the same transmission.” App. Br. 69–70. According to Appellants, “Seth-Smith only teaches a single broadcaster that uses a single frequency” (App. Br. 70), and in Cox’s system, “the same pages are sent to all receivers” so “the same transmission is sent to all receivers, not different transmissions to different receivers.” App. Br. 70.

These arguments with respect to Cox’s “same pages” are not persuasive. Nothing in Feature C requires different pages to be sent, or precludes the same transmission from being sent, and Appellants fail to show that Cox’s system sends the same pages from different head ends, to the extent that may be relevant. In any case, contrary to Appellants’ argument, to the extent it may be relevant to a claim phrase, as the Examiner persuasively finds, Cox discloses that each decoder is set to acquire “particular magazine and page number codes” to “facilitat[e] the broadcast of different information to each of the plurality of head-end facilities,” where the head end facilities read on the claimed “intermediate transmission stations.” Ans. 24 (quoting Cox 4:54–58). As the Examiner also finds, Seth-Smith teaches using different frequencies (channels) to transmit content from different providers, and Cox similarly teaches multiple channels for sending different programming guides. *See* Ans. 24 (citing Cox 3:23–34, 4:54–58; Seth-Smith 20:12–20); Final Act. 4–5. In addition, the Specification admits that retransmission from an origination studio to intermediate broadcasting stations was well-known. *See* Spec. 20:31–21:4.

Appellants do not address the combination as set forth by the Examiner, but only address what each reference individually teaches. App. Br. 69–70. In their Reply Brief, Appellants shift their argument and admit that Seth-Smith teaches broadcasting on different frequencies,

Seth-Smith describes that each broadcaster transmits at a different carrier frequency. Seth-Smith, col. 20, l. 15-16. As is the practice today, at the time of the invention, different television broadcasters transmitted on different assigned frequencies that user's television receivers could be tuned to. The claim language, however, sets forth *scheduling* a channel or frequency for transmitting some of the computer programming. Seth-Smith merely teaches the well[-]know[n] concept that different broadcasters transmit on different channels. There is no suggestion in Seth-Smith (or Cox) to schedule a channel or frequency on which to transmit.

Reply Br. 47–48.

This shift in argument to “scheduling” is not responsive to the Examiner's Answer and does not appear in the Appeal Brief. Therefore, we do not consider it, as it is waived. *See* 37 C.F.R. § 41.37(c)(iv) (“The arguments shall explain why the examiner erred as to each ground of rejection contested by appellant.”).

Even if the non-responsive arguments appearing for the first time in the Reply Brief somehow are deemed to be timely, contrary to the arguments, each intermediate station in Cox and in Seth-Smith implicitly and necessarily “schedules” what it broadcasts on its own broadcast frequency; otherwise, nothing would be broadcast in any meaningful manner. Cox's system specifically schedules programming according to time codes and each head end schedules its own programming on its own frequency or channel. *See* Cox, 4:25–33; 4:58. Contrary to Appellants' arguments, claims 41 and 43 do not require *coordinated* scheduling *between* intermediate transmission stations.

Appellants also argue that Cox does not teach the related “Feature D” of “controlling each of said plurality of intermediate transmission stations to select and store said at least some of said computer programming for a

period of time.” App. Br. 70 (emphasis omitted). As they do for each of argued Features A–E listed in their Appeal Brief, Appellants rely on an alleged lack of “computer programming” to support their argument. App. Br. 66–71. *See, e.g.*, App. Br. 69 (“Feature B” arguing that “[e]ven if the teletext code is considered to be computer programming, the teletext code never reaches a user station as required by the claim preamble and the claim limitations”); App. Br. 71 (“Feature E” arguing that “[s]ince Cox fails to teach computer programming . . . , it cannot teach transmitting said selected and stored computer programming”).

Regarding “computer programming,” the Examiner persuasively finds that Cox teaches transmitting different control data accompanying program guides in order to control the timing of different particular guides based on the timing information, and Seth-Smith teaches sending computer programming code in packets to subscribers to allow personalized messages to be sent to particular subscriber receivers. Final Act. 5–6 (citing Cox 3:27–33, 54–65; 4:53–58; Seth-Smith 20:12–19; 16:64–17:1).

The Examiner persuasively also provides a reason for using different frequencies and computer programming—to provide messages to different subscribers using different channels (frequencies) as scheduled from providers as the combination of Cox and Seth-Smith suggests. Final Act. 5–6 (citing Seth-Smith 20:12–19). Such a modified system would have allowed users to be alerted with personal or other messages during different broadcasts and on different channels being viewed. *See* Ans. 25–26; Seth-Smith 15:47–52, 17:11–18, 20:12–20; Cox 3:23–34, 4:54–58. As the Examiner also finds, Seth-Smith sends computer programming in packet messages in order to control a receiver so that it may update and vary the

form of its outputs. Ans. 23 (citing Seth-Smith 17:11–25, finding that “addressed packet[s] may instruct the receiver to perform a variety of functions,” including instruction to force a message display and to grab upcoming page data).

Appellants contend that Cox discloses control codes, or control signals, instead of “computer programming.” App. Br. 66–71. Appellants explain that “[c]ontrol signals are distinct from computer programming as demonstrated by the fact that claim 43 recites both a control signal and distinct computer programming.” App. Br. 66. This latter argument does not apply to claim 41, because claim 41 does not recite a control signal.

With respect to claim 43, the Examiner relies on Seth-Smith to supplement the teachings of Cox, finding that Seth-Smith teaches

generation of a control signal at the intermediate station for causing the computer programming to be executed at the receiver device at a specific time (transmitter may send an addressed packet to a particular receiver causing it to display a message at a specific time)(col. 16, l.64 to col. 17, l.25). This would have been an advantageous addition to the system disclosed by Cox since it would have allowed personalized messages to be sent to particular receivers along with video programming, allowing receivers to receive supplemental information from service providers.

Final Act. 9.

Other than arguing that Seth-Smith and Cox do not teach computer programming in addressed packets or otherwise, Appellants do not address this finding and rationale by the Examiner that the Cox and Seth-Smith individually or collectively teach or suggest a control signal, and at least Seth teaches separate computer programming, which is persuasive. As discussed in connection with other claims above, for example, claim 95, Cox

also teaches different types of codes, including a magazine code that starts the process of acquiring pages (rows 0 and 24) and reads on a control signal. *See Cox* 4:18–25, Fig. 2.

Appellants also contend that the “specification and the claims make a distinction between control signals **and** computer programming, and each serves a separate and distinct function.” App. Br. 67. But Appellants do not provide any citations to their Specification for this statement anywhere on pages 65 through 72 of their Appeal Brief where they argue for patentability of claims 41 and 43.

The Examiner reasons that even if the “computer programming” must cause something to happen, the combination of Cox and Seth-Smith suggests computer programming. *See Ans.* 22–23. In the context of claims 41 and 43, the term “executed” means “processed” or “respond to,” and may include an element of control. Claim 42 depends from claim 41 and supports the broader interpretation of “executed” as “processed” or “respond to” in a control context or otherwise. That is, claim 42 recites “*wherein said computer programming is television programming, said television programming including audio and full motion video.*” (Emphasis added.) Therefore, claim 42 equates computer programming and television programming and implies that “computer programming for execution” in claim 41 and the more restrictive executing clause in claim 43 means “television programming for execution.” But “television programming for execution” must mean “television programming for processing,” especially where the “television programming” includes “audio and full motion video,” according to claim 42.

In any event, Appellants do not dispute that Cox discloses control codes within television programming for execution in the context of dependent claim 42. Even if Cox does not disclose “computer programming for execution,” as noted above, the Examiner relies on the combination of Cox and Seth-Smith to teach transmitting computer programming via addressed packets, thereby providing the advantage of allowing personalized messages to be sent to a particular receiver as Seth-Smith teaches. Final Act. 5–6 (citing Seth-Smith 20:12–19, 16:64–17:25); Ans. 23. In addition to grabbing pages from packets, Seth-Smith also discloses using packets to modify the system “over the air” without modifying hardware, including using “memory patches” in packets to update template configurations and/or indicate to the decoder to change data in the EEPROM. Seth-Smith 23:37–41, 24:35–49; Ans. 31 (citing Seth-Smith 24:40–43 (memory patch) to address the computer programming limitation in claim 63). Finally, contrary to its arguments with respect to claim 41, Appellants actually describe the operation in Cox as execution in challenging another claim: “Cox explicitly cites that the decoder is ‘responsive to the control data for storing each programming guide page in respective memory.’ The *control data* is *executed* at the intermediate transmission station but is never stored.” App. Br. 75 (quoting Cox, 3:53–54). Appellants describe a similar decoder operation in Seth-Smith as *executing* certain signals: “The decoder determines what is executed and what is not.” App. Br. 84 (discussing claim 64).

In any event, although Appellants focus on an alleged deficiency in Cox regarding Feature B, Seth-Smith suggests computer programming at each subscriber, even if “computer programming” somehow does not

include “television programming” as claim 42 requires. *See* App. Br. 69. Again, “computer programming is television programming” according to claim 42, so that even if “in Cox, the decoder removes the instruction codes” (App. Br. 69), Cox discloses “computer programming” in the form of a programming guide, as the Examiner reasons. *See* Ans. 23–24. Moreover, or alternatively, as discussed above, the Examiner relies on the combination of Seth-Smith and Cox, with Seth-Smith sending programming, including memory patches, to subscribers. *See* Seth-Smith 23:37–41, 24:35–49; Ans. 31 (citing Seth-Smith 24:40–43 (memory patch) to address the computer programming limitation in claim 63).

Therefore, the combination of Cox and Seth-Smith also addresses Appellants’ argument that Cox’s cyclical transmissions “means there is *no further computer programming instructions* in the transmission that are executed.” App. Br. 68 (citing Cox, 3:58–59) (emphasis added). Also, Cox does not support the premise of Appellants’ argument, because Cox’s system continues to compare time codes even during cyclical programming. Cox, 6:21–33.

Regarding Feature D, Appellants argue that Cox and Seth-Smith do not disclose storing computer programming at the intermediate transmission station. App. Br. 70–71. The Examiner’s finding and determination that Cox and Seth-Smith respectively store control codes and packets (including memory patches as noted above), and thereby collectively teach or suggest computer programming, persuasively addresses the point and is adopted. *See* Ans. 25 (citing Cox 3:51–54; Seth-Smith 16:68–17:2). In addition to the discussion above, as one example, Cox discloses control time codes with each page. *See* Cox, 4:58–67. Cox’s system also stores the address of row

25 and at least temporarily stores control time codes in row 25 as it must to compare the time codes. *See Cox*, 5:55–6:8. In addition, as discussed above in connection with claim 56, Seth-Smith specifically describes that “as much of the data as possible is *stored at the transmitter location*.” Seth-Smith 12:60–61 (emphasis added). The transmitter must store the data and signal to assemble it with the television signal and send it as an addressed packet as the Examiner reasons. Ans. 25.

Appellants’ remaining arguments turn on their overly narrow construction of the term “computer programming,” which claim 42 and the discussion of claim 95 above (Specification findings) shows is not as narrow as Appellants argue. *See, e.g.*, App. Br. 68 (arguing Seth-Smith’s packet is at most “a queue”). We adopt and incorporate the Examiner’s reasoning and finding responding to these and related arguments with respect to claims 41–44 and 133. *See Final Act*. 5–6; Ans. 21–26. The record supports the Examiner’s finding that the Specification does not define the term “computer programming.” Ans. 21.

Based on the foregoing discussion, Appellants have not shown reversible error in the rejection of claims 41 and 43. Appellants do not argue claims 42, 44, and 133, which depend from claims 41 and 43, separately. *See Ans. 26*. Accordingly, Appellants do not show reversible error in the rejection for obviousness of claims 41–44 and 133 for obviousness based on the combination of Cox and Seth-Smith.

2. Claims 45, 51, and 53–55

Claim 45 follows (emphasis added):

45. A method of signal processing in a network having at least one intermediate transmission station and a plurality of ultimate receiver stations, said method comprising the steps of:

transmitting a first signal to said at least one intermediate transmission station, *said first signal including at least one identification datum that identifies programming content of a second signal;*

controlling said at least one intermediate transmission station a first time on the basis of information one of included in and communicated to be processed with said first signal, said first step of controlling including:

(1) communicating at least a portion of said first signal to a storage location, *said at least a portion of said first signal including said at least one identification datum;* and

(2) storing said at least a portion of said first signal and said at least one identification datum;

controlling said at least one intermediate transmission station a second time on the basis of information *one of included in and communicated to be processed with said first signal*, said second step of controlling including:

(1) selecting said first signal;

(2) selecting a second signal, *said selected second signal including at least a portion of a mass medium programming presentation;*

(3) modifying the information content of at least a portion of said second signal; and

(4) transmitting said modified at least a portion of said second signal; and

outputting, at each of said plurality of ultimate receiver stations, *a combined medium programming presentation which includes a simultaneous output of*

1) information of general pertinence received in said second signal at each of said plurality of ultimate receiver stations and

2) information of specific pertinence at each of said plurality of ultimate receiver stations, wherein the same information of general pertinence is outputted in said simultaneous output at each of said plurality of ultimate receiver stations and said information of specific pertinence that is outputted in said simultaneous output at a first of said plurality of ultimate receiver stations is different from the information of

specific pertinence that is outputted at a second of said plurality of ultimate receiver stations.

Claim 45 recites “said first signal including at least one identification datum that identifies programming content of a second signal,” and also recites “selecting a second signal, said selected second signal including at least a portion of a mass medium programming presentation.” The second recitation of “second signal” may or may not relate back to the first recitation of “second signal,” similar to subsequent recitations of “said second signal.” The Examiner and Appellants do not remark on this anomaly and appear to relate the two as the same “second signal” (or set thereof). *See* App. Br. 76–77; Ans. 26–30; Final Act. 12–13 (advantageous to provide supplemental information).

In any event, Appellants argue that “[n]either Cox nor Seth-Smith teach an ultimate receiver station of claim 45 at which a combined medium programming presentation is outputted.” App. Br. 76 (addressing “Feature E”). Appellants contend that neither reference teaches the “combined medium programming presentation which includes a simultaneous output of 1) information of general pertinence received in said second signal at each of said plurality of ultimate receiver stations and 2) information of specific pertinence at each of said plurality of ultimate receiver stations.” *Id.* at 77.

These arguments are not persuasive. As the Examiner reasons, the combination of Seth-Smith and Cox suggests the combined medium as set forth in the claim 45. *See* Ans. 29–30 (providing reasons for combining the inserted messages). As discussed above in connection with claim 56, Seth-Smith discloses the simultaneous output of information of specific pertinence (group community messages or group closed captioning for different language groups simultaneously broadcasted to groups in different

regions and/or time zones) superimposed with the normal television signal. We adopt and incorporate our discussion and findings relative to Seth-Smith and claim 56 (*supra*, part B.1) here. It would have been obvious to modify Cox's message system with Seth-Smith's similar message system in order to provide simultaneous output of timely information in the form of personal messages, including group community messages, to the message system of Cox. *See* Ans. 26–30; Final Act. 12–13.

Appellants also assert that Cox and Seth-Smith each fails to disclose “Feature D,” “controlling said at least one intermediate transmission station a second time . . . said second time based on the time said first signal is received.” As the Examiner finds, however, claim 45 does not recite or require that “said second time [is] based on the time said first signal is received.” Ans. 29. Therefore, Appellants' arguments related to “Feature D” are not relevant to claim 45. *See* App. Br. 76.

Appellants also assert that Cox does not disclose “Feature A,” “a first signal including at least one identification datum,” because Cox's magazine and page data do not identify “content of a second signal.” App. Br. 74 (emphasis omitted). According to Appellants, Cox's time of day codes can trigger the display of more than one programming page, and the magazine and page number codes “simply indicate which subset of teletext will be transmitted, and when that subset will be transmitted.” *See* App. Br. 74 (describing comparing row 25 data to row 24 data).

The Examiner responds as follows:

Cox discloses receiving a first signal including “control data” that identifies programming guide pages to be “read[] and decod[ed] . . . during selected times of the day” for rebroadcast to television receivers (col. 3, ll. 54–64). This control data falls

well within the broadest reasonable interpretation of an “identification datum” that identifies content of a second signal (i.e., the signal transmitted to the television receivers that contains the selected programming guide pages), since the programming guide pages are selected for transmission “responsive to the control data” (col. 3, ll. 54–59).

Ans. 26–27.

The Examiner’s responses and findings are persuasive and we adopt them. Appellants agree that the magazine and page number codes (control codes in Cox) “*indicate which subset of teletext will be transmitted, and when that subset will be transmitted.*” See App. Br. 74 (emphasis added). Such control codes (which are implemented with time code control codes in rows 24 and 25 the process) stored for implementing automatic message transmission, identify the content of programming guide data that will be transmitted as content of a second signal (the television signal and programming pages). See *id.* (discussing the operation of Cox’s time codes in rows 24 and 25).

Appellants do not explain clearly, if at all, why Cox does not “**identify content of a second signal**”—Appellants do not address what this phrase means and why it distinguishes over Cox. See App. Br. 74. To the extent these arguments may be an attempt to raise an issue that Appellants’ raise regarding identifying content with respect to claim 78 as discussed *supra* (part B.3, discussing Spec. 326:25–27; 330:5–35), we incorporate those findings and rationale here—i.e., the Specification (*id.*) is broad enough to include identifying the content of a second signal by identifying its location (via time codes and/or page and associated time code memory addresses) for inserting specific content at that page memory into the second signal.

In their Reply Brief, Appellants contend that Cox’s “control data does not identify the content of the signal that transmits the program guide content to the subscribers’ stations.” Reply Br. 51. Again, Appellants fail to articulate clearly why Cox’s control signals do not “identify the content of the signal that transmits the program guide content to the subscribers’ stations.” Cox’s control signals constitute “said first [transmitted] signal including *at least one identification datum*” (emphasis added), as claim 45 requires. Note that “said first signal” is not limited to a single signal according to the clear teaching in the Specification as noted above, and therefore includes magazine, page, and time codes of Cox, all of which serve to “*indicate which subset of teletext will be transmitted, and when that subset will be transmitted,*” according to Appellants’ characterization. *See* App. Br. 74; Spec. 14:18–24 (“*In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations.*”) (emphases added); *supra* note 9.

In response to Appellants’ arguments that Cox and Seth-Smith do not teach or suggest Feature B, “modifying the information content of . . . [a] second signal” based on a first signal (*see* App. Br. 75), the Examiner determines that the phrase “on the basis of information one of included in *and communicated to be processed with said first signal*” (emphasis added) in the first and second steps of controlling, is broad enough to include information communicated separately from the first signal. Ans. 27–28. The fact that the Specification discloses that “signals may convey information in discrete words, *transmitted at separate times or in separate locations*” underscores the point. *See* Spec. 14:18–24 (emphasis added); *supra* note 9 (pointing out that the Specification carefully distinguishes a

“signal unit” and a “signal word” from the broader “signal”); Ans. 27–28 (reasoning that the combination of Cox and Seth-Smith suggests processing combined control data and programming guide data with teletext templates and/or messages as a first signal into the television NTSC signal as a second signal). Such a combination would have enhanced Cox’s system by providing supplemental information with video programming, as the Examiner reasons. *See* Final Act. 12; Ans. 27–28. In other words, the Examiner relies on Seth-Smith’s updatable templates, personal messages, community danger messages, as “information communicated to be processed with” the first signal (control data and programming guide). *See* Ans. 27.

As the Examiner persuasively reasons:

When properly considered in combination, Seth-Smith and Cox collectively teach processing the received first signal (control data and programming guide) and the teletext templates/messages of Seth-Smith to create a second signal (NTSC television signal of the programming guide)(Cox; col. 3, ll. 59–62) and modifying the information content of the second signal by adding teletext templates/messages to the second signal prior to transmission [with television programming of general pertinence] to intended receivers.

See Ans. 28; *see also* Final Act. 11–12 (relying on the combination).

Responding to the Answer with respect to Feature B, “modifying the information content of . . . [a] second signal,” Appellants contend in their Reply Brief that “[t]he Examiner misstates the teaching of Seth-Smith” regarding communicating the templates/messages of Seth-Smith from “community danger sources, personal message originators, etc.” Reply Br. 51 (discussing Ans. 27–28). According to Appellants, these danger and other messages “are assembled” at the headend of Seth-Smith instead of being “communicated to the headend.” *See* Reply Br. 51–52 (citing Seth-

Smith 6:20–21). In a related argument, Patent Owner states that in Seth-Smith, the “teletext is not communicated to the transmitter station of Seth-Smith.” Reply Br. 51.

These arguments fail to point clearly to a claim limitation that the prior art does not satisfy. The “modifying the information content of . . . [a] second signal” phrase discussed in conjunction with the argument does not recite any particular source for the second signal. *See* Reply Br. 51–52. The phrase preceding it recites “selecting a second signal” without specifying whence the second signal originates. Appellants point to nothing in claim 45 that requires the second signal to have any particular source.

Moreover, even if somehow the second signal implies some type of external source (i.e., external to an intermediate transmission station), the Examiner primarily relies on Cox to disclose transmitting signals and/or other programming information, including standard television signals and messages, to an intermediate (head end) transmitter station, and relies on Seth-Smith’s teaching to supplement Cox’s teachings for modifying signals by inserting messages into the VBI of a television signal. *See* Final Act. 10–11. Cox teaches originating messages and standard television signals from external sources through satellite 10 to intermediate transmission station 20, and then modifying that signal at the head end by combining different groups of programming messages with different television signals. *See* Cox Fig. 1, 3:22–27, 6:48–50 (“satellite operator” controls satellite 10); Fig. 1. In addition, as explained above in connection with claim 56, Seth-Smith discloses originating and transmitting some types of messages from external sources (Reuters, Wall Street, Chicago Board of Trade, and the Associated Press (Seth-Smith 18:8–14)) to intermediate transmitter station 10, and the

Examiner relies on general teachings of Seth-Smith as disclosing or suggesting the transmission of different message types to a head end. *See also* Seth-Smith 18:8–14 (describing pay teletext as “very simply implemented” using the packet scheme). The Specification discloses that “conventional television network feed transmission means” involves “well known in the art” methods, including use of “intermediate transmission stations,” that receive transmissions from “transmission means” such as “so-called landlines, microwave transmissions, a satellite transponder, or other means.” Spec. 20:32–21:5.

Therefore, even if claim 45 somehow requires receiving the second signal from some external source, and although Seth-Smith discloses assembling messages at the head end into packets for insertion into a VBI of a television signal, Seth-Smith, in combination with Cox, at least suggests transmitting standard television signals and community danger messages and other personal messages to the intermediate transmitter head end, so that messages can be assembled there and inserted into the television signal, thereby modifying that second television signal. *See* Seth-Smith Figs. 1, 12; Cox, Fig. 1. The combination suggests transmitting different messages, including community group messages, to the head end of Cox and assembling different messages there generally as the Examiner finds. *See* Ans. 27–28.

Appellants also argue that “the **content** of the NTSC program guide is identical to the teletext pages of guide information. Cox does not teach or [suggest] modifying the information content of the NTSC television signal.” Reply Br. 51. Again, it is not clear what claim limitation Appellants argue. Nevertheless, Cox contradicts that argument, because as explained above,

Cox's system assembles distinct sequences of guide information into different television signals, which the head end originally received as single programming units in different television signals. *See Cox*, 4:63–67 (transmitting “any sequence” via the time codes). Moreover, Appellants' argument, to the extent it is understood, obscures the Examiner's rejection and Answer, because as discussed above, the Examiner finds that inserting different combinations of program guides of Cox and/or other messages from Seth-Smith into a television broadcast signal modifies a second signal (a television signal by itself is a mass medium presentation as television, and/or one with templates and/or guide pages also is a mass medium presentation) to create a modified second signal—not that the program guide by itself is the modified second signal. *See Fin. Act.* 11–12; *Ans.* 28–29.

Appellants make several other arguments, including, for example, with respect to Features C and E, respectively alleging a failure of storing certain control signals in Cox, and a lack of a teaching of an ultimate receiver station in Cox. *See App. Br.* 75–77. We adopt and incorporate the Examiner's findings and responses to those arguments and other arguments. *See Ans.* 28–29 (finding that Cox stores control data including at least one identification datum); *Cox*, 5:30–40 (storing time codes in row 24); 5:65–68 (latching time codes of row 25 for comparison to row 24—i.e., inherent temporary storage). The Examiner also persuasively addresses Appellants' argument that the combination does not disclose or suggest an ultimate receiver station (Feature E). *Ans.* 29–30. Accordingly, the Examiner's findings and responses are persuasive to show that the combination at least suggests storing the first signal and identification datum at the intermediate transmitter station of Cox so that the system can process and transmit

combined media for receipt at a subscriber (ultimate receiver station). *See* Final Act. 10–12; Ans. 28–30.

Based on the foregoing discussion, Appellants have not shown reversible error in the rejection of claim 45. Appellants do not argue claims 51 and 53–55, which depend from claims 45, separately. *See* Ans. 30. Accordingly, Appellants do not show error in the rejection of claims 45, 51, and 53–55 for obviousness based on the combination of Cox and Seth-Smith.

3. Claims 63 and 134

Claim 63 recites limitations similar to limitations recited in claims 45, 56, and 59. Claim 63 follows:

63. A method of communicating programming to at least one subscriber in a network, said network including at least one programming origination station, at least one intermediate transmission station, and at least one subscriber station, said method comprising the steps of:

receiving and storing programming at said at least one intermediate transmission station, said programming including mass medium programming and computer programming, said computer programming to be executed by a computer at said at least one subscriber station;

receiving an information transmission from at least one of said at least one origination station and said at least one subscriber station, said information transmission including a control signal, said control signal designating at least a portion of said programming by identifying content of the programming;

detecting said control signal and passing said control signal to a computer at said intermediate transmission station; and

controlling said at least one intermediate transmission station based on said control signal, said step of controlling including the steps of:

- (1) selecting said mass medium programming and delivering said mass medium programming to a transmitter;
- (2) selecting said computer programming;
- (3) communicating said computer programming to said transmitter before a specific time, said specific time being the time the computer programming is to be executed at said at least one subscriber station; and
- (4) transmitting to said at least one subscriber station a signal including said mass medium programming and said computer programming.

Appellants argue that Cox and Seth-Smith do not teach or suggest Features A–F. App. Br. 79–81. These features largely track similar claim limitations in claims addressed above with respect to claims 45 and 78. As one example, Appellants contend that the combination does not teach “computer programming” (Feature A), “identifying content” (Feature B), and “selecting said computer programming” (Feature C). *See id.* at 79–80. We adopt our analysis of these features from similar claims above, adopt the Examiner’s responses and findings, as persuasive, and also address these features to a certain extent below. *See* Ans. 31–35. As an example, with respect to Feature B, “identifying content,” the Examiner refers to findings with respect to claim 45, which we adopt, along with our discussion and analysis above of claims 45 and 78. *See* Ans. 32.

Regarding Feature A, Appellants contend that the combination does not teach “receiving and storing programming at said at least one intermediate transmission station, said programming including mass medium programming and computer programming” wherein “said computer programming [is] to be executed by a computer at said at least one subscriber station.” App. Br. 79. Regarding Feature C, Appellants contend that Cox fails to disclose “selecting said computer programming” since “the

control data has already been executed and removed” at Cox’s intermediate station. *See* App. Br. 80.

These arguments fail to account for the fact that Cox discloses selecting guide pages with its control data (computer programming) for storage, and the Examiner relies on a combination of Seth-Smith and Cox to suggest computer programming execution at the subscriber station. *See* Ans. 32 (“As admitted by Appellants, Cox clearly teaches selection of the programming guide pages.”), 34–35 (relying on the combination and citing Seth-Smith’s memory patches as computer programming executed at a subscriber).

The claimed control signal need not be a single signal. *See* Cox, 3:50–54. That is, the “control signal” may include several signals transmitted at different times from an origination station, according to the Specification. Spec. 14:20–23. As explained above (*supra* note 9), the term “signal” is a broad term that can include a number of signals and is not limited to a single signal according to the Specification. *Compare* Spec. 14:20–23 (“In all cases, signals may convey information in discrete words, *transmitted at separate times or in separate locations*” (emphasis added)); *with id.* at 14:26–35 (“the term ‘signal unit’ hereinafter means one complete signal instruction or information message unit” and “‘signal word’ hereinafter means one full discrete appearance of a signal as embedded at one time on one location on a transmission”).

By way of summary, similar to the responses in the Answer noted above with respect to claims 41–44 reciting the “computer programming” limitation, which we adopt here, the Examiner responds that Cox discloses a “programming guide” as “computer programming,” and alternatively relies

on Seth-Smith’s programming features, including “memory patches,” to suggest selecting “computer programming” in the event the term encompasses more than television programming. Ans. 32 (citing Seth-Smith 6:5–19, 12:46–13:31, 24:40–43 (memory patch)). In the context of claim 63, which recites computer programming and mass medium programming, the Examiner’s reliance on the combination of Cox and Seth-Smith to suggest selecting, storing, and transmitting computer programming with mass medium programming, to be executed at a subscriber station, pursuant to control signals in Cox and Seth-Smith, and before a certain time based on time code control signals or signals in Seth-Smith, is persuasive. *See* Ans. 31–35.

With respect to argued Feature D, or step (3) of the “controlling” clause, “communicating said computer programming to said transmitter before a specific time, said specific time being the time the computer programming is to be executed at said at least one subscriber station,” the combination of Seth-Smith and Cox satisfies it as the Examiner persuasively shows. *See* Ans. 34. That is, the combination of Cox and Seth-Smith suggests sending computer programming to the intermediate transmitter station, before a subscriber station executes it “before a specific time” by definition (i.e., the transmitter sends it before a specific time at which the subscriber executes it, so it must receive it before that time).¹¹ *See e.g.,*

¹¹ As indicated above, Appellants otherwise characterize Seth-Smith’s subscriber/receiver and Cox’s intermediate station decoder as executing control signals and other signals. *See* App. Br. 75 (citing Cox, 3:53–54) (“The *control data is executed* at the intermediate transmission station”) (emphasis added) (addressing claim 45); *Id.* at 84 (“The decoder [of Seth-

Seth-Smith 20:1–16; Ans. 31–32 (relying on the combination to suggest sending mass medium programming and computer programming to an intermediate transmission station) 34 (relying on the combination of Cox and Seth-Smith to suggest execution of computer programming at a subscriber). The “computer program” necessarily must be communicated before some “specific time” at which it is executed—the argued clause simply describes a necessary time sequence that naturally must occur.

Consequently, Appellants’ arguments regarding step (3) (Feature D and Feature E (App. Br. 80–81)), which address Cox’s teachings alone, are not persuasive. As noted, the Examiner relies on a combination of Cox and Seth-Smith. Ans. 33–34. Although claim 63 does not require anything in the claimed system actually to designate a specific time for execution beyond being after the transmission time, the Examiner’s reliance on the combination is persuasive. *See also* Ans. 33:

When properly considered in combination with Seth-Smith, any executable messages associated with the selected programming guide pages would also be included in the transmission to be made during the “selected time interval”, which clearly requires communication of all programming to the transmitter before the time at which transmission is scheduled to occur.

See also Ans. 32 (relying further on Seth-Smith’s computer programming (e.g., memory patches (citing Seth-Smith 24:40–53)) as combined with Cox’s time control); Ans. 38 (contending the clause in a similar claim does not present a clear patentable distinction over Cox and Seth-Smith).

Smith] determines what is *executed* and what is not.”) (emphasis added) (addressing claim 64).

Appellants also argue that the combination does not teach Feature F, “transmitting to said at least one subscriber station a signal including said mass medium programming and said computer programming,” because “[a]s argued previously, Seth-Smith teaches away from sending programming or user specific information this combination.” App. Br. 81–82. Appellants fail to specify how Seth-Smith teaches away or where any such previous argument exists. Again, this argument, which focuses on Seth-Smith’s templates and filling in the templates, does not address the Examiner’s reliance on Seth-Smith’s memory patches and other executable messages or signals, upon which the Examiner partially relies to show executable computer programming. *See id.*; Reply Br. 53–56 (not addressing memory patches); Ans. 32; Seth-Smith, 24:40–53. The argument that Seth-Smith and Cox “at most disclose television receivers” and fail to “possess the features of the subscriber station of claim 63” lacks merit. *See* App. Br. 82. Appellants fail to identify any functions (with the unpersuasive exception alleging no execution of computer programming) that the prior art subscriber stations relied upon by the Examiner fail to perform. *See* Ans. 35.

Appellants make other related arguments, with the Reply Brief arguments largely tracking or adding unpersuasive arguments. *See* Reply Br. 54–56. For example, the argument that Cox’s system requires time codes that could not be modified by Seth-Smith’s system to satisfy the specific time execution clause, lacks merit, because the time codes in Cox’s control transmission from the head ends (intermediate transmission stations), not transmission from Cox’s satellite, and the claim relates to “communicating said computer programming to said transmitter” (i.e., not

from said transmitter).¹² *See* Reply Br. 55–56. In addition, contrary to Appellants’ other arguments, employing Seth-Smith’s various messages does not require use of Cox’s time codes, but they also easily and obviously could have been used therewith to control the timing of sending Seth-Smith’s executable code, where the two systems each employ embedded messaging. *See id.*; Ans. 32–35. We adopt and incorporate the Examiner’s findings and responses that rely on the combination of Cox and Seth-Smith to teach computer programming and other recited claim limitations as persuasive. *See* Ans. 31–36; Final Act. 26–28.

Based on the foregoing discussion, Appellants have not shown reversible error in the rejection of claim 63. Appellants do not argue claim 134, which depends from claim 63, separately. *See* Ans. 30. Accordingly, Appellants do not show error in the rejection of claims 63 and 134 for obviousness based on the combination of Cox and Seth-Smith.

4. Claim 64

Relying on their arguments with respect to claims 45 and 63, Appellants argue that Cox and Seth-Smith “fail to teach ‘said control signal designating at least a portion of a programming presentation,’” Feature A. App. Br. 83 (emphasis omitted). The Examiner disagrees and relies partially on the findings and responses with respect to claim 45 (i.e., identifying programming content). *See* Ans. 36. We adopt and incorporate our findings and reasoning above with respect to claims 45 and 63 (which in turn rely partially on the Examiner’s finding and determination with respect to claim 45). *See* Ans. 36–37.

¹² Claim 63 does not specify the transmitter location; thus it reasonably includes a location at the intermediate transmission station.

Appellants also assert that Seth-Smith fails to disclose Feature B, “selecting with said computer a receiver at said at least one intermediate transmission station.” App. Br. 84 (emphasis omitted). In their Appeal Brief, Appellants do not argue that the receiver must be located at the at least one intermediate transmission station. *See id.* On its face, the phrase is broad enough to read “*selecting* with said computer a receiver” as being performed with a computer “at said at least one intermediate transmission station”—i.e., performing a selecting step without requiring the selected receiver to be located at the intermediate transmission station. Appellants appear to agree, at least in their Appeal Brief. App. Br. 84 (“The section cited by the Examiner [of a receiver] is executed at the user decoder at the user location, not at an intermediate transmission station based on a control signal. The step of selecting with said computer is conducted at the intermediate transmission station in Claim 64.”)

Claim 64 also recites “at least one subscriber station.” The Examiner relies on a subscriber receiver that Seth-Smith’s intermediate transmission station selects, which is located at the at least one subscriber station. *See* Ans. 36. The Examiner relies on selection of Seth-Smith’s decoder via addressable packets being transmitted “only to individually addressable decoders” with personal messages for a selected subscriber. *See* Ans. 36 (citing Seth-Smith 16:68–17:10).

Addressing the limitation, “controlling said selected receiver,” Appellants contend that “**everything** is received at the [subscriber] receiver” of Seth-Smith, thereby showing that the subscriber “receiver *does not selectively receive* messages.” App. Br. 84. These arguments are not persuasive given the Examiner’s finding that Seth-Smith’s decoder at a

subscriber station (which includes at least one receiver) is selected at Seth-Smith's intermediate transmitter station using address packets. *See* Ans. 36–37; Seth-Smith, Fig. 9. As the Examiner finds, Seth-Smith's system employs addressed packets inserted into a television signal to send messages, necessarily requiring selection of the packet address at the subscriber receiver that designates that particular receiver and/or decoder located at the subscriber. *See* Seth-Smith, Fig. 9 (“user address”).

In their Reply Brief, Appellants shift their argument and argue that “Cox does not teach selecting a receiver *which is at the intermediate transmission station.*” Reply Br. 57. This argument is not responsive to the Answer and was not presented in the Appeal Brief as explained above. In other words, Appellants' Appeal Brief stresses that Seth-Smith's receiver at the subscriber station receives all messages, without any argument directed to the receiver location, thereby implying that claim 64 does not specify the location of the receiver. *See* App. Br. 84. Therefore, we do not consider the argument as Appellants have waived it. *See* 37 C.F.R. § 41.37(c)(iv) (“arguments shall explain why the examiner erred” and “[e]xcept as provided in §§ 41.41, 41.47 and 41.52, any arguments . . . not included in the appeal brief will be refused consideration by the Board”). Even if somehow one considers the argument to be timely or responsive (this panel does not), the argued phrase is broad enough to not specify the receiver location as determined above.

We adopt and incorporate the Examiner's findings and responses, which we find persuasive. *See* Ans. 36–37; Final Act. 28–31. Based on the foregoing discussion, Appellants have not shown reversible error in the

rejection of claim 64 for obviousness based on the combination of Cox and Seth-Smith.

5. Claim 66

Claim 66 recites limitations that are similar to limitations addressed above and by the Examiner with respect to claims 45 and 63. Appellants make three central arguments regarding the terms “computer programming,” “subscriber station,” and “before a specific time.”¹³ App. Br. 85–88 (arguing Features A–C). The arguments about “before a specific time,” as presented by Appellants, rely on the meaning of “computer programming,” with Appellants focusing on alleged deficiencies in Cox, without addressing the Examiner’s findings regarding the combination of Cox and Seth-Smith. *See* App. Br. 87–88. The Examiner responds to Appellants, in part by relying on the previous findings. Ans. 37–38. We adopt as persuasive the Examiner’s findings and reasoning. *Id.* In addition, we adopt our findings and rationale with respect to “computer programming” above as set forth with respect to claims 41–44, 63, and 95 as addressed above.

Regarding the “subscriber station,” claim 66 is directed to “an intermediate transmission station,” not a method, so it does not include a subscriber station, let alone one that executes anything. Accordingly, the

¹³ Claim 66 recites several “means” clauses and means plus function clauses that may fall under 35 U.S.C. § 112 ¶ 6. Nevertheless, Appellants do not rely on 35 U.S.C. § 112 ¶ 6 to define and distinguish claim 66, nor do they argue that the Examiner fails to address a relevant structure or function pursuant to the statutory section. *See* App. Br. 87–88; Reply Br. 57–58; *Morris*, 127 F.3d at 1056 (“It is the applicant’s burden to precisely define their invention, not the PTO’s”). We assume, without deciding, that claim 66 is definite and broad enough to encompass the implied interpretations of the Examiner and Appellants.

Examiner determines that the programming need not be executed at any time, a reasonable determination, given that claim 66 is directed to a product, and the execution recitation relates to intended use.¹⁴ *See* Ans. 37–38. Assuming for the sake of argument the intended use of a subscriber station carries any weight in claim 66, to the extent applicable, we also adopt our findings and reasoning with respect to executing programming at a subscriber station premised on the combination of Seth-Smith’s programming instructions (including memory patches and other executable programming as Appellants admit, *supra* note 11) and Cox’s control codes (including Cox’s timing codes as control signals and programming), as discussed in connection with, for example, claim 63 above.

Appellants also argue that the Examiner does not identify the control signal and associated method steps. *See* App. Br. 86. This is not persuasive. *See* Final Act. 33–34 (citing Cox’s control signals that server to select and communicate programming, as modified by Seth-Smith’s computer programming). Given that claim 66 recites “at least one control means for detecting a control signal” in the product claim reciting an “intermediate transmission station” that includes a receiver and a transmitter, without specifying any source for the control signal (i.e., not precluding an internal source at the intermediate transmitter station), as the Examiner finds, Cox’s

¹⁴ The argued “to be executed clause” in claim 66 appears to recite intended use method steps (otherwise impermissibly) mixed with elements of the product claim: “based on said control signal, *selecting* said computer programming, *communicating* said computer programming to said transmitter before a specific time, said specific time being the time at which said computer programming *is to be executed at the at least one subscriber station*, and controlling”

control signals satisfy the recited control signal, where the Specification allows for more than one signal in “all cases.” *See* Final Act. 33–34; Spec. 14:18–24 (*In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations.*) (emphases added); *supra* note 9.

Further, as explained above with respect to claim 63 (we adopt those explanations and findings here), the phrase “communicating said computer programming to said transmitter before a specific time, said specific time being the time the computer programming is to be executed at said at least one subscriber station,” fails to describe anything more than the natural result of executing computer programming at some “specific time” without setting any “specific time” to execute it. The intermediate transmitter, as suggested by the combination of Cox and Seth-Smith, necessarily receives and transmits its disclosed computer programming to the subscriber before a future “specific time” that the subscriber executes it pursuant to control signals. *See* Ans. 38 (contending the clause does not present a clear patentable distinction over Cox and Seth-Smith); Seth-Smith 16:68–17:10, 24:40–53).

Appellants shift to new non-responsive arguments in their Reply Brief, such as, claim 66 “relates operation of the control means to the specific time which the computer programming is to be executed.” Reply Br. 59. We do not consider this new non-responsive argument as it is waived. In any event, even if somehow one considers the argument to be timely (this panel does not), the control means, in relevant part, only detects the control signal according to claim 66, and Appellants fail to argue persuasively, if at all, that Cox’s system does not include or suggest a

control means that detects a control signal, for example the control signals discussed above as continuously sent in row 25 or sent in row 24, thereby dictating times for transmission and computer programming to be executed at a subscriber, including by combining with Seth-Smith's computer programming such as memory patches. *See Cox*, 4:18–69; discussion *supra* of Examiner's findings with respect to similar limitations in claims 41, 43, and 95; Final Act. 33–34 (combining Cox and Seth-Smith for the benefit of subscribers to receive different types of teletext messages, which would include computer programming).

Based on the foregoing discussion, Appellants have not shown reversible error in the rejection of claim 66 for obviousness based on the combination of Cox and Seth-Smith.

6. Claims 112 and 113

Appellants do not present any substantive arguments beyond those presented for claim 97, from which claims 112 and 113 ultimately depend. *See Ans. 38* (citing App. Br. 88); Final Act. 74–75. Accordingly, based on the discussion of claim 97, Appellants have not shown error in the rejection of claims 112 and 113 for obviousness based on the combination of Cox and Seth-Smith.

E. Obviousness, Lambert, Haselwood, and Seth-Smith, Claims 45–52

The Examiner relies on the combination of Lambert, Haselwood, and Seth-Smith to reject these claims. Final Act. 14–19. Method of signal processing claim 45 recites the “combined medium programming presentation” as discussed above. The Examiner explains that it would have been obvious to combine the similar systems of Haselwood and Seth-Smith with Lambert in order to present, in an advantageous manner, simultaneous

advertisements and personalized messages at different groups of receivers along with normal television programming, thereby providing more personalized or other information to different subscribers. *See* Final Act. 15–16.

Appellants respond that Lambert and Seth-Smith do not disclose a “combined medium programming presentation.” App. Br. 91. The Examiner replies that the combination of Lambert, Haselwood, and Seth-Smith suggests the limitation, reasoning that it advantageously would have provided supplemental information in the form of personalized messages and advertisements along with normal television programming. Ans. 39–40. In addition to relying on Seth-Smith, the Examiner notes that Lambert teaches combining “spot message[s],” retrieved from local “video tape” storage (col. 3, ll. 3–12) with “[t]elelevision program signals” received from a satellite (col. 2, ll. 21–25; col. 2, ll. 44–58) to form a combined medium. Ans. 39. As we found above with respect to claim 56, Seth-Smith discloses the limitation in the form of forcing messages, including closed-captioned teletext to benefit the hearing impaired or other community messages, simultaneously broadcast to different groups in different regions and/or with different languages, and superimposed over normal television. *See* discussion *supra* (citing Seth-Smith 6:5–23, 14:47–60, 17:61–66, 19:1–7).

Relying on the “Wall Street Week” example summarized above in the Introduction section, Appellants also contend that “a person of ordinary skill in the art would recognize that a combined medium programming presentation is a presentation that places or arranges information in a proper position relative to each other in time, location, fashion of playing, or manner of presentation.” App. Br. 91–92 (emphasis omitted). According

further to Appellants, “[i]n addition, a person of ordinary skill in the art would recognize that the placing and/or arranging would be based on a defined relationship between the content of the media that are combined.” *Id.* at 92.

The latter argument is not supported and it contradicts the more general argument preceding it. Nothing in claim 45 requires any relationship of content to be considered in the placement of the information. The Wall Street Week example in the Specification does not define “combined medium programming” to the extent it requires the “content of the media” to be related—a highly subjective determination. For example, a commercial about cars or other merchandise, as Lambert suggests, may relate to a television show depicting cars or related merchandise. In any case, the closed-captioned text of Seth-Smith teaches the limitation, and suggests a similar content relationship in other media contexts, assuming for the sake of argument that the content must be related. *See supra* discussion of claim 56. As also explained above in connection with claim 56, superimposing community danger messages, any personal messages, or any messages (including advertising messages), satisfies arranging information “in a proper position relative to each other in time, location, fashion of playing, or manner of presentation.” For example, it would be a “proper . . . fashion of playing” to show messages with normal television programming, as Seth-Smith discloses or at least suggests, in order to allow viewers to view different types of information from different sources at the same time. Watching a weather show as community danger messages about weather appear also would satisfy the argued “content” relationship. Appellants’ arguments do not address the Examiner’s findings related to Seth-Smith and

the combination, and instead focus on alleged deficiencies in Lambert. *See* App. Br. 90–94.

Appellants also argue that Lambert does not teach the claim 45 feature of “selecting said first signal;” “selecting a second signal;” “modifying the information content of at least a portion of said second signal; and . . . transmitting said modified at least a portion of said second signal.” App. Br. 94–95. According to Appellants, Lambert only teaches “at most one signal,” and fails to teach “the modification of the information content of the second signal.” *Id.* at 95. In response, similar to the rationale with respect to the combination of Cox and Seth-Smith addressing claim 45, the Examiner relies on the combination of Lambert and Seth-Smith, and reasons that Seth-Smith’s system teaches modifying the second signal (normal television broadcast) by inserting Seth-Smith’s personal and other messages/templates into it (“third” information signals per the Examiner’s findings), thereby also suggesting adding Lambert’s similar spot messages and enhancing the amount and type of the information supplied simultaneously with the modified second television signal. *See* Ans. 41, Final Act. 14–19.

Appellants’ Reply Brief fails to show error in the Examiner’s findings that rely on the combination of Haselwood, Seth-Smith, and Lambert. *See* Reply Br. 62–63. The arguments there fail to address the teachings of Seth-Smith related to simultaneous specific and general pertinence information in the form of danger messages to different groups at different time zones, or in the form of different language via closed-captioned teletext to different language groups, all forced onto the normal television signal as superimposed simultaneous information, as Seth-Smith teaches or at least suggests—for the advantageous purpose of providing supplemental

information for user viewing. *See* Reply Br. 62–63; discussion *supra* of claim 56.

Based on the foregoing discussion, Appellants have not shown reversible error in the rejection of claim 45. Appellants group claims 46–52 with claim 45 and relies on arguments presented with respect to claim 45. App. Br. 95; Ans. 41, Final Act. 14–19. Accordingly, Appellants do not show error in the rejection of claims 45–52.

*F. Obviousness, Haselwood and Pargee,
Claims 67–70, 72–76, 86, 88, and 135*

Method of communicating programming claim 67 recites the following phrases at issue:

storing at each of said plurality of intermediate transmission stations data of predetermined capabilities, said predetermined capabilities differing from station to station of said plurality of intermediate transmission stations;

....

controlling each of said plurality of intermediate transmission stations to receive and store said units of television programming at said plurality of storage locations in accordance with said stored data of said predetermined capabilities for a period of time

Appellants argue with respect to claim 67 that Pargee does not disclose “data of predetermined capabilities.” App. Br. 97. According to the Examiner,

Pargee teaches storing data regarding predetermined capabilities at the intermediate stations (cross references between catalog numbers, reel numbers and playback machines are stored, which are used to identify and locate programs the station is capable of transmitting)(col. 3, l. 65 to col. 4, l. 2). Use of the catalog, reel machine cross reference data allows identification and location of programming the station is capable of transmitting (i.e., the “predetermined capabilities” of the station). This information

falls within the broadest reasonable interpretation of data “of predetermined capabilities.”

Ans. 42.

Appellants argue that “[t]he reel and frame numbers are where something is stored, an address so to speak, but it does not disclose frame number X of total Y.” App. Br. 97. Appellants’ argument is not persuasive, based on reasons similar to those described in connection with claim 78 (and the similar disclosure of Cox’s capabilities) above, the analysis and findings for which we adopt. In summary, in light of the Specification, specifying reel and frame numbers shows predetermined capabilities in the manner set forth in claim 67.

That is, as quoted above with respect to claim 67, the Specification that Appellants cite as support for the same or similar “predetermined capabilities” limitation of claim 78 describes “capacity for determining what programming is prerecorded” and “capacity for maintaining records.” *See* Spec. 330:5–10; Reply Br. 29 (citing Spec. 326:25–27; 330:5–35; 348:30–349:4). Like the Specification portion that Appellants cite, the Examiner’s citation of reel and frame numbers relates to “capacity” or “capability” of “what programming is prerecorded” (Spec. 330:5–10). *See* Ans. 42 (data used to “identify and locate programs the station is capable of transmitting”). The Specification portion that Appellants cite with respect to similar claim 78, describes “capacity,” and does not support Appellants’ arguments that rely on a nonexistent distinction between “capacity” and “capability.” *See* App. Br. 54, 97.

In Reply, Appellants make several arguments for the first time that are not responsive to the Answer and, therefore, we do not consider them as they are deemed to be waived. *See, e.g.*, Reply Br. 64–66 (relying on another

claim phrase to allege that the “predetermined capabilities” control the transmission stations).

Claims 68–70 and 72 depend from claim 67. *See* App. Br. 98, 101. Appellants do not argue claims 68–70 and 72 separately from claim 67. Similarly, with respect to independent claims 73 and dependent claims 74–76, and independent claim 86 and dependent claims 88 and 135, Appellants rely on arguments presented with respect to claim 67. App. Br. 98–101. For reasons discussed above, Appellants have not shown error in the rejection of claims 67–70, 72–76, 86, 88, and 135.

*G. Obviousness, Haselwood, Pargee, and Lambert,
Claims 71, 77, and 87*

Claim 71 depends from claim 67. Appellants do not present separate arguments for claim 71, and rely on arguments presented for claim 67. App. Br. 101-02 Ans. 45–46. Claim 77 depends from claim 73. Appellants do not present separate arguments for claim 73, and rely on arguments presented for claim 77. App. Br. 102. Claim 87 depends from claim 86. Appellants do not present separate arguments for claim 87, and rely on arguments presented for claim 86. App. Br. 102; Ans. 45. Based on the foregoing discussion, Appellants have not shown reversible error in the rejection of claims 71, 77, and 87.

*H. Obviousness, Cox and Campbell,
Claims 80, 83–85, 102–105, and 127*

1. Claims 80 and 83–85

Claims 80 and 83–85 depend from claim 78. Appellants rely on their arguments presented with respect to claim 78, and assert that Campbell does not satisfy the deficiencies of Cox. App. Br. 102. The Examiner relies on its showing with respect to claim 78. Ans. 45. Based on the determination

with respect to claim 78 above, Appellants have not shown reversible error in the rejection of claims 80 and 83–85, which fall with claim 78.

2. Claims 102–105 and 127

Claims 102–105 and 127 depend from claim 97. Appellants rely on their arguments presented with respect to claim 97. App. Br. 102; Ans. 45. Based on the determination with respect to claim 97, Appellants have not shown that the Examiner erred reversibly in the obviousness rejection of claims 102–105 and 127 based on the combination of Cox and Campbell.

I. Obviousness, Cox and Summers, Claim 111

Claim 111 depends from claim 97. Appellants rely on their arguments presented with respect to claim 97. App. Br. 103. Based on the determination with respect to claim 97, Appellants have not shown that the Examiner erred reversibly in the obviousness rejection of claim 111 based on the combination of Cox and Summers.

J. Obviousness, Cox and Fletcher, Claim 125

Claim 125 depends from claim 97. Appellants rely on their arguments presented with respect to claim 97. App. Br. 103. Based on the determination with respect to claim 97, Appellants have not shown that the Examiner erred reversibly in the obviousness rejection of claim 125 based on the combination of Cox and Fletcher.

*K. Obviousness, Haselwood, Lambert, and Cox,
Claims 128–32 and 136*

Claim 128 follows:

128. A method of communicating audio or video programming to subscribers in a network, said network including at least one programming origination station, a plurality of intermediate transmission stations, and a plurality of subscriber stations, said plurality of intermediate transmission stations receiving audio or

video programming from said at least one programming origination station and retransmitting said received audio or video programming, said method comprising the steps of:

receiving an audio or video programming signal from a first origination station;

receiving a schedule signal from one of said first origination station and a second origination station, said schedule indicating at least one scheduled time and at least one of a channel and frequency for transmitting at least one of a plurality of audio or video programming units from at least one of said plurality of intermediate transmission stations at a time differing from a time of transmission of said at least one of a plurality of audio or video programming units from at least one other of said plurality of intermediate transmission stations, said plurality of programming units stored in said network and organized in an order for transmission, said schedule signal effective at said at least one of said plurality of intermediate transmission stations to transmit said at least one of said audio or video programming units to at least one of said subscriber stations at said scheduled time and at least one of a channel and frequency; and

transmitting said audio or video programming signal and said schedule signal.

App. Br. 141–42 (emphasis added).

Appellants contend that “Haselwood fails to teach, as required by the preamble and the body of claim 128, a network with multiple origination stations, a plurality of intermediate transmission stations and a plurality of subscriber stations.” App. Br. 105. Appellants also contend that the combination of Haselwood, Lambert, and Cox, fails to teach “receiving a schedule signal from one of said first origination station and a second origination station.” App. Br. 106–108.

With respect to recitation of intermediate stations as recited in the body of claim 128, the Examiner relies on different affiliates in Haselwood, and finds that Haselwood teaches the limitation, as follows:

(recorded programs may be transmitted by the affiliates at various times; actual broadcast times are monitored and recorded)(col 4, II. 25–41; col. 12, II. 26–33), said plurality of programming units stored in said network and organized in an order for transmission (col. 4, II. 25–41), causing said at least one of said plurality of intermediate transmission stations to transmit said at least one of said audio or video programming units to at least one of said subscriber stations (col. 4, II. 25–41).

Final. Act. 77 (citing Haselwood).

Appellants’ arguments fail to allege with specificity that Haselwood does not disclose the recited plurality of intermediate transmission stations and fails to rebut the Examiner’s finding that Haselwood’s affiliates satisfy that limitation. *See* Final Act. 77 (relying on local network affiliates); Ans. 47 (relying on local network affiliates); App. Br. 105 (not arguing specifically about the plurality of intermediate transmission stations or addressing the Examiner’s findings, and arguing instead that Haselwood does not disclose “subscriber stations”: for example, arguing that “[e]ven if the monitoring station is considered an additional receiver station, it does not conduct the same function as the subscriber stations in the claims.”).

With respect to the multiple origination stations as allegedly recited in the preamble, the Examiner responds that claim 128 is a method claim, it only requires “at least one origination station,” that “a second origination station” is “optional,” and that Haselwood discloses one. *See* Ans. 46–47. The totality of the language of claim 128 supports the Examiner. First, the preamble does not require a plurality of origination stations, it recites “said network including *at least one* programming origination station.” (Emphasis added). Second, the argued phrase in the body of claim 128, “receiving a schedule signal from one of said first origination station and a second origination station,” appears to refer back to the preamble, and, as the

Examiner reasons, it does not require receiving a schedule signal from both first and second origination stations. *See* Ans. 47.

“Whether [a] structural recitation limits a [method] claim depends on the language of the claim, the specification, prosecution history, and other claims.” *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1271 (Fed. Cir. 1986), *abrogated on other grounds by Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665 (Fed.Cir.2008) (en banc) (“[D]irect evidence of a fact is not necessary.”); *see also* E-Pass Tech., Inc. v. 3COM Corp. 222 F.Supp2d (N.D. Cal. 2003) (“A structural limitation on a method claim is not absolute As stated before, the size of the card is a structural limitation that is central to the very essence and purpose of the ’311 patent—substitutability.”) (citing *Moleculon* 793 F.2d at 1271).

Method claim 128 does not recite a necessary function to be performed by “a second origination station.” Patent Owner fails to explain clearly how such a structural limitation limits method claim 128. Moreover, the recitation of “receiving a schedule signal from *one of* said first origination station and a second origination station” (emphasis added) does not require two origination stations in a sufficiently clear manner, because “one of said first . . . and a second” reasonably refers to just one of “said first” and “a second” “origination station”—i.e., comporting with “*at least one*” as recited in the preamble (which recites “*at least one* . . . origination station” and “receiving audio or video programming from said *at least one* . . . origination station”) (emphases added). In other words, the language in the body of claim 128 comports with the preamble to indicate “receiving . . . programming from said *at least one* programming origination station”—not

receiving from two origination stations and not necessarily even requiring two origination stations.

Appellants' other arguments regarding the schedule signal in the phrase "receiving a schedule signal from one of said first origination station and a second origination station" also fail to rebut the Examiner's findings. *See* App. Br. 106–08; Ans. 47–48. The Examiner explains persuasively that the combination collectively suggests "receiving a schedule signal from an origination station, such as a satellite or network broadcaster, that specifies a time and channel for transmitting programming from the intermediate station, as well as transmitting the schedule signal along with the transmitted programming to assist with monitoring the broadcast programs." *See* Ans. 47–48 (relying on Haselwood to teach delayed broadcasting, relying on Lambert's schedule signal to identify time and channel, and relying on Cox's programming guide from an origination station to suggest a scheduled time for transmission).

In their Reply Brief, Appellants argue that "none of the references teach or suggest 'a schedule signal.'" Reply Br. 71. Appellants argue that the schedule signal relied upon by the Examiner in the claimed combination fails to teach one of a channel and frequency. *See id.* at 70–71. This latter argument is not timely and is not responsive to the Examiner's Answer, which addresses Appellants' arguments as noted above. Appellants do not raise the new Reply Brief argument regarding one of a channel and frequency in their Appeal Brief. Therefore, we do not consider it, as it is deemed waived.

Even if one were to consider the argument timely (this panel does not), the argument does not address the Examiner's findings in the Final

Rejection based on the combination of Lambert and Haselwood. *See* Final Act. 77–78 (citing Haselwood, 12:55–59; 12:67–12:6; Lambert 1:28–38, 2:51–58, 3:17–30). At one cited passage, Lambert teaches automatically retransmitting programming on one of four different channels based on the signal received from a satellite and its remote origination station. *See* Lambert 2:44–58; Fig. 1. Claim 128 does not require the origination schedule signal to include a *scheduled* channel or frequency, as contrasted with a “scheduled time.” In Lambert, the signal received from the remote origination station at least indicates the channel for retransmission to subscribers, as claim 128 requires, because Lambert’s system rebroadcasts that signal (after demodulating and modulating it) pursuant to a circuit (i.e., automatically) on a channel. *See id.* In other words, Lambert’s disclosure implies or suggests that the original channel signal from the satellite dictates or indicates the channel for retransmitting. As the Examiner essentially finds, modifying Haselwood based on Lambert’s teachings would have been obvious as a manner of ensuring that subscribers obtain desired television programming at the correct time as the combination of Cox, Haselwood, and Lambert suggests. *See* Final Act. 77–78 (citing Haselwood, 12:55–59; 12:67–12:6; Lambert 1:28–38, 2:51–58, 3:17–30).

Appellants also argue that the combination does not suggest a schedule signal, because in Cox, the signal is embedded “with the programming guide taught by Cox,” which “is not another schedule signal.” *Id.* at 71. This argument, and similar arguments, are not persuasive to rebut the Examiner’s findings that the claimed combination collectively suggests the schedule signal. Claim 128 does not preclude the schedule signal from being embedded in another signal. Further, the Specification discloses that a

decoder detects “embedded instruction information.” Spec. 22:23–27. It also refers to “control instructions . . . embedded sequentially on said . . . lines of the vertical interval.” *Id.* at 22:1–3. Signals need not be single or isolated signals. “In *all cases*, signals may convey information in discrete words, *transmitted at separate times or in separate locations.*” Spec. 14:18–24 (emphasis added)

The Examiner also addresses persuasively Appellants’ arguments characterizing the combined prior art subscriber stations as not being “equivalent” to and as not performing the same functions as the disclosed subscriber stations. *See* App. Br. 105; Ans. 47. (determining that Appellants’ arguments are beyond the scope of claim 128, as claim 128 does not require subscriber stations to retransmit anything). Appellants’ arguments fail to describe a claimed function that the Examiner does not address persuasively (or that the prior art does not suggest). *See* App. Br. 105.

Claim 136 presents materially the same issues. *See* Ans. 48; App. Br. 108–109. Claims 129–132 depend from claim 128. Based on the foregoing discussion, Appellants do not show reversible error in the rejection of claims 128–132 and 136.

III. CONCLUSION

Appellants raise numerous arguments throughout their 145 page Appeal Brief and 74 page Reply Brief, which turn on related disclosures for the 96 claims appealed as interpreted in light of the 550 page Specification and related prosecution history as cited in the Brief Appendix, with Appellants arguing about five or six claim features with added sub-arguments for each feature for several of the claims, all of which we

considered in reaching this Decision. To the extent we do not discuss each argument specifically, we have considered all the arguments and determine that they were not persuasive, or, made in the Reply Brief for the first time and not responsive to the Answer. As the Decision above shows, we attempted to sort out numerous non-responsive from responsive arguments in the Reply Brief (not sustaining the Examiner's rejections in some cases based on Reply Brief arguments where appropriate, *see e.g.*, claims 59–61). To ensure Appellants obtained fair and due process and that the public obtained fair notice, we necessarily entertained and determined to be responsive and persuasive some of Appellants' multiple Reply Brief arguments, determined others to be responsive but not persuasive, and determined others to be non-responsive. *Compare, e.g.*, analysis of claim 78, *with* analysis of claim 95. We adopt and incorporate the Examiner's findings and rationale to the extent congruent with our findings and determinations here.

1. We sustain the following rejections:

Claims 42, 44, and 97, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention.

Claims 56–58 for anticipation by Seth-Smith;

Claims 62, 78, 79, 81, 82, 95–101, 106–110, 114–124, and 126 for anticipation by Cox;

Claims 41–45, 51, 53–55, 63, 64, 66, 112, 113, 133, and 134 for obviousness over the combination of Cox and Seth-Smith;

Claims 80 and 83–85 for obviousness over the combination of Cox and Campbell;

Claims 45–52 for obviousness over the combination of Lambert, Haselwood, and Seth-Smith;

Claims 67–70, 72–76, 86, 88, and 135 for obviousness over the combination of Haselwood and Pargee;

Claims 71, 77, and 87 for obviousness over the combination of Haselwood, Pargee, and Lambert;

Claims 102–105 and 127 for obviousness over the combination of Cox and Campbell;

Claim 111 for obviousness over the combination of Cox and Summers;

Claim 125 for obviousness over the combination of Cox and Fletcher;
and

Claims 128–132 and 136 for obviousness over the combination of Haselwood, Lambert, and Cox.

2. We do not sustain the following rejections:

Claims 59–61 for anticipation by Seth-Smith; and

Claims 65 and 89–94 for anticipation by Cox.

IV. ORDER

It is ORDERED that the Examiner's decision to reject claims 41–58, 62–64, 66–88, and 95–136 is *affirmed*; and the Examiner's decision to reject claims 59–61, 65, and 89–94 is *reversed*.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

<i>Notice of References Cited</i>	Application/Control No. 08/447,611	Applicant(s)/Patent Under Patent Appeal No. 2016-002347	
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U.S. PATENT DOCUMENTS

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	U	The American Heritage Dictionary of the English Language 199 (1975).
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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