UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Microsoft Corporation

Petitioner

v.

Mobile Telecommunications Technologies, LLC

Patent Owner

PTAB Case No. UNASSIGNED

U.S. Patent No. 5,754,946

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 5,754,946

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EXHIBIT LIST

Ex. 1001 U.S. Patent No. 5,754,946 (filed Sept. 21, 1989) ("the '946 Patent").

Ex. 1002 Declaration of Donald Gayton, dated August 8, 2016 ("Gayton Decl.").

Ex. 1003 Japanese Unexamined Patent Application H2-213237 (published Aug. 24, 2000) and Certified Translation ("Akiyama").

Ex. 1004 U.S. Patent No. 4,940,963 (filed Mar. 10, 1989) ("Gutman").

Ex. 1005 U.S. Patent No. 4,644,351 (filed May 8, 1984) ("Zabarsky").

Ex. 1006 U.S. Patent No. 5,311,516 (filed Nov. 23, 1992) ("Kuznicki").

Ex. 1007 U.S. Patent No. 5,448,759 (filed Aug. 20, 1993) ("Krebs").

Ex. 1008 U.S. Patent No. 5,396,537 (filed Oct. 19, 1992) ("Schwendeman").

Ex. 1009 U.S. Patent No. 5,031,179 (filed Nov. 4, 1998) ("Yoshida").

Ex. 1010 U.S. Patent Application Ser. No. 07/973,918, dated November 12, 1992.

Ex. 1011 Highlighted copy of Memorandum Order, *Mobile Telecomms. Techs., LLC v. Sprint Nextel Corp.*, No. 2:12-cv-832-JRG-RSP (E.D. Tex. Nov. 7, 2014), Dkt. 384.

Ex. 1012 Highlighted excerpt of Transcript of Jury Trial Before The Honorable Roy Payne U.S. Magistrate Judge, *Mobile Telecomms. Techs., LLC v. Apple, Inc.*, No. 2:13-dv-00258-RSP (E.D. Tex. Nov. 17, 2014), Dkt. 75.

Ex. 1013 Judgment, *Mobile Telecomms. Techs., LLC v. Apple, Inc.*, No. 2:13-dv-00258-RSP (E.D. Tex. Nov. 21, 2014), Dkt. 79.

Ex. 1014 Excerpt of Joint Pretrial Order, *Mobile Telecomms. Techs., LLC v. Samsung Elecs. Co*, No. 2:15-cv-00183-JRG-RSP (E.D. Tex. Mar. 29, 2016), Dkt. 131.

Ex. 1015 Brad Murray, *User Controlled Re-transmit Option, An IP.com Prior Art Database Technical Disclosure* (Motorola 1991).

Ex. 1016 Excerpt of the '946 Patent File History (Jan. 11, 1996 Amendment and Arguments).

Ex. 1017 Excerpt of the '946 Patent File History (Nov. 12, 1996 Amendment and Arguments).

Ex. 1018 U.S. Patent No. 4,156,867 (filed Sept. 6, 1977) ("Bench").

I. INTRODUCTION

Pursuant to 35 U.S.C. § 311 and 37 C.F.R. § 42.100, Microsoft Corporation ("Petitioner") petitions for *inter partes* review ("IPR") of claims 1, 2, 4, and 7-9 of U.S. Patent No. 5,754,946 ("the '946 Patent" or "Ex. 1001"), originally assigned to Mobile Telecommunication Technologies. As a result of a series of assignments, Mobile Telecommunications Technologies, LLC ("MTel" or "Patent Owner") purports to be the current owner of the '946 Patent.

MTel has asserted that Microsoft infringes certain claims of the '946 Patent in *Mobile Telecommunications Technologies, LLC v. Microsoft*, No. 2-15-cv-02122 (E.D. Tex. Dec. 31, 2015). In addition, MTel has filed suits against other parties involving the '946 Patent (listed below).

Name	Number	District	Filed
Mobile Telecommunications Technologies, LLC v. Google Inc.	2-16-cv-00002	TXED	January 4, 2016
Mobile Telecommunications Technologies, LLC v. Microsoft Corporation	2-15-cv-02122	TXED	December 31, 2015
Mobile Telecommunications Technologies, LLC v. Samsung Electronics Co., Ltd. et al.	2-15-cv-00183	TXED	February 9, 2015
Mobile Telecommunications Technologies, LLC v. Apple Inc.	2-14-cv-01057	TXED	November 19, 2014
Mobile Telecommunications Technologies, LLC v. AT&T Mobility LLC et al.	2-14-cv-00897	TXED	September 15, 2014
Mobile Telecommunications Technologies, LLC v. ZTE (USA), Inc.	2-13-cv-00946	TXED	November 7, 2013
Mobile Telecommunications Technologies, LLC v. LG Electronics Mobilecomm USA,	2-13-cv-00947	TXED	November 7, 2013

Name	Number	District	Filed
Inc.			
Mobile Telecommunications Technologies, LLC v. HTC America, Inc.	2-13-cv-00948	TXED	November 7, 2013
Mobile Telecommunications Technologies, LLC v. Amazon.com, Inc. et al.	2-13-cv-00883	TXED	October 29, 2013
Mobile Telecommunications Technologies, LLC v. Apple Inc.	2-13-cv-00258	TXED	April 2, 2013
Mobile Telecommunications Technologies, LLC v. Samsung Telecommunications America, LLC	2-13-cv-00259	TXED	April 2, 2013
Mobile Telecommunications Technologies, LLC v. Research In Motion Corporation	3-12-cv-01652	TXND	May 29, 2012

This is the second of two petitions that are being filed contemporaneously. No other proceedings have been filed with the Patent Trial and Appeal Board ("the Board") on the '946 Patent.

This Petition shows a reasonable likelihood that Petitioner will prevail with respect to at least one of the claims challenged under 35 U.S.C. § 314(a). Specifically, claims 1, 2, 4, and 7-9 are unpatentable under pre-AIA 35 U.S.C. § 102 and/or § 103 based on specific grounds listed below.

Grounds	References	Challenged Claims
Pre-AIA 35 U.S.C. §§ 102(e) & 103(a)	U.S. Patent No. 5,448,759 ("Krebs")	Claims 1, 4, 7-8
Pre-AIA 35 U.S.C. § 103(a)	U.S. Patent No. 5,448,759 ("Krebs") in view of U.S. Patent No. 5,396,537 ("Schwendeman") and U.S. Patent No. 5,031,179 ("Yoshida").	Claims 1, 2, 4, 7-9

Petitioner respectfully requests the Board to institute a trial for IPR and to cancel claims 1, 2, 4, and 7-9.

II. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8(b)

A. REAL PARTY IN INTEREST

Pursuant to 35 U.S.C. § 312(a)(2) and 37 C.F.R. § 42.8(b)(1), the only real party in interest for this IPR Petition is Microsoft Corporation.

B. RELATED MATTERS

The '946 Patent (along with U.S. Patent Nos. 5,581,804, 5,809,428, and 5,894,506) are being asserted against Petitioner in an ongoing patent infringement lawsuit brought by Patent Owner in *Mobile Telecommunication Technologies, LLC v. Microsoft Corp.*, No. 2-15-cv-02122, filed in the Eastern District of Texas on December 31, 2015. MTel's other litigation involving the '946 Patent, identified in Section I, above, may be affected by action on this Petition.

C. NOTICE OF COUNSEL AND SERVICE INFORMATION

Pursuant to 37 C.F.R. §§ 42.8(b)(3), 42.8(b)(4), and 42.10(a), Petitioner appoints the following lead and back-up counsel:

LEAD COUNSEL	BACK-UP COUNSEL
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Petitioner hereby consents to electronic service under 37 C.F.R. § 42.6(e) at the following email addresses:

CNg@perkinscoie.com
CSCampbell@perkinscoie.com
TWimsatt@perkinscoie.com
JCrop@perkinscoie.com
Patentprocurement@perkinscoie.com

Pursuant to 37 C.F.R. § 42.10(b), a Power of Attorney executed by Microsoft Corporation appointing the above-designated counsel is concurrently filed.

III. REQUIREMENTS FOR *INTER PARTES* REVIEW

This Petition complies with all statutory requirements and rule-based requirements under 37 C.F.R. §§ 42.104, 42.105, and 42.15 and thus should be accorded a filing date as the date of filing of this Petition pursuant to 37 C.F.R. § 42.106.

A. GROUND FOR STANDING

Pursuant to 37 C.F.R § 42.104(a), Petitioner hereby certifies that the '946 Patent is available for review and the Petitioner is not barred or estopped from requesting IPR challenging claims of the '946 Patent on the grounds identified herein. Specifically, Petitioner has standing, or meets all requirements, to file this Petition under 35 U.S.C. §§ 315(a)(1), 315(b), 315(e)(1), and 325(e)(1) and 37 C.F.R. §§ 42.73(d)(1), 42.101, and 42.102.

B. FEE FOR *INTER PARTES* REVIEW

The required fees are submitted under 37 C.F.R. §§ 42.103(a), and 42.15(a). If any additional fees are due during this proceeding, the Office may charge such fees to Deposit Account No. 50-0665 with charge reference 041826-3093.

C. IDENTIFICATION OF CHALLENGE

Pursuant to 37 C.F.R. §§ 42.104(b) and 42.22, the precise relief requested by Petitioner is that the Board institute an IPR trial on claims 1, 2, 4, and 7-9 of the ’946 Patent and cancel claims 1, 2, 4, and 7-9 of the ’946 Patent because they are invalid on the grounds and evidence presented in this Petition.

1. Claims Challenged

Claims 1, 2, 4, and 7-9 of the ’946 Patent are challenged in this Petition.

2. The Prior Art

The prior art references relied upon are prior art discussed or referred to in the papers filed with this Petition. See the Exhibit List (*supra* at vi- vii) and Gayton Decl. (Ex. 1002). The prior art includes:

Ex. 1007 (U.S. Patent No. 5,448,759 (“Krebs”));

Ex. 1008 (U.S. Patent No. 5,396,537 (“Schwendeman”)); and

Ex. 1009 (U.S. Patent No. 5,031,179 (“Yoshida”)).

3. Supporting Evidence Relied upon for the Challenge

The supporting evidence includes the Gayton Decl. (Ex. 1002) and other supporting evidence in the Exhibit List or referred to in the papers filed with this Petition.

4. Statutory Grounds of Challenge and Legal Principles

Pursuant to 37 C.F.R. § 42.104(b)(2), the review of patentability of claims 1, 2, 4, and 7-9 of the ’946 Patent as requested in this Petition is governed by 35

U.S.C. § 102 and/or § 103 that were in effect before March 16, 2013. Further, statutory provisions of 35 U.S.C. §§ 311 to 319 and 325 that took effect on September 16, 2012 govern this *inter partes* review.

5. Claim Construction

The '946 Patent expired on May 19, 2015. "The Board's review of the claims of an expired patent is similar to that of a district court's review. *In re Rambus, Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012). The principle set forth by the court in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312, 1327 (Fed. Cir. 2005) (words of a claim 'are generally given their ordinary and customary meaning' as understood by a person of ordinary skill in the art in question at the time of the invention, construing to preserve validity in case of ambiguity), should be applied since the expired claims are not subject to amendment." *Chi Mei Innolux v. SEL*, IPR2013-00065, Decision to Institute (Paper 11) at 10 (P.T.A.B. Apr. 30, 2013).

Where the claim to be construed contains a means-plus-function or step-plus-function limitation, the construction of the claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function. 37 C.F.R. § 42.104(b)(3).

6. How Claims Are Unpatentable Under Statutory Grounds

Pursuant to 37 C.F.R. § 42.104(b)(4), Section VI provides an explanation of how claims 1, 2, 4, and 7-9 of the '946 Patent are unpatentable under 35 U.S.C.

§ 102 and/or § 103, including the identification of where each element of the claim is found in the cited prior art of patents or printed publications.

IV. OVERVIEW OF THE '946 PATENT

The '946 Patent was filed on September 21, 1993, issued on May 19, 1998, and was originally assigned to Mobile Telecommunication Technologies. The '946 Patent has passed through a series of assignments, and it is currently listed as being assigned to Mobile Telecommunications Technologies, LLC.

A. STATE OF PRIOR ART TECHNOLOGIES BEFORE THE '946 PATENT

Claims 1, 2, 4, and 7-9 include various limitations related to manual requests for retransmission of a portion of a displayed message by a wireless communication device. In some cases, the request is made based on the detection and display of highlighted errors in the received message. These limitations relate to retransmission of a portion of a message and the claimed variants were well known before the priority date of the '946 Patent. Early radio communications, like those used by the military, included phrases like "Roger" to indicate that the message was received, and "Say again" to indicate that a message should be resent. Ex. 1002 ¶¶ 48-49. Sending retransmission requests for portions of a message by mobile devices had been known long before the '946 Patent was filed. Ex. 1002 ¶ 50. One-way paging networks were in place prior to the filing date of the '946 Patent, and early two-way messaging systems existed. Ex. 1002 ¶¶ 52-57. The use

of error detection and correction codes had also been known for decades preceding the filing date of the '946 Patent. Ex. 1002 ¶ 56.

B. PRIORITY DATE OF THE '946 PATENT

The '946 Patent claims priority through a continuation-in-part ("CIP") application to U.S. Patent No. 5,590,403, filed on November 12, 1992. Claims 1, 2, 4, and 7-9 of the '946 Patent are not entitled to the earlier filing date because they each include limitations related to retransmission of a portion of the received message, which was part of the new matter added in the CIP application. Ex. 1002 ¶¶ 41-47. In its trial against Samsung, Patent Owner stipulated to a priority date of September 21, 1993, the date of the CIP application. Ex. 1014 at 14.

C. SUMMARY OF THE '946 PATENT

The '946 Patent describes a two-way paging device and network that supports the ability for a user of the paging device to request retransmission of a portion of a message when errors are detected. Ex. 1001 Abstract. Figure 16 of the '946 Patent depicts the preferred embodiment of the claimed pager device with retransmission request button 1622.

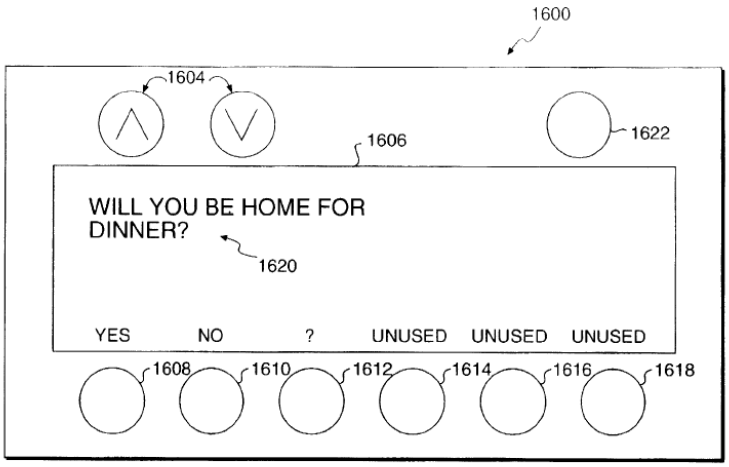


FIG. 16

The single button labeled 1622 "allows the user to request the base transmitters to retransmit received messages, or partial messages containing errors. When the mobile unit receives a message containing errors, it displays the message on display 1606 with the erroneous portions highlighted (e.g., underlined, placed in brackets, or printed in reverse video)." Ex. 1001 at 17:8-14. When the user presses the retransmit button, it "causes the transmit logic 1518 to transmit a signal to the base receivers indicating that the user wishes the message or a partial message to be retransmitted." *Id*. at 17:18-21. Also, the request for retransmission can be interpreted by the network as an indication that the user has read the message. *Id*. at 17:28-30.

D. SUMMARY OF PROSECUTION FILE HISTORY

During prosecution of the '946 Patent, the Examiner rejected each of the original nine claims in an Office Action dated May 5, 1994. The claims were

rejected under 35 U.S.C. § 112 ¶ 2 as indefinite for lack of antecedent basis on various claim elements. In that same Office Action, all nine claims were rejected under 35 U.S.C. § 103 over Tsurumi in view of O'Sullivan. In its November 1, 1994 response, the applicant amended the claims to address the antecedent basis issues. The applicant also argued that neither Tsurumi nor O'Sullivan disclosed a mobile unit that requested retransmission of at least a portion of a message with errors.

The Examiner again rejected all nine claims in its Office Action dated January 23, 1995 under 35 U.S.C. § 103 using Tsurumi in view of Spragins, *et al.* ("Spragins"). Spragins was relied on by the Examiner to show that negative acknowledgement ("NAK") signals were known to be sent from a mobile device to a communications network that would result in retransmission of a message frame. The Applicant responded on May 23, 1995, arguing that Spragins only taught automatic requests for retransmission, but that it did not teach user-generated requests for retransmission.

The Examiner maintained the § 103 rejection of all claims in the Office Action dated August 8, 1995, taking the position that Tsurumi disclosed user-generated confirmation signals and Spragins taught requesting retransmission of message frames in response to NAK signals. The applicant responded to the Office Action by amending the claims to limit the retransmission requests to "a

portion of" rather than the broader "at least a portion of" a message, and argued that this overcame the Examiner's rejections.

The Examiner again rejected all pending claims, relying on Davis in view of Spragins in its Office Action dated May 17, 1996. Davis teaches that a user can push a button on a mobile unit to confirm that the user has read the received message. Spragins was again relied on to disclose requesting retransmission of a portion of the message. The Applicant again amended the claims in its response dated November 12, 1996, adding limitations that a switch be actuated by the user to indicate a desire to have a portion of the message retransmitted, and also the limitations of receiving and displaying the retransmitted message portion.

It was only after the applicant added these limitations to the pending claims that the Examiner finally allowed the claims. The '946 Patent issued on May 19, 1998.

E. THE CHALLENGED CLAIMS

For ease of reference, the limitations of the challenged claims are set forth and enumerated below:

Limitation	Claim Language
Claim 1(P)	A mobile unit for transmitting and receiving radio frequency signals to and from a communications network comprising:
1(A)	means for receiving a radio frequency message from the network;

Limitation	Claim Language
1(B)	a display for displaying said message;
1(C)	a switch actuatable to specify a portion of the displayed message for which a user desires retransmission from the communications network;
1(D)	means for transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message; and
1(E)	means for receiving said specified portion retransmitted from the communications network and for displaying the received specified portion on the display.
2(A)	The mobile unit of claim 1, further comprising: means for detecting errors in the received message,
2(B)	said display including means for highlighting said errors when the message is displayed on said display.
4	The mobile unit of claim 1, wherein the signal transmitted by the transmitting means indicates to the network that the user has read the message.

Limitation	Claim Language
7(P)	A communications network for transmitting radio frequency signals to a mobile unit and for receiving radio frequency signals from the mobile unit, the mobile unit having a display and a switch actuatable to specify a portion of a displayed message for which a user desires retransmission after viewing the displayed message transmitted from the communications network, the network comprising:
7(A)	means for transmitting radio frequency signals containing a message to the mobile unit;
7(B)	means for receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission;
7(C)	means for retransmitting radio frequency signals containing the portion of the message to the mobile unit.
8(P)	A method for receiving and transmitting messages at a mobile unit, comprising the steps of:
8(A)	receiving at the mobile unit a radio frequency message;
8(B)	displaying said message on the mobile unit;
8(C)	receiving an indication of a portion of the displayed message for

Limitation	Claim Language
	which a user desires retransmission;
8(D)	transmitting, only upon receipt of the indication, a signal requesting retransmission of said indicated portion of said message;
8(E)	receiving a retransmission of said indicated portion; and
8(F)	displaying the received retransmission of said indicated portion on the mobile unit.
9(A)	The method according to claim 8, further comprising the step of: detecting errors in the received message; and
9(B)	wherein the step of displaying comprises the substep of: highlighting said errors in the message on the mobile unit.

F. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art ("POSITA") at the time of the alleged invention would have had at least a bachelor's degree in electrical engineering and three to five years of experience in wireless communication system design, although alternative science or engineering degrees could suffice with appropriate coursework and/or relevant work experience. This description is approximate and additional educational experience could make up for less work experience and vice versa. Ex. 1002 ¶ 58.

G. PROPOSED CLAIM CONSTRUCTIONS

The claim construction standard is similar to that of a district court's review. *In re Rambus*, 694 F.3d at 46. The principles apply as set forth in *Phillips*, 415 F.3d at 1312, 1327 (words of a claim "are generally given their ordinary and customary meaning" as understood by a person of ordinary skill in the art in question at the time of the invention).

Patent Owner has previously litigated the interpretation of certain claim terms, including the meaning of "retransmission." As explained below, Patent Owner is precluded from challenging the broad interpretation of "retransmission" that it sought and obtained in prior litigation. *In re Freeman*, 30 F.3d 1459, 1466-67 (Fed. Cir. 1994).

Numerous claim terms in the '946 Patent are governed by pre-AIA 35 U.S.C. § 112 ¶ 6. These claim terms require identification of the function performed by the recited means and the supporting structure clearly linked to performing that function.

1. "retransmission"

Issue preclusion regarding the interpretation of the claim term "retransmission" applies to Patent Owner under the standard established in *In re Freeman*.

> Issue preclusion is appropriate only if: (1) the issue is identical to one decided in the first action; (2) the issue

> was actually litigated in the first action; (3) resolution of the issue was essential to a final judgment in the first action; and (4) plaintiff had a full and fair opportunity to litigate the issue in the first action.

30 F.3d at 1465.

In *Mobile Telecommunications Technologies, LLC v. Apple Inc.*, No. 2-13-cv-00258, MTel obtained an infringement judgment against Apple that required a claim interpretation of "retransmission" that did not require a previous transmission from the network to the mobile device. Ex. 1011; Ex. 1012 at 11-12; Ex. 1013. MTel sought and received a "plain meaning" interpretation that encompassed relaying of information from an originator to the network and then purported "retransmission" on to the mobile unit so that, in effect, any relayed message constitutes a retransmission. Ex. 1011 at 3.[1] Apple's non-infringement defense was based on "retransmission" not being satisfied by the first attempt to transmit information to the mobile unit. Ex. 1012 at 11-12. MTel obtained an infringement judgment against Apple, which required "retransmission" to

[1] Although this order was entered in the matter involving MTel and Sprint Nextel Corp., the two cases were consolidated for pre-trial purposes, and the court's interpretation of retransmission applied in the Apple trial. Ex. 1011 at 1.

encompass relaying of messages without requiring any previous transmission to the mobile unit. Ex. 1013.

The meaning of the claim term "retransmission" presents an identical issue under the same claim construction standard that was applied in the MTel-Apple case (*Freeman* factor 1). The court determined that MTel's understanding of the claim term applied based on full briefing by Apple and MTel (*Freeman* factors 2 and 4). And the judgment MTel obtained required the broad construction that MTel advocated for (*Freeman* factor 3).

The interpretation of "retransmission" to the mobile unit that should apply in this proceeding should therefore not be limited to a second transmission from the network to the mobile unit, but must also include a single transmission to the mobile unit if the information transmitted is relayed at least once within the network.

2. "means for receiving a radio frequency message from the network"

This construction of this claim term is governed by pre-AIA 35 U.S.C. § 112 ¶ 6. The corresponding function is "receiving a radio frequency message from the network." Ex. 1002 ¶ 69. The linked structure includes an antenna (1502 or 1702) and a receiver (1506 or 1706). *Id*.; *see also* Ex. 1001 figs. 15, 17 & 14:45-57, 17:64-18:10.

FIG. 15

Mobile Transceiver

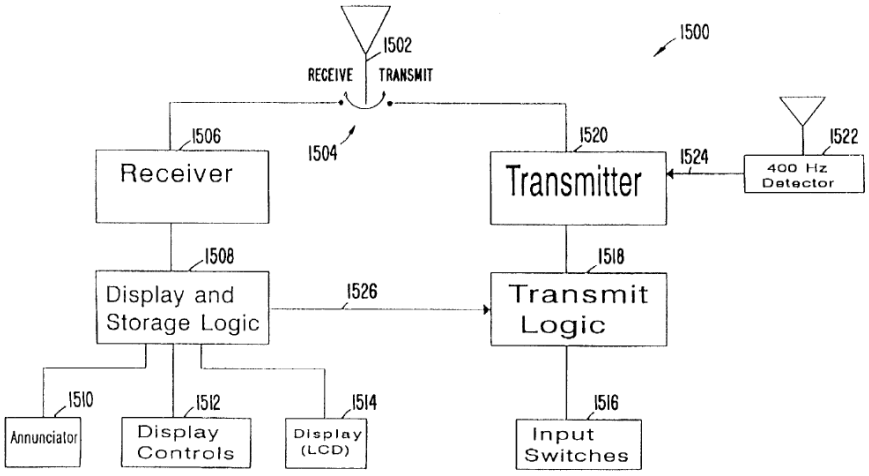
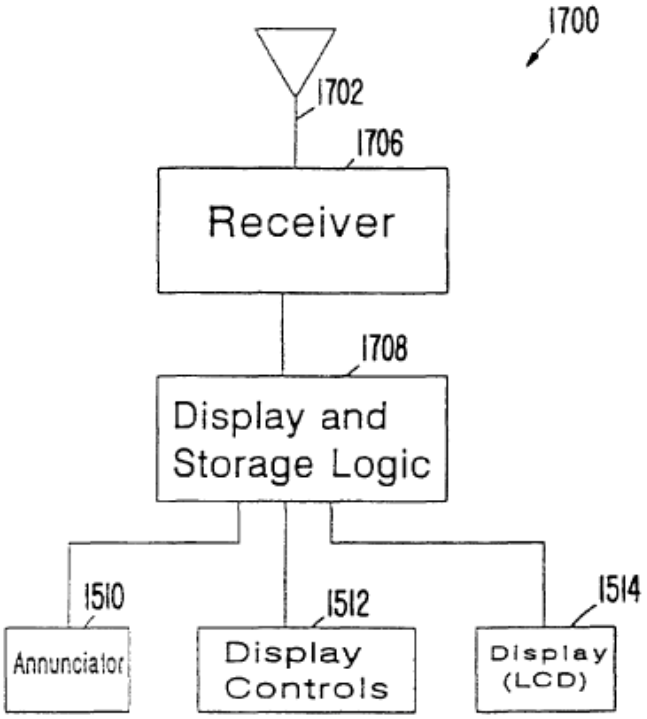


FIG. 17

Mobile Receiver



This claim element is anticipated by disclosure of an antenna and receiver, or equivalents thereof, that receive a radio frequency message from the network.

3. "means for transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message"

The construction of this claim term is governed by pre-AIA 35 U.S.C. § 112 ¶ 6. The corresponding function is "transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message." Ex. 1002 ¶ 70. The linked structure includes an antenna (1502), a transmitter (1520), transmit logic (1518), and a switch (1622). Ex. 1002 ¶ 73. The transmit logic controls the mobile unit to transmit the signal to the network requesting retransmission of a specific portion of a message wherein that transmission would not have occurred if a switch requesting retransmission had not been actuated. Ex. 1002 ¶ 72; *see also* Ex. 1001 fig. 15 & 14:45-55, 15:11-22, 15:39-45, 15:39-42. This claim element is anticipated by disclosure of an antenna, a transmitter, and a switch, or equivalents thereof, controlled by programming or logic to transmit, only upon actuation of the switch, a signal to the communications network requesting retransmission of the specified portion of the message.

4. "means for receiving said specified portion retransmitted from the communications network and for displaying the received specified portion on the display"

This construction of this claim term is governed by pre-AIA 35 U.S.C. § 112 ¶ 6. The corresponding function is "receiving a specified portion retransmitted from the communications network and displaying the received specified portion on the display." Ex. 1002 ¶ 74. The linked structure includes an antenna (1502) and a receiver (1506) for receiving a message portion. *Id.*; *see also* Ex. 1001 figs. 15, 17 & 14:45-57. The structure further includes a display logic and a display for displaying the received portion. Ex. 1002 ¶ 74; *see also* Ex. 1001 figs. 15-16 & 14:66-15:10. This claim element is anticipated by disclosure of an antenna, a receiver, and a display, or equivalents thereof, that are controlled by programming or logic to receive a specified portion retransmitted from the communications network and display the received specified portion on the display.

5. "means for detecting errors in the received message"

This construction of this claim term is governed by pre-AIA 35 U.S.C. § 112 ¶ 6. The corresponding function is "detecting errors in a received message" Ex. 1002 ¶ 75. The '946 Patent's disclosure does not expressly state which component of the mobile unit is responsible for detecting errors, but the closest possible structure includes a receiver, not described, capable of decoding error correcting codes contained in the message. *Id.*; *see also* Ex. 1001 fig. 15 & 4:43-

46, 15:24-30. This claim element is anticipated by disclosure of a receiver, or equivalents thereof, that detects errors in a received message using an error correction code.

6. "means for highlighting said errors when the message is displayed on said display

This construction of this claim term is governed by pre-AIA 35 U.S.C. § 112 ¶ 6. The corresponding function is "highlighting errors when a message is displayed on said display." Ex. 1002 ¶ 76. The linked structure includes a display capable of highlighting errors in the message by underlining errors, placing errors in brackets, or printing errors in reverse video. *Id.*; *see also* Ex. 1001 at 17:10-14. This claim element is anticipated by disclosure of a display capable of highlighting errors in the message by underlining errors, placing errors in brackets, or printing errors in reverse video, or equivalents thereof, that highlights errors when a message is displayed.

7. "means for transmitting radio frequency signals containing a message to the mobile unit"

This construction of this claim term is governed by pre-AIA 35 U.S.C. § 112 ¶ 6. The corresponding function is "transmitting radio frequency signals containing a message to a mobile unit." Ex. 1002 ¶ 77. The linked structure includes a base transmitter connected to an antenna. *Id.*; *see also* Ex. 1001 figs. 6, 13-14 & 7:13-22, 8:54-63, 13:60-14:42. This claim element is anticipated by

disclosure of a base transmitter connected to an antenna that transmits radio frequency signals containing a message to a mobile unit.

8. "means for receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission"

This construction of this claim term is governed by pre-AIA 35 U.S.C. § 112 ¶ 6. The corresponding function is "receiving, from a mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission." Ex. 1002 ¶ 78. The linked structure includes a base receiver connected to an antenna. *Id.*; *see also* Ex. 1001 figs. 6, 18(a), 18(b) & 7:30-46, 9:14-17, 14:49-51, 17:18-21. This claim element is anticipated by disclosure of a base receiver connected to an antenna that receives, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission.

9. "means for retransmitting radio frequency signals containing the portion of the message to the mobile unit"

This construction of this claim term is governed by pre-AIA 35 U.S.C. § 112 ¶ 6. The corresponding function is "retransmitting radio frequency signals containing a portion of the message to the mobile unit." Ex. 1002 ¶ 79. The linked structure includes a base transmitter connected to an antenna. *Id.*; *see also* Ex. 1001 figs. 6, 13-14 & 7:13-22, 8:54-63, 13:60-14:42. This claim element is anticipated by disclosure of a base transmitter connected to an antenna that

retransmits radio frequency signals containing a portion of the message to the mobile unit.

10. Limitations Regarding a "Portion Of" a Message

Claim elements 1(C), 1(D), 7(P), 7(B), 7(C), and 8(C) each recite or reference a "portion of" a message. On its face, the claim language might be read to encompass "*at least* a portion of" or "*only* a portion of." However, during prosecution, the applicants distinguished prior art because the amended claims required that the user could select *only* a portion of a message for retransmission. Ex. 1016 at 3; Ex. 1017 at 4. On the basis that the January 11, 1996 amendment and arguments disclaimed scope that would encompass "*at least* a portion," this Petition relies on the narrower "*only* a portion" reading of this claim language.

V. THERE IS A REASONABLE LIKELIHOOD THAT AT LEAST ONE CLAIM OF THE '946 PATENT IS UNPATENTABLE

Claims 1, 2, 4, and 7-9 are unpatentable under 35 U.S.C. §§ 102(b) or 103(a) for merely reciting known, predictable, and/or obvious combinations of the cited prior art references.

A. IDENTIFICATION OF THE REFERENCES AS PRIOR ART

The prior art references relied upon in the specific invalidity grounds are listed below. None of the prior art references identified below were considered during prosecution of the '946 Patent.

1. U.S. Patent No. 5,448,759 ("Krebs") was filed on August 20, 1993 and issued on September 5, 1995, and it qualifies as prior art under 35 U.S.C. § 102(e). Ex. 1007.
2. U.S. Patent No. 5,396,537 ("Schwendeman") was filed on October 19, 1992, and issued on March 7, 1995, and it qualifies as prior art under 35 U.S.C. § 102(e). Ex. 1008.
3. U.S. Patent No. 5,031,179 ("Yoshida") was filed on November 4, 1988, and issued on July 9, 1991, and qualifies as prior art under 35 U.S.C. § 102(a), (b), and (e). Ex. 1009.

B. SUMMARY OF INVALIDITY POSITIONS

The cited references disclose all elements and their combinations recited in claims 1, 2, 4, and 7-9 and establish that Petitioner will prevail with respect to at least one of the challenged claims. Specifically, claims 1, 4, 7, and 8 are anticipated and rendered obvious by Krebs, and claims 1, 2, 4, and 7-9 are rendered obvious by the combination of Krebs, Schwendeman, and Yoshida.

Under the *Phillips* claim construction and from the perspective of a POSITA as stated in prior sections, this Petition determines the scope and content of the cited prior art in the proposed invalidity grounds, analyzes the differences between the claimed invention and the cited prior art by considering the claimed invention as a whole and the cited prior art as a whole under the *Phillips* claim construction,

and concludes that the prior art in the proposed invalidity grounds discloses all elements recited in claims 1, 2, 4, and 7-9 and renders the claimed subject matter as a whole obvious and unpatentable.

C. DIFFERENT INVALIDITY POSITIONS AGAINST EACH CLAIM ARE INDEPENDENT, DISTINCTIVE, AND NOT REDUNDANT

This petition and a second petition filed contemporaneously herewith use four primary references or combinations, (1) the combination of Akiyama and Gutman, (2) the combination of Zabarsky and Kuznicki, (3A & 3B) Krebs, and (4) the combination of Krebs, Schwendeman, and Yoshida, to form independent and distinctive invalidity grounds. The references are selected because of their distinctive teachings that cover different technical aspects of the '946 Patent and provide the Office and the public with a fuller view of the prior art landscape prior to the filing of the '946 Patent that was not discussed or duly considered during the original examination. Grounds (1) and (2) are explained in the concurrently filed petition.

The grounds raised in these petitions are distinctive and provide a fuller context in which to evaluate the patentability of the '946 Patent for at least the following reasons. Akiyama was published on August 24, 1990 and Gutman issued on July 10, 1990. Akiyama and Gutman are prior art under pre-AIA 35 U.S.C. § 102(b) and are not subject to possible antedating. Kuznicki and Krebs are

each prior art under pre-AIA 35 U.S.C. § 102(e). Akiyama plainly discloses the retransmission of only portions of a message that contain errors, as addressed for at least claim elements 1(C), 1(D), 1(E), 7(P), 7(B), 7(C), 8(C), and 8(D). The pager in Akiyama receives RF messages from the paging network, but transmits responses or retransmission requests using acoustic or electromagnetic wireless coupling to a telephone system. It would have been obvious to combine Akiyama with Gutman, a two-way RF paging system, in order to establish two-way RF transmission. The bases and rationale to combine Akiyama with Gutman differ from the underlying bases for combining Zabarsky, which describes a two-way paging system, with Kuznicki, describing the fragmentation of large messages in a paging system. Zabarsky and Kuznicki are combinable for various reasons, including addressing a trend toward larger messages at the time. Zabarsky discloses that entire pages are retransmitted, rather than only a portion of a message. The combination of Zabarsky and Kuznicki establish that only a portion of a fragmented message would be retransmitted in the combined system. The rationale for combining Zabarsky and Kuznicki differs from that for Akiyama and Gutman, and each set of references is distinct and not redundant. Because of these differences in the combination of references, Akiyama and Gutman more clearly disclose retransmission requests that result in a portion of messages being retransmitted upon a user request. Zabarsky and Kuznicki, however, more clearly

disclose a two-way paging system with a manual request for retransmission of messages.

Krebs is distinct on several grounds. Krebs anticipates claims 1, 4, 7, and 8, and is therefore not susceptible to challenge based on secondary considerations of non-obviousness or any other basis for challenging the combination of references. Nor does anticipation or obviousness in light of Krebs require the combination of teachings from multiple references. This Petition challenges claims based on both anticipation and obviousness in view of Krebs. The claims rely on the ordinary use of components of prior art paging systems to perform their ordinary and predictable functions. Although Petitioner maintains that these components are disclosed, inherently or expressly, in Krebs, to the extent that some distinction is identified between the claimed approach and the disclosure in Krebs, analysis under principles of obviousness is a non-redundant ground that allows examination of the obviousness of applying known prior art components to perform their ordinary purpose to achieve their ordinary result.

The combinations of Akiyama with Gutman and Zabarsky with Kuznicki are superior to Krebs in a number of areas. First, Krebs predates the priority date of the ’946 Patent by only about a month, raising the possibility of a priority challenge. Also, Krebs’s retransmission techniques involve downloading a part of a message and then the full message, resulting in some amount of retransmission

even in the absence of any errors in the original transmission. Yet the user may not need or want the originally transmitted information to be sent again. Although the subjective intent of the user is not typically an element of a claim, if the user's subjective desire is material to claim elements 1(C), 7(P), and 8(C), Krebs may not disclose the required intent to have information retransmitted to correct errors.

The combination of Krebs, Schwendeman, and Yoshida is distinct from the other grounds. The combination improves upon Krebs by adding an express disclosure of message retransmission to correct errors. Krebs and Schwendeman each disclose two-way paging systems that more directly disclose the radio-frequency transmission and reception limitations of the claims than Akiyama, which requires establishing the obviousness to substitute or add an RF transmitter (from Gutman) for or to the telephone interface in Akiyama. And the Krebs-Schwendeman-Yoshida combination involves per-message retransmission requests that more clearly disclose the user requesting a portion of a message for retransmission than the Zabarsky-Kuznicki combination. Yet, Krebs-Schwendeman-Yoshida remains more susceptible to a priority challenge than the other grounds, and the retransmission of only erroneous portions of messages is more clearly disclosed in the Akiyama-Gutman and Zabarsky-Kuznicki combinations.

To facilitate "just, speedy and inexpensive resolution" in the spirit of 37 C.F.R. § 42.1(b), Petitioner was diligent in minimizing both the number of references and the number of invalidity grounds against the challenged claims. Petitioner respectfully submits that the need for just resolution of the unpatentability issues urges the full adoption of all proposed invalidity grounds.

VI. DETAILED EXPLANATION OF GROUNDS FOR UNPATENTABILITY OF CLAIMS 1, 2, 4, AND 7-9 OF THE '946 PATENT

A. GROUNDS 3A & 3B:[2] CLAIMS 1, 4, AND 7-8 ARE UNPATENTABLE UNDER 35 U.S.C. § 102(e) and § 103 AS BEING ANTICIPATED AND RENDERED OBVIOUS BY KREBS

U.S. Patent No. 5,448,759 (Krebs) is a patent originally issued to Motorola, Inc. which was a leading manufacturer of paging systems. Krebs was not considered by the examiner during prosecution of the '946 Patent. Krebs recognizes that users desired different sizes of messages to be sent via paging systems. Ex. 1007 at 1:31-40, 1:64-68. The transmission of large messages can occupy the transmission medium for an extended duration. *Id.* at 1:40-46. Krebs

[2] In order to avoid confusion between this petition and the concurrently filed petition, the grounds in this petition are numbered 3 (A & B) and 4 rather than 1 and 2.

addresses a technique to reduce the impact of larger messages transmitted by the paging systems. *Id.* at 2:11-28.

Krebs proposes a mobile unit capable of receiving messages of varying bandwidths, which it calls first bandwidth, second bandwidth, and third bandwidth messages. *Id.* at 3:1-30, 4:1-3. First are shorter than second, which are shorter than third. *Id.* In Krebs, a second bandwidth message intended for transmission to a particular mobile unit is initially delivered in part using a "notification message." *Id.* at 4:54-5:2. The notification message includes some of the information in the full second bandwidth message, including the originator, a summary of the message, the date sent, the length of the message, and the priority. *Id.* at 4:61-65; Ex. 1002 ¶¶ 178-81.

Upon receiving the notification message, the pager displays it to the user, Ex. 1007 at 5:3-11, allowing the user to determine whether to receive the remaining portion of the original message. *Id.* at 5:22-31. If the user decides to receive more of the message, the user can command the pager to transmit a "receive message request." *Id.* at 5:24-27. Upon receiving the receive message request, the central processor transmits the second bandwidth message to the pager via repeaters and radio frequency transmitters. *Id.* figs. 1-2 & 5:40-47; Ex. 1002 ¶¶ 180-81.

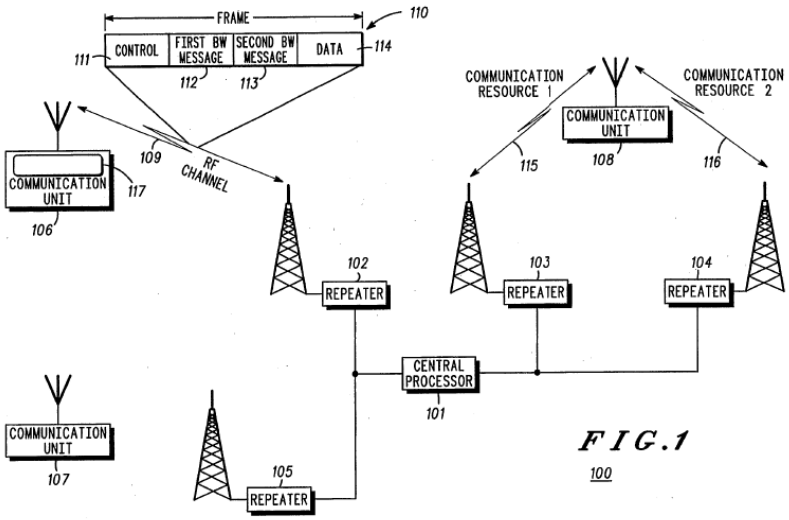

FRAME
110
CONTROL
FIRST BW MESSAGE
SECOND BW MESSAGE
DATA
111
112
113
114
COMMUNICATION RESOURCE 1
COMMUNICATION RESOURCE 2
COMMUNICATION UNIT
108
115
116
109
RF CHANNEL
COMMUNICATION UNIT
117
106
102
REPEATER
103
REPEATER
104
REPEATER
CENTRAL PROCESSOR
101
COMMUNICATION UNIT
107
105
REPEATER
100

FIG.1

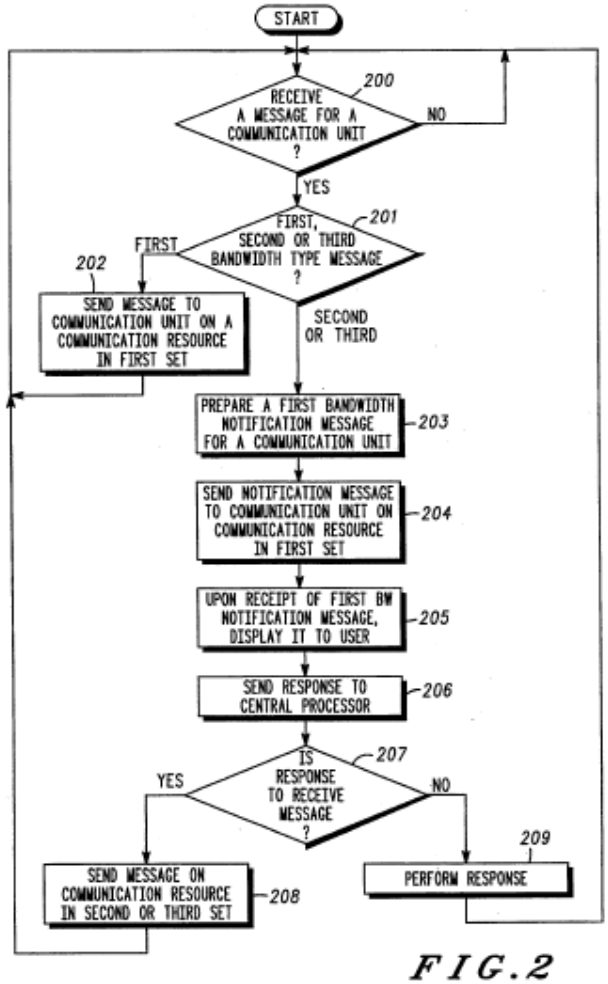

START
RECEIVE A MESSAGE FOR A COMMUNICATION UNIT ?
200
NO
YES
FIRST, SECOND OR THIRD BANDWIDTH TYPE MESSAGE ?
201
FIRST
202
SECOND OR THIRD
SEND MESSAGE TO COMMUNICATION UNIT ON A COMMUNICATION RESOURCE IN FIRST SET
PREPARE A FIRST BANDWIDTH NOTIFICATION MESSAGE FOR A COMMUNICATION UNIT
203
SEND NOTIFICATION MESSAGE TO COMMUNICATION UNIT ON COMMUNICATION RESOURCE IN FIRST SET
204
UPON RECEIPT OF FIRST BW NOTIFICATION MESSAGE, DISPLAY IT TO USER
205
SEND RESPONSE TO CENTRAL PROCESSOR
206
IS RESPONSE TO RECEIVE MESSAGE ?
207
YES
NO
SEND MESSAGE ON COMMUNICATION RESOURCE IN SECOND OR THIRD SET
208
PERFORM RESPONSE
209

FIG.2

Ground 3A is based on Krebs's anticipation of each of the claims as explained below. For certain limitations, as explained below, Krebs discloses some limitations either inherently (and thus anticipatorily) or the limitation in question presents the ordinary use of a structure or element for its ordinary purpose to achieve its ordinary result. Ex. 1002 ¶ 188. In the latter case, and for Ground 3B, Krebs renders these claims obvious as explained in further detail below.

1. Claim 1 Is Anticipated and Rendered Obvious by Krebs

Krebs discloses the preamble and limitations of claim 1.

1(P): "A mobile unit for transmitting and receiving radio frequency signals to and from a communications network comprising [the elements below]"

If the preamble 1(P) limits claim 1, Krebs describes a mobile unit with two-way radio frequency communications to a communications network. Ex. 1007 fig. 1 & 3:51-59; Ex. 1002 ¶ 188.

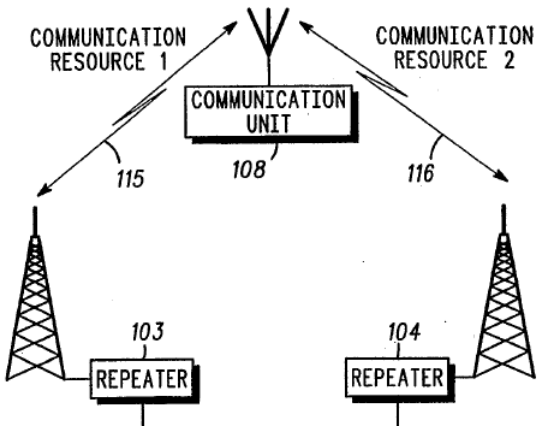


fig. 1 (cropped).

1(A): "means for receiving a radio frequency message from the network"

Krebs further discloses the function and structure of limitation 1(A). The mobile unit in Krebs contains a receiver and antenna used to receive radio frequency messages from the network. Ex. 1007 fig. 1 & 1:8-11; Ex. 1002 ¶ 189.

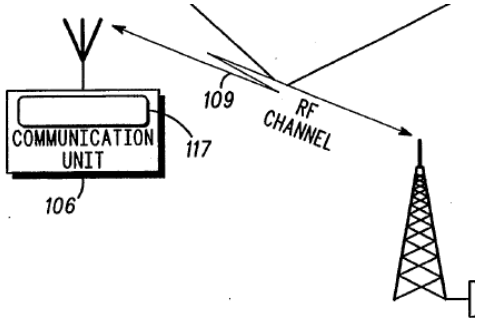


fig. 1 (cropped). Krebs discloses an antenna in figure 1 for RF communications. Although Krebs does not describe an internal receiver connected to that antenna, one is either inherent in Krebs's disclosure to "transceive" a message, or it would have been obvious to use a receiver in a communications unit adapted for RF reception. Ex. 1002 ¶ 189. The ordinary purpose of a receiver is to receive the RF signal from the antenna, and demodulate or otherwise process it. *Id.*

1(B): "a display for displaying said message"

The mobile unit in Krebs further displays the messages on a screen, disclosing limitation 1(B). Ex. 1007 fig. 1 (label 117) & 2:46-47, 5:3-7; Ex. 1002 ¶ 190.

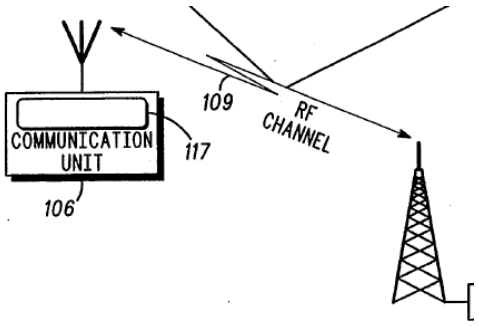


fig. 1 (cropped).

1(C): "a switch actuatable to specify a portion of the displayed message for which a user desires retransmission from the communications network"

Krebs discloses limitation 1(C). Ex. 1007 fig. 1 & 5:22-37; Ex. 1002 ¶¶ 191-94.

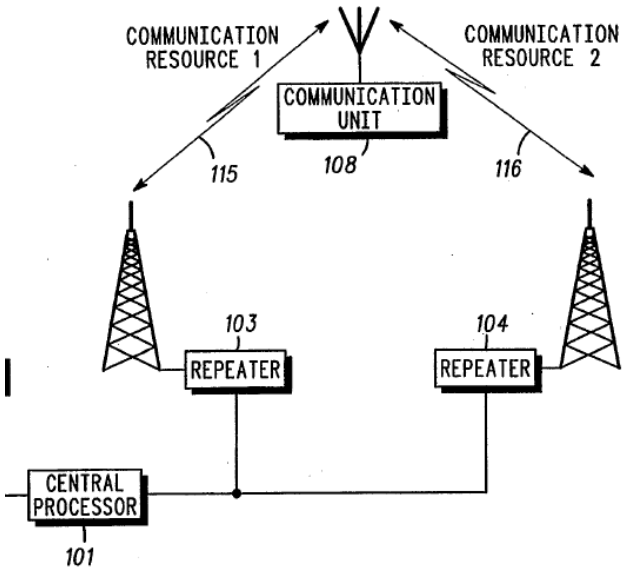


FIG.1

fig. 1 (cropped).

The improvement in Krebs is to transmit part of a larger message (described by Krebs as a second or third bandwidth message) in a lower bandwidth message

(a first bandwidth "notification message"). Ex. 1007 at 4:54-5:2; Ex. 1002 ¶¶ 180-81. Krebs describes that the user can respond to the notification message by requesting that the remaining portion of the larger second or third bandwidth message be transmitted (along with those parts previously included in the notification message) Ex. 1007 fig. 2 & 5:22-27; Ex. 1002 ¶¶ 180-81.

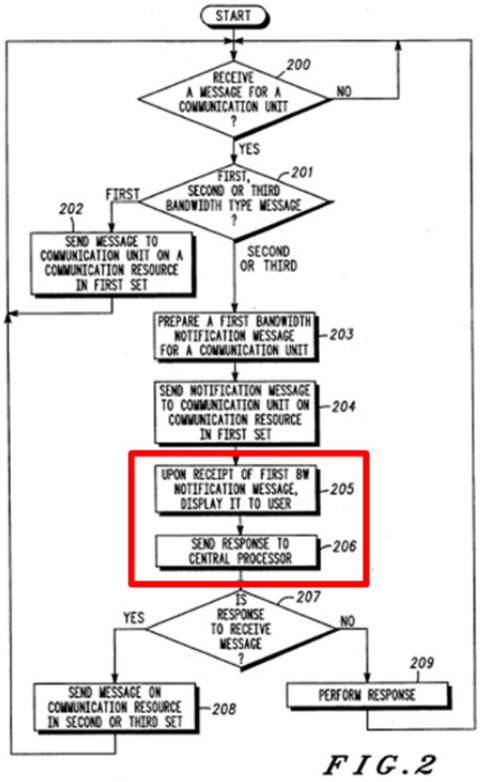


FIG. 2

As a result, those parts of the second or third bandwidth message that were copied into the notification message are transmitted a second time from the central processor to the mobile unit so that those parts of the notification message are retransmitted. Ex. 1007 fig. 2 & 5:22-27; Ex. 1002 ¶¶ 180-81. At least part of the notification message is not retransmitted so that the notification message is

retransmitted only in part. For example, at least the indicator of the cost of downloading the second or third bandwidth message was contained in the notification message but did not need to be in the second or third bandwidth message. Ex. 1007 at 5:24-27; Ex. 1002 ¶¶ 180-81, 192.

Krebs describes that in response to a "receive" request, the second or third bandwidth message will be transmitted. The most natural reading of Krebs is that the entire second or third bandwidth message is retransmitted, including any parts copied into the previous notification message. Ex. 1002 ¶¶ 180-81. Another approach that would have been obvious to a POSITA would was to transmit only the parts of the full second or third bandwidth message that had not been sent before in order to meet Krebs' goal of efficiently using bandwidth. Ex. 1007 Title & 2:36-40; Ex. 1002 ¶ 181. In that obvious approach, the relayed transmission (which is a retransmission under the Patent Owner's construction) includes only a portion of the full second or third bandwidth message.

Finally, A POSITA would have also understood that the user commands are entered into the mobile unit by virtue of buttons, switches, or an equivalent control mechanism. Ex. 1002 ¶ 193. To the extent that a switch or an equivalent of a switch is not inherent in Krebs, the use of switches and buttons to permit a user to command a pager was obvious. Ex. 1001 ¶ 193. The switches or buttons that the

user necessarily or obviously employs to command the communications unit to perform the actions described in Krebs discloses limitation 1(C).

1(D): "means for transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message"

Krebs further discloses the function and structure of limitation 1(D). Krebs discloses a communications unit, with an antenna, a transmitter, and a switch, where the communications unit contains programming (i.e., transmit logic) to transmit, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message.

As noted for limitation 1(C), Krebs discloses that the user controls the mobile unit to transmit a response via a transmitter and antenna to the central processor. Ex. 1007 fig. 1 & 5:22-27; Ex. 1002 ¶¶ 193, 195. The use of a switch or the equivalent of a switch was either inherent or was an obvious control mechanism at the time. Ex. 1002 ¶ 193. Krebs further discloses that the mobile unit contains control/transmit logic causing the mobile unit to transmit the user response as commanded by the user. Ex. 1007 fig. 2 & 5:22-39; Ex. 1002 ¶ 194.

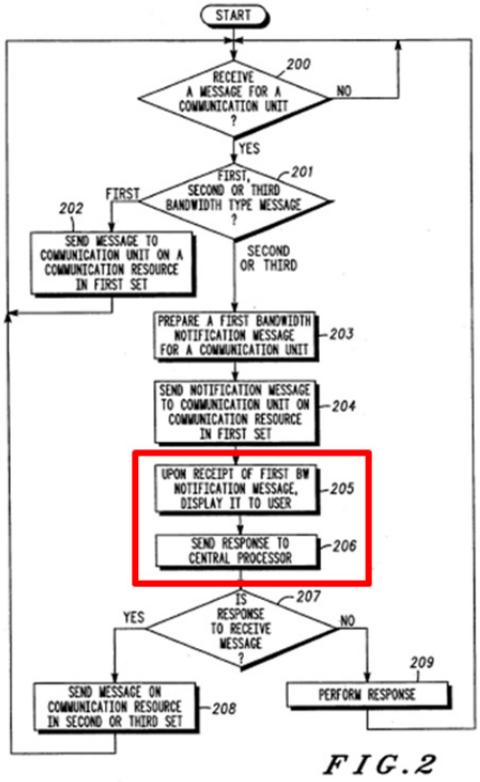


FIG. 2

Krebs also discloses that if the user does not request relaying of the second or third bandwidth message to the mobile unit, the central processor will eventually delete the message without any further retransmission or request for retransmission of the message. Ex. 1007 at 5:34-39; Ex. 1002 ¶ 195. These components, therefore, perform the function of transmitting a signal requesting retransmission of a portion of the notification message within the second or third bandwidth message. That signal is only sent if the user operates the switches or buttons on the mobile unit to request transmission of the second or third bandwidth message. Ex. 1002 ¶ 195 181-87.

Krebs discloses an antenna in figure 1 for RF communications. Although Krebs does not describe an internal transmitter connected to that antenna, one is either inherent in Krebs's disclosure to "tranceive" messages, or it would have been obvious to use a transmitter in a communications unit adapted for RF transmission. Ex. 1002 ¶ 195. The ordinary purpose of a transmitter is to send create and amplify the RF signal and deliver it to the antenna. *Id.*

1(E): "means for receiving said specified portion retransmitted from the communications network and for displaying the received specified portion on the display"

Krebs further discloses the function and structure for limitation 1(E). The mobile unit includes an antenna and a receiver for receiving the second or third bandwidth messages from the network. Ex. 1007 figs. 1-2 & 5:52-68, 6:6-14; Ex. 1002 ¶ 196-98. Krebs discloses an antenna in figure 1 for RF communications. Although Krebs does not describe an internal receiver connected to that antenna, one is either inherent in Krebs's disclosure to "tranceive" a message, or it would have been obvious to use a receiver in a communications unit adapted for RF reception. Ex. 1002 ¶ 189. The ordinary purpose of a receiver is to receive the RF signal from the antenna, and demodulate or otherwise process it. *Id.*

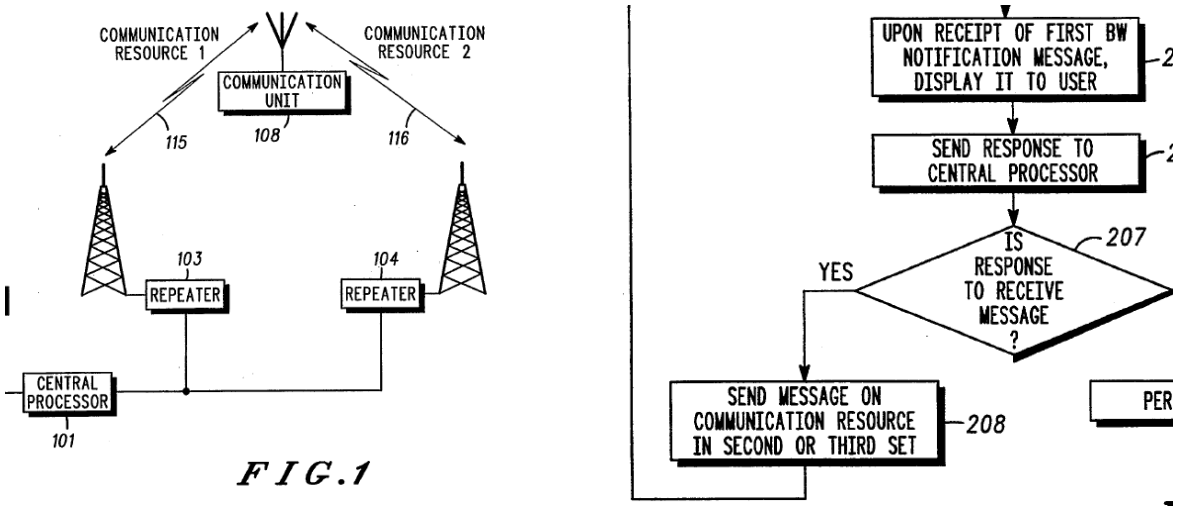


FIG.1

figs. 1-2 (cropped)

Krebs further discloses that one purpose of the mobile unit is to permit the user to receive (via the display) first, second, and third bandwidth messages, such that the second or third bandwidth messages are then displayed to the user. Ex. 1007 fig. 1 & 1:40-50, 2:28-47; Ex. 1002 ¶¶ 196-98.

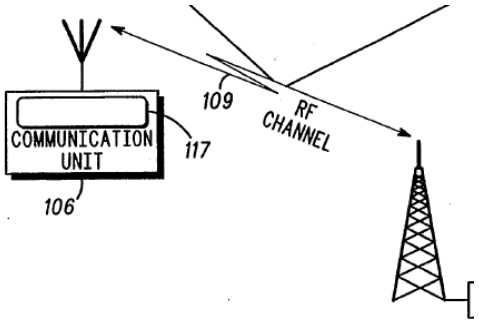


fig. 1 (cropped)

Collectively, these parts of the Krebs communications unit receive the second or third bandwidth message through the antenna and receiver, and then display it via the display.

2. Claim 4 Is Anticipated and Rendered Obvious by Krebs

Claim 4 depends from claim 1 and adds the further limitation 4, which is disclosed by Krebs.

4: "The mobile unit of claim 1, wherein the signal transmitted by the transmitting means indicates to the network that the user has read the message"

Claim 4 depends on claim 1 which is either anticipated or rendered obvious by Krebs as previously set forth. In addition, Krebs discloses that the "receive message" signal sent from the mobile unit to the central processor indicates that the mobile unit has received, and the user has read, the notification portion of the message. Ex. 1007 fig. 2 & 5:22-39; Ex. 1002 ¶ 199. "*Upon observing* the first bandwidth notification message, the user sends a response to the central processor via the operable communications unit." Ex. 1007 5:22-24 (emphasis added); Ex. 1002 ¶ 199.

3. Claim 7 Is Anticipated and Rendered Obvious by Krebs

Krebs discloses the preamble and limitations of claim 7.

7(P): "A communications network for transmitting radio frequency signals to a mobile unit and for receiving radio frequency signals from the mobile unit, the mobile unit having a display and a switch actuatable to specify a portion of a displayed message for which a user desires

retransmission after viewing the displayed message transmitted from the communications network, the network comprising [the elements below]"

If the preamble 7(P) limits claim 7, Krebs describes a communications network for transmitting radio frequency signals to the mobile unit embodying the features established for limitations 1(B), 1(C), and 1(D), above. *See also* Ex. 1007 fig. 1; Ex. 1002 ¶ 200.

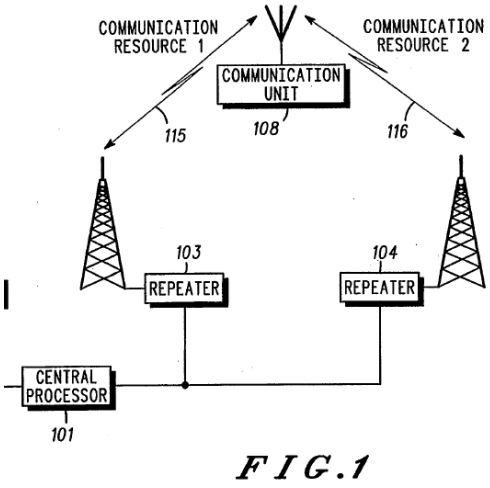


FIG. 1

fig. 1 (cropped)

7(A): "means for transmitting radio frequency signals containing a message to the mobile unit"

Krebs discloses the function and structure required by limitation 7(A), including a base transmitter and antenna that transmit RF signals containing messages to the mobile unit. Ex. 1007 fig. 1 & 2:18-30; Ex. 1002 ¶ 201. Krebs depicts a repeater connected to an antenna to transmit the RF communications to the mobile unit. *Id.* To the extent this structure does not explicitly or inherently

describe the transmitter structure for this limitation, it would have been obvious to use a transmitter connected to the disclosed antenna as part of transmitting the RF signal. Ex. 1002 ¶ 201.

7(B): "means for receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission"

Krebs further discloses the function and structure required by limitation 7(B) including a base receiver connected to an antenna configured to receive signals from the mobile unit representing a portion of a message that the user desires retransmission. Ex. 1007 fig. 1. For example, the mobile unit in Krebs transmits "receive message" requests from the mobile unit to the central processor. *See* limitations 1(C) and 1(D), above; Ex. 1007 fig. 2 & 5:22-39; Ex. 1002 ¶¶ 202-05. These receive message requests cause some information (like the originator and subject) that was copied from the second or third bandwidth message into the notification message to be retransmitted in the full second or third bandwidth message. Ex. 1007 at 5:24-27; Ex. 1002 ¶¶ 180-81, 192. Alternative, it would have been obvious to send only those parts of the second or third bandwidth message that were not sent previously in order to conserve bandwidth. Ex. 1002 ¶ 181; Ex. 1007 Title & 2:36-40.

Krebs depicts an antenna and two-way RF communications between the base station and the mobile unit. *Id.* To the extent this structure does not explicitly or inherently describe the receiver structure for this limitation, it would have been obvious to use a receiver connected to the disclosed antenna as part of receiving the RF signal. Ex. 1002 ¶ 202.

7(C): "means for retransmitting radio frequency signals containing the portion of the message to the mobile unit"

Finally, the base transmitter and antenna of Krebs are configured to relay messages transmitted from the central processor to a base transmitter/repeater that relays the message to the mobile unit. Ex. 1007 fig. 1. These components transmit the second or third bandwidth messages, including a portion of the previously transmitted notification message, as described for limitations 1(C)-(D) and 7(A)-(B). In addition, the central processor is programmed to store received second and third bandwidth messages until the central processor receives a "receive message" request, which initiates the second or third bandwidth transmission. Ex. 1007 fig. 2 & 4:54-5:2; 5:40-47; Ex. 1002 ¶¶ 180-81, 206-08. Krebs depicts a repeater connected to an antenna to transmit the RF communications to the mobile unit. *Id.* To the extent this structure does not explicitly or inherently describe the transmitter structure for this limitation, it would have been obvious to use a transmitter

connected to the disclosed antenna as part of transmitting or retransmitting the RF signal. Ex. 1002 ¶ 206.

4. Claim 8 Is Anticipated and Rendered Obvious by Krebs

Krebs discloses the preamble and limitations of claim 8.

8(P): "A method for receiving and transmitting messages at a mobile unit, comprising the steps [below]"

If the preamble 8(P) limits claim 8, Krebs describes a mobile unit with two-way radio frequency communications to a communications network. Ex. 1007 fig. 1 & 3:51-59; Ex. 1002 ¶ 209.

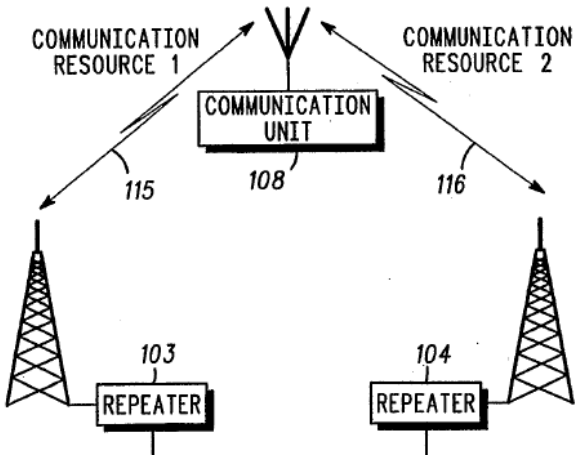


fig. 1 (cropped).

8(A): "receiving at the mobile unit a radio frequency message"

The mobile unit in Krebs receives radio frequency messages from the network. Ex. 1007 fig. 1 & 1:8-11; Ex. 1002 ¶¶ 209-10.

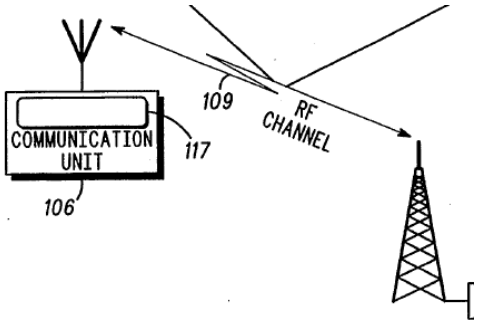


fig. 1 (cropped)

8(B): "displaying said message on the mobile unit"

The mobile unit in Krebs further displays the messages on a screen, disclosing limitation 8(B). Ex. 1007 fig. 1 & 2:46-47, 5:3-7; Ex. 1002 ¶ 210.

8(C): "receiving an indication of a portion of the displayed message for which a user desires retransmission"

Krebs further discloses limitation 8(C) and that the user provides an indication of whether the remainder of the second or third bandwidth message should be transmitted to the mobile unit. Ex. 1007 figs. 1-2 & 5:22-27; Ex. 1002 ¶¶ 211-14.

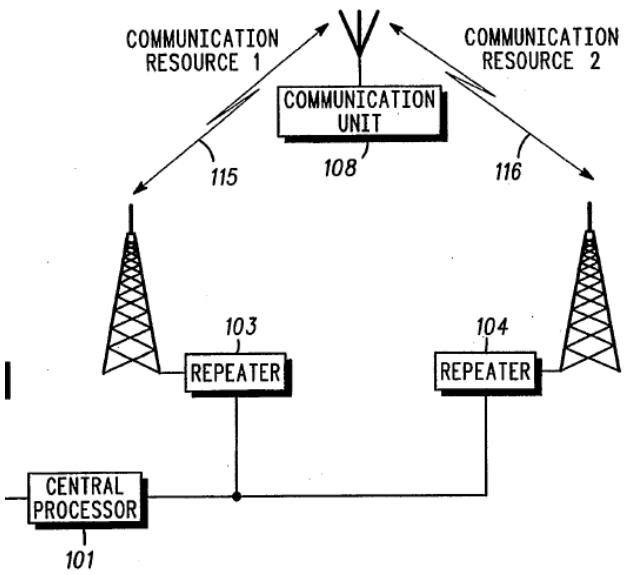


FIG.1

fig. 1 (cropped)

The improvement in Krebs is to transmit part of a larger message (described by Krebs as a second or third bandwidth message) in a lower bandwidth message (a first bandwidth "notification message"). Ex. 1007 4:54-5:2; Ex. 1002 ¶¶ 179-81. Krebs describes that the user can respond to the notification message by requesting that the remaining portion of the larger second or third bandwidth message be transmitted (along with those parts previously included in the notification message) via the repeaters to the mobile unit. Ex. 1007 fig. 2 & 5:22-27; Ex. 1002 ¶ 181.

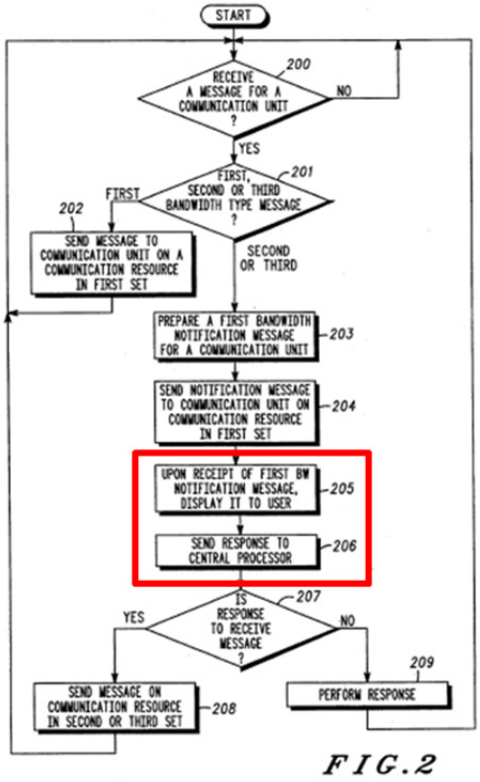


FIG. 2

As a result, those parts of the second or third bandwidth message that were copied into the notification message are transmitted a second time from the central processor to the mobile unit so that those parts of the notification message are retransmitted. *Id.* At least part of the notification message is not retransmitted so that the notification message is retransmitted only in part. For example, at least the indicator of the cost of downloading the second or third bandwidth message was contained in the notification message but did not need to be in the second or third bandwidth message. Ex. 1007 at 5:24-27; Ex. 1002 ¶¶ 193-94, 203. Alternatively, it would have been obvious to transmit only those portions of the full second or third bandwidth message that had not been sent before in order to conserve

bandwidth. Ex. 1002 ¶ 181; Ex. 1007 Title & 2:36-40. In that case, the relayed "retransmission" under the Patent Owner's apparent construction, constitutes only a portion of the second or third bandwidth message.

8(D): "transmitting, only upon receipt of the indication, a signal requesting retransmission of said indicated portion of said message"

Krebs further discloses limitation 8(D). As noted for limitation 8(C), Krebs discloses that the user controls the mobile unit to transmit a response via a transmitter and antenna to the central processor. Ex. 1007 fig. 1 & 5:22-27; Ex. 1002 ¶ 215. Krebs further discloses that the mobile unit contains control logic causing the mobile unit to transmit the user response as commanded by the user. Ex. 1007 fig. 2 & 5:22-39; Ex. 1002 ¶¶ 180-81.

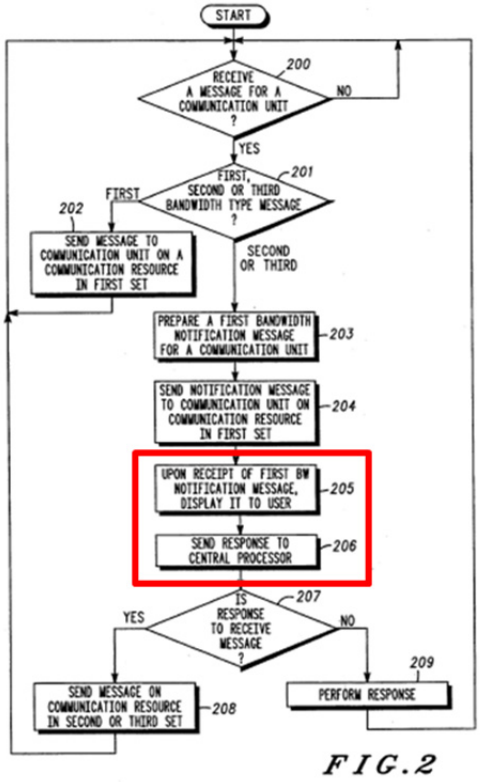
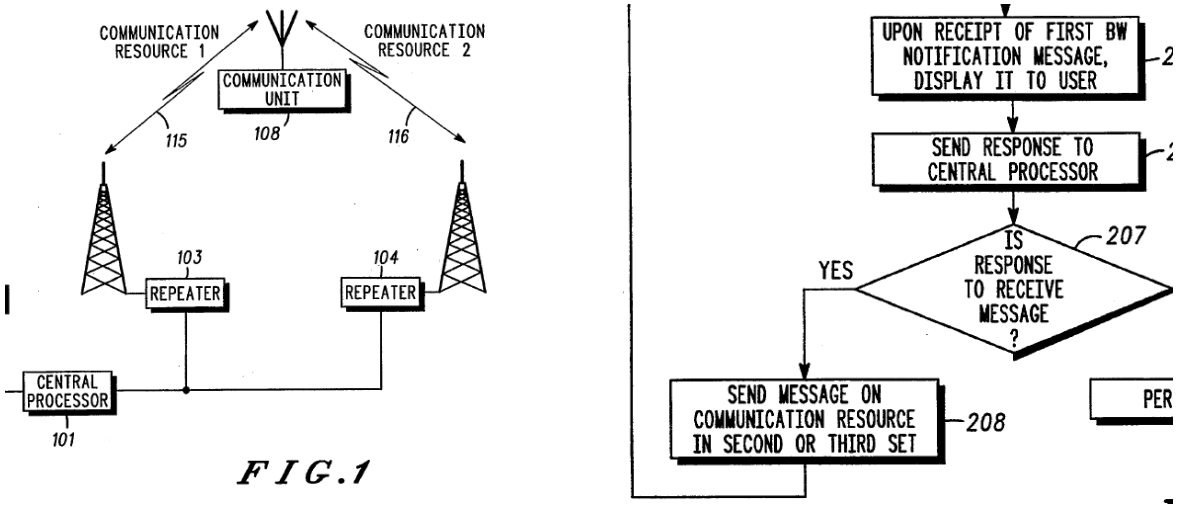


FIG. 2

Krebs further discloses that if the user does not request relaying of the second or third bandwidth message to the mobile unit, the central processor will eventually delete the message without any further transmission of the message. Ex. 1007 at 5:34-39; Ex. 1002 ¶ 195. These components transmit a signal requesting retransmission of a message where that signal is only sent if the user operates the switches or buttons on the mobile unit to request transmission of the second or third bandwidth message. Ex. 1002 ¶ 214.

8(E): "receiving a retransmission of said indicated portion"

Krebs further discloses limitation 8(E). The mobile unit receives the second or third bandwidth messages from the network. Ex. 1007 figs. 1-2 & 5:52-68, 6:6-14; Ex. 1002 ¶¶ 180-81, 216-18.



figs. 1-2 (cropped)

8(F): "displaying the received retransmission of said indicated portion on the mobile unit"

Krebs discloses limitation 8(F) by further disclosing that one purpose of the mobile unit is to permit the user to receive (via the display) first, second, and third bandwidth messages, such that the second or third bandwidth messages are then displayed to the user. Ex. 1007 at 1:40-50, 2:28-47; Ex. 1002 ¶¶ 180-81, 219.

B. GROUND 4: CLAIMS 1, 2, 4, AND 7-9 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) AS BEING OBVIOUS OVER KREBS IN VIEW OF SCHWENDEMAN AND YOSHIDA

The same disclosure for Krebs that was referenced in Ground 1 above, applies equally to this section, and it is not repeated so the focus can be on the additional prior art disclosure relied on in combination with Krebs.

Schwendeman is a Motorola patent related to retransmission of messages over a wireless communication interface with mobile units, including paging devices. Yoshida is a Canon patent dealing with facsimile transmission and describes basic and well-known techniques for message retransmission. Schwendeman and Yoshida were not considered during prosecution of the '946 Patent.

Applying the factors set forth in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007), it would have been obvious to combine the teachings of Krebs with the further teachings, relied on below, in Schwendeman and Yoshida. In particular, the combination of Krebs, Schwendeman, and Yoshida involves the *KSR* factors of combining prior art elements according to known methods to yield predictable results, use of a known technique to improve a similar device in the same way, and a teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. Ex. 1002 ¶¶ 220-223.

Both Schwendeman and Krebs were assigned to Motorola, and each of these references describes a system for delivering longer messages to remote paging devices over a two-way wireless communications link. Ex. 1002 ¶ 222. Both references describe a method for delivering the longer messages using a second communications channel, which could be a wireless radio link. *Id.* Incorporating the retransmission teaching in Schwendeman provides Krebs with the additional benefit of permitting messages received in error to be corrected. Although transmission errors are inevitable, Krebs simply does not address whether or how to correct for those errors. Krebs combined with Schwendeman allows two issues to be addressed that neither reference addresses alone–retransmission of erroneous messages can be accomplished, but unnecessary retransmissions do not need to tie up the system and consume bandwidth because the decision on whether to transmit messages is controlled by the user. *Id.* ¶ 222. A POSITA would also have been motivated to combine the error correction feature of Schwendeman with the manual user request for transmission of larger messages of Krebs, which would save network bandwidth and allow for error correction on only a portion of the message. *Id.* ¶ 223, 233

In addition, Krebs and Yoshida both involve the transmission of facsimile messages. *Id.* ¶ 223; Ex. 1007 at 3:67-4:8; Ex. 1009 *passim* (e.g., Fig. 7, 2:39-49). Yoshida was assigned to Canon, a reputable company in facsimile transmission.

Ex. 1002 ¶ 223. And the technique incorporated from Yoshida is an ordinary technique employed at the time by a POSITA to reduce the amount of data retransmitted. *Id.* Krebs recognizes that fax transmissions can be relatively large and expensive to transmit. Ex. 1007 at 4:5-7 (identifying facsimile messages as a type of second bandwidth message, 3:24-30 (explaining that second bandwidth messages are relatively expensive to transmit). Yoshida's selective retransmission of facsimile messages to include only frames with errors reduces the total amount of data transmitted. Ex. 1002 ¶ 223; Ex. 1009 Fig. 4. The same technique of partial retransmission provides the same benefit in Krebs, which similarly seeks to reduce the cost of sending large messages. Ex. 1002 ¶ 223; Ex. 1007 Title & 2:36-40. Even though the detailed transmission and retransmission scheme in Yoshida was designed for a wired telephone system, the limited teaching of selective (as opposed to complete) retransmission is applicable to the wireless system in Krebs and Schwendeman. Ex. 1002 ¶ 223 In effect, Yoshida's selective retransmission is incorporated to provide the known and articulated benefit of that technique in Yoshida into a similar facsimile transmission apparatus to obtain the same benefit of reduced transmission cost *Id.*

1. Claim 1 Is Rendered Obvious by Krebs in View of Schwendeman and Yoshida

Krebs in combination with Schwendeman and Yoshida discloses the preamble and limitations of claim 1.

1(P): "A mobile unit for transmitting and receiving radio frequency signals to and from a communications network comprising [the elements below]"

1. If the preamble 1(P) limits claim 1, Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 224. Schwendeman discloses a remote mobile unit that receives RF signals from and transmits RF signals to a communications network. Ex. 1008 fig. 1 & 1:10-15, 4:59-5:9, 5:16-18; Ex. 1002 ¶ 224.

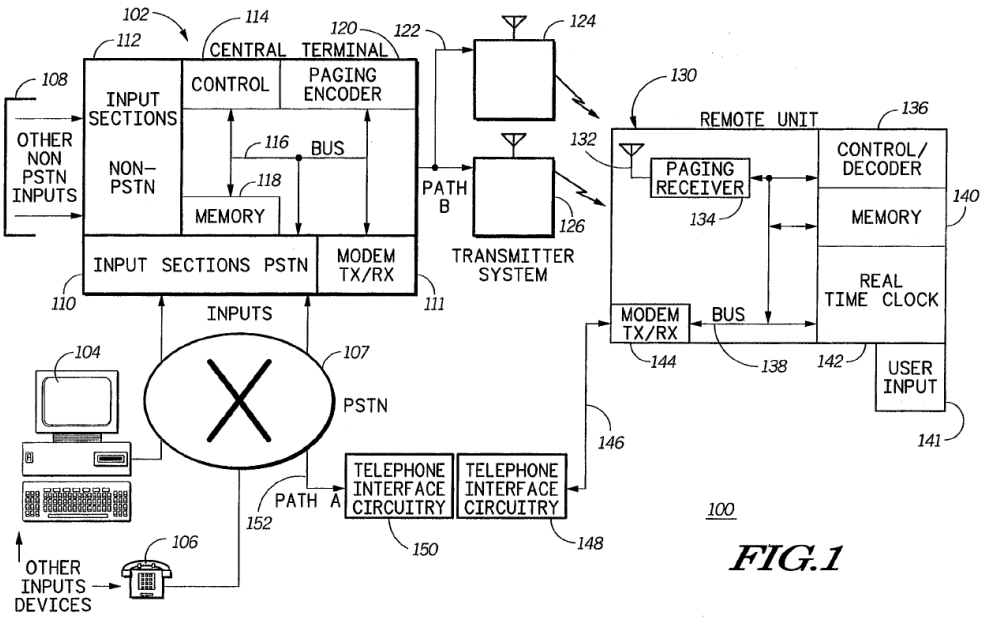


FIG.1

fig. 1.

1(A): "means for receiving a radio frequency message from the network"

2. Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 225. Schwendeman discloses an antenna and a paging receiver that

receive radio frequency messages from the network. Ex. 1008 fig. 1 & 1:10-15, 3:65-4:6 4:59-5:9, 5:16-18; Ex. 1002 ¶ 225.

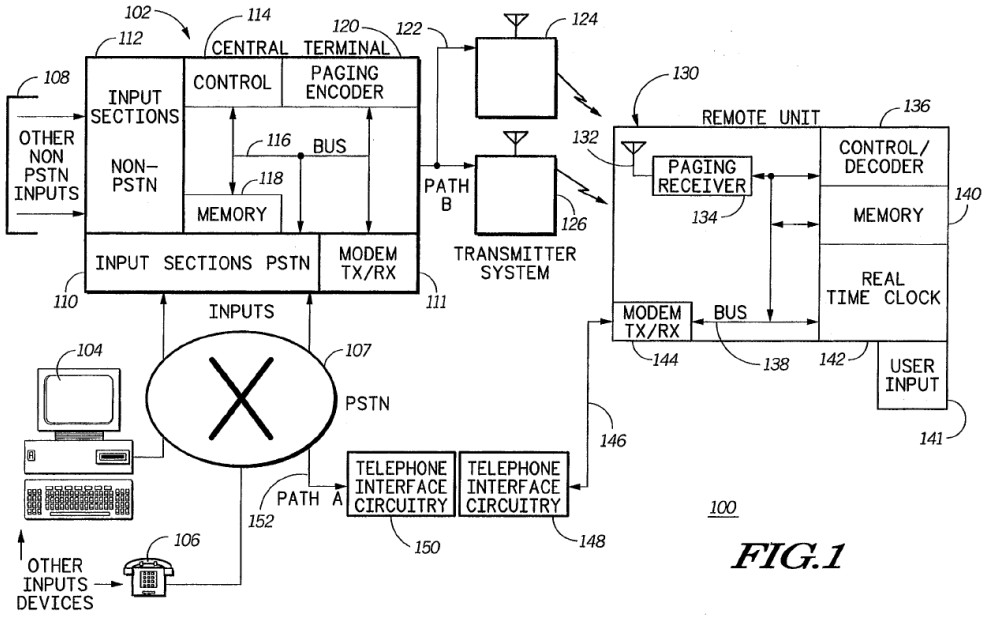


FIG.1

fig. 1.

1(B): "<u>a display for displaying said message</u>"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 226. Schwendeman discloses that the mobile units include a display that is used to display received messages. Ex. 1008 at 1:18-25, 4:16-21, 7:12-16, 15:15-18, 18:24-27; Ex. 1002 ¶ 226.

1(C): <u>"a switch actuatable to specify a portion of the displayed message for which a user desires retransmission from the communications network"</u>

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 227. Schwendeman discloses that the user can enter commands using

the mobile communications unit. Ex. 1008 at 4:16-20; Ex. 1002 ¶ 227. Schwendeman also describes that the user can manually request retransmission of previously received messages. Ex. 1008 Figs. 12, 15-16 & 14:50-15:3, 20:15-32; Ex. 1002 ¶ 227.

Schwendeman recognizes that it would have been expected for the user to request retransmission of messages that were received with errors. Ex. 1008 at 18:21-31; Ex. 1002 ¶ 228. Although Schwendeman describes the use of a telephone network for retransmissions for a more reliable transfer of the message, it also explains that a radio communication can also be used for retransmission. Ex. 1008 at 4:59-5:9; Ex. 1002 ¶ 228.

The notification message in Krebs includes just a portion of the second or third bandwidth message, and is used to notify that the larger message is available. Ex. 1002 ¶ 229. It is possible that the notification part of the second or third bandwidth message has errors that affect the user's ability to determine whether to download the full second or third bandwidth message. *Id.* Combining the message transfer technique of Krebs with the retransmission technique in Schwendeman, errors in the notification message can be corrected by requesting its retransmission. *Id.* The retransmission only represents a part of the full second or third bandwidth message. *Id.* It is also possible that the full second or third bandwidth message may be received with errors, and the user may request retransmission using the

techniques in Schwendeman. *Id.* Schwendeman discusses retransmission of the entire message, but it would have been obvious to retransmit only the erroneous part of the message, as described in Yoshida. Ex. 1009 Abstract & 1:50-66 (describing the preference for retransmitting only parts with errors); Ex. 1002 ¶ 229. Retransmitting only portions of a message is particularly beneficial for the larger messages described in Krebs, especially considering the increased cost of transmitting and retransmitting larger messages. Ex 1007 at 5:22-37; Ex. 1002 ¶ 229.

1(D): "means for transmitting, only upon actuation of the switch, a signal to the communications network requesting retransmission of said specified portion of said message"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 229. Also, Schwendeman discloses an antenna, a transmitter, a switch for the user to request retransmission, and transmit logic manage the retransmission request. Ex. 1008 fig. 1 & 4:66-5:9, 5:16-18; Ex. 1002 ¶ 230. These components generate the retransmission request signal and transmit it to the communications network. Ex. 1002 ¶ 230. Schwendeman discloses both automatically requesting an update, and manually making the request. Ex. 1008 figs. 1, 12, 15-16, 4:66-5:9, 5:16-18, 14:50-15:3, 20:15-32; Ex. 1002 ¶ 230. In the case of manual retransmission, the user requests retransmission. Ex. 1002 ¶ 230. It is possible in a

combined automatic and manual embodiment that the automatic update request eventually fails, preventing any further automatic transmission. *Id.* In that case, only a manual request will cause a retransmission. Ex. 1008 figs. 12, 15-16 & 14:50-15:3, 20:15-32; Ex. 1002 ¶ 230.

1(E): "means for receiving said specified portion retransmitted from the communications network and for displaying the received specified portion on the display"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 230. Schwendeman discloses an antenna and a receiver for receiving the retransmitted portion, and it also discloses display logic and a display for displaying the received message. Ex. 1008 fig. 1 & 1:18-25, 3:65-4:6, 4:16-21, 4:66-5:9, 7:12-16; Ex. 1002 ¶ 231.

2. Claim 2 Is Rendered Obvious by Krebs in View of Schwendeman and Yoshida

Claim 2 depends on claim 1, which Petitioner addresses above. Krebs in combination with Schwendeman and Yoshida discloses the further limitations of claim 2.

2(A): "The mobile unit of claim 1, further comprising: means for detecting errors in the received message"

Schwendeman discloses detecting errors at the receiver, and determining whether messages contain errors that may require retransmission. Ex. 1008 fig. 13

& 8:8-19; Ex. 1002 ¶ 232. It would have been obvious to combine the error detection and retransmission request techniques of Schwendeman with the message transmission of Krebs in part to permit user to recognize errors and receive retransmissions at taught by Schwendeman. Ex. 1002 ¶ 232.

2(B): "said display including means for highlighting said errors when the message is displayed on said display"

Schwendeman discloses highlighting errors in a received message in order to inform the user of an error and allow the user to request retransmission. Ex. 1008 at 18:21-31; Ex. 1002 ¶ 233. Schwendeman mentions the inclusion of a "message" on the display to inform the user of an error, which could include inserted characters, like brackets, reverse video, or underlining to make the error apparent to the user. Ex. 1002 ¶ 233. Highlighting message errors in one of those ways was an ordinary design choice that could be made by a person of skill in the art. *Id.*

3. Claim 4 Is Rendered Obvious by Krebs in View of Schwendeman and Yoshida

Claim 4 depends from claim 1 and adds the further limitation 4, which is disclosed by Krebs. The combination of Schwendeman, Yoshida, and Krebs discloses the limitations of claim 1.

4: "The mobile unit of claim 1, wherein the signal transmitted by the transmitting means indicates to the network that the user has read the message"

Krebs discloses the further limitation of this dependent claim as described for the previous ground. Ex. 1002 ¶ 234.

4. Claim 7 Is Rendered Obvious by Krebs in View of Schwendeman and Yoshida

Krebs in combination with Schwendeman and Yoshida discloses the preamble and limitations of claim 7.

7(P): "A communications network for transmitting radio frequency signals to a mobile unit and for receiving radio frequency signals from the mobile unit, the mobile unit having a display and a switch actuatable to specify a portion of a displayed message for which a user desires retransmission after viewing the displayed message transmitted from the communications network, the network comprising [the elements below]"

If the preamble 7(P) limits claim 7, Krebs in combination with Schwendeman and Yoshida discloses a "mobile unit having a display and a switch actuatable to specify a portion of a displayed message for which a user desires retransmission after viewing the displayed message transmitted from the communications network" as described for 1(P), 1(B), 1(C), above. Ex. 1002 ¶ 235. Krebs in combination with Schwendeman discloses a communications

network that communicates via radio frequency signals. Ex. 1007 fig. 1 & 1:8-11; Ex. 1008 fig. 1 & 3:65-4:6, 4:66-5:9; Ex. 1002 ¶ 235.

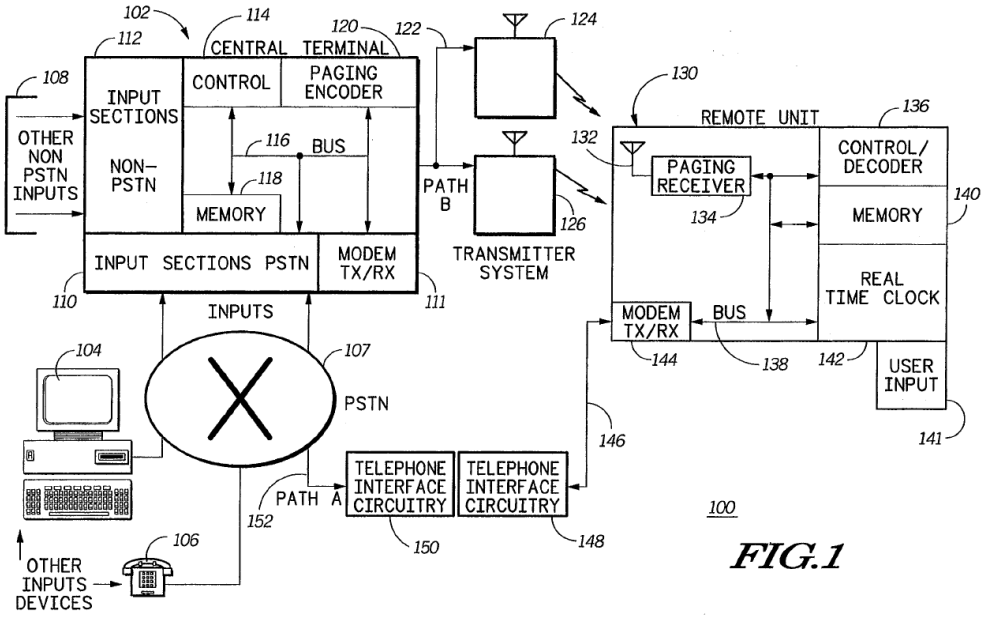


FIG.1

Schwendeman fig. 1.

7(A): <u>"means for transmitting radio frequency signals containing a message to the mobile unit"</u>

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 236. In addition, Schwendeman discloses base stations with a transmitter and antenna that transmit RF signals with messages to the mobile units. Ex. 1008 fig. 1 & 1:10-15, 2:62-67; Ex. 1002 ¶ 236.

7(B): "means for receiving, from the mobile unit, radio frequency signals representing a portion of the message that the user desires retransmission"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 237. Schwendeman discloses base stations with a receiver and antenna capable of receiving and processing a request for retransmission of messages, as described for limitations 1(C) and 1(D) for this and the previous ground. Ex. 1007 at 2:32-36, 2:41-55, 5:22-27, 5:40-47; Ex. 1008 fig. 1 & 1:10-15, 2:62-67; Ex. 1002 ¶ 237. The combination of Krebs and Schwendeman will result in the retransmission of a part of the second or third bandwidth message. Ex. 1002 ¶ 237. Also, it would have been obvious to retransmit only erroneous parts of the full second or third bandwidth message, as described in Yoshida. *Id.*; Ex. 1009 at 1:50-66.

7(C): "means for retransmitting radio frequency signals containing the portion of the message to the mobile unit"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 238. Schwendeman discloses using a transmitter and antenna to transmit the second or third bandwidth message, including the portion of the message being retransmitted, to the mobile unit. *See* limitation 7(B); Ex. 1007 fig. 1 & 2:42-47, 5:22-27, 5:40-47; Ex. 1008 fig. 1 & 1:10-15, 2:62-67; Ex. 1002 ¶ 238.

The retransmission resulting from the combination of Krebs and Schwendeman results in a portion of the second or third bandwidth message being retransmitted, as described for limitations 1(C) and 7(B) of this and the prior ground. Ex. 1002 ¶ 239. Or, it would have been obvious to retransmit only a portion of the second or third bandwidth message using partial message retransmission as described in Yoshida. *Id.*; Ex. 1009 at 1:50-66.

5. Claim 8 Is Rendered Obvious by Krebs in View of Schwendeman and Yoshida

Krebs in combination with Schwendeman and Yoshida discloses the preamble and limitations of claim 8.

8(P): "A method for receiving and transmitting messages at a mobile unit, comprising the steps [below]"

If the preamble 8(P) limits claim 8, Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 240. Schwendeman discloses a mobile unit that sends and receives RF signals to and from a communications network. Ex. 1008 fig. 1 & 1:10-15, 4:59-5:9, 5:16-18; Ex. 1002 ¶ 240.

8(A): "receiving at the mobile unit a radio frequency message"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 240. Schwendeman discloses that the mobile unit receives RF messages. Ex. 1008 fig. 1 & 1:10-15, 3:65-4:6 4:59-5:9, 5:16-18; Ex. 1002 ¶ 241; *see also* claim 1(A).

8(B): "displaying said message on the mobile unit"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 241. Schwendeman discloses displaying the messages on the display of the mobile unit. Ex. 1008 at 1:18-25, 4:16-21, 7:12-16, 15:15-18, 18:24-27; Ex. 1002 ¶ 242.

8(C): "receiving an indication of a portion of the displayed message for which a user desires retransmission"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 243. Schwendeman discloses that the user can enter commands using the mobile communications unit. Ex. 1008 at 4:16-20; Ex. 1002 ¶ 243. Schwendeman also discloses that the user can request retransmission of previously received messages by entering a command at the mobile unit. Ex. 1008 figs. 12, 15-16 & 14:50-15:3, 20:15-32; Ex. 1002 ¶ 243.

Schwendeman recognizes that a user would have been likely to request retransmission of messages that were received in error. Ex. 1008 at 18:21-31; Ex. 1002 ¶ 244. Schwendeman identifies use of a telephone network for retransmissions as more reliable, but explains that a radio communication can also be used for retransmission of messages and may be more convenient to the user. Ex. 1008 at 4:59-5:9; Ex. 1002 ¶ 244.

The notification message of Krebs includes just a portion of the second or third bandwidth message. Ex. 1002 ¶ 245. It is possible that the notification part of the second or third bandwidth message has errors that affect the user's ability to determine whether to request transmission of the full second or third bandwidth message. *Id.* Errors in that notification can be corrected by requesting its retransmission using the retransmission technique in Schwendeman. *Id.* The retransmitted message, like the original notification message, represents just a part of the full second or third bandwidth message. *Id.* Also, the user may seek retransmission of the full second or third bandwidth message using the techniques in Schwendeman if there were errors in that message. *Id.* Schwendeman discloses retransmission of the entire message, but it would have been obvious to retransmit only the parts of the message that had errors by incorporating the partial message retransmission teaching in Yoshida. Ex. 1009 Abstract & 1:50-66; Ex. 1002 ¶ 245. Retransmission of smaller portions of a message is particularly beneficial for the larger messages described in Krebs, especially considering the increased cost of transmitting larger messages. Ex 1007 at 5:22-37; Ex. 1002 ¶ 245.

8(D): "transmitting, only upon receipt of the indication, a signal requesting retransmission of said indicated portion of said message"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 246. Also, Schwendeman discloses an antenna, a transmitter, a switch for

the user to request retransmission, and transmit logic manage the retransmission request. Ex. 1008 fig. 1 & 4:66-5:9, 5:16-18; Ex. 1002 ¶ 246. These components generate the retransmission request signal and transmit it to the communications network. Ex. 1002 ¶ 230. Schwendeman discloses both automatically requesting an update, and manually making the request. Ex. 1008 figs. 1, 12, 15-16, 4:66-5:9, 5:16-18, 14:50-15:3, 20:15-32; Ex. 1002 ¶ 246. In the case of manual retransmission, the user requests retransmission. Ex. 1002 ¶ 246. It is possible in a combined automatic and manual embodiment that the automatic update request eventually fails, preventing any further automatic transmission. *Id.* In that case, only a manual request will cause a retransmission request and response. Ex. 1008 figs. 12, 15-16 & 14:50-15:3, 20:15-32; Ex. 1002 ¶ 246.

8(E): "receiving a retransmission of said indicated portion"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 247. Krebs combined with Schwendeman discloses retransmitting a portion of a message through the transmission of a second or third bandwidth message. Ex. 1008 fig. 1 & 4:66-5:9, 5:16-18; Ex. 1002 ¶ 247. Schwendeman discloses alternative embodiments of automatically or manually requesting an update. Ex. 1008 figs. 1, 12, 15-16 & 4:66-5:9, 5:16-18, 14:50-15:3, 20:15-32; Ex. 1002 ¶ 247. The retransmission will only occur if the user requests retransmission when using the manual embodiment,. Ex. 1002 ¶ 247. Even in a combined

embodiment permitting automatic and manual update requests, conditions may occur in which a further update request will on be initiated manually. *Id.* At that point, the only method for generating update requests is to manually generate the requests. Ex. 1008 figs. 12, 15-16 & 14:50-15:3, 20:15-32; Ex. 1002 ¶ 247.

8(F): "displaying the received retransmission of said indicated portion on the mobile unit"

Krebs discloses this limitation as described for the previous ground. Ex. 1002 ¶ 247. Schwendeman discloses displaying the retransmitted messages. Ex. 1008 at 1:18-25, 4:16-21, 7:12-16, 15:15-18, 18:24-27; Ex. 1002 ¶ 248. As explained for limitation 8(E), a retransmitted message is received at the mobile unit, which is displayed, including the retransmitted portion. Ex. 1002 ¶ 248.

6. Claim 9 Is Rendered Obvious by Krebs in View of Schwendeman and Yoshida

Claim 9 depends on claim 8, which Petitioner addresses above. Claim 9 adds a similar limitation to claim 8 as claim 2 adds to claim 1.

9(A): "The method according to claim 8, further comprising the step of: detecting errors in the received message"

Schwendeman discloses a receiver capable of detecting errors in received messages that may require retransmission to correct the errors. Ex. 1008 Fig. 13 & 8:8-19; Ex. 1002 ¶ 249. It would have been obvious to combine the error detection

and retransmission requests in Schwendeman with the message transmission of Krebs. Ex. 1002 ¶ 249.

9(B): "wherein the step of displaying comprises the substep of: highlighting said errors in the message on the mobile unit"

Schwendeman discloses highlighting errors in a received message, which notifies the user of the errors. Ex. 1008 at 18:21-31; Ex. 1002 ¶ 250. Schwendeman discloses display of a "message" to notify the user of an error. Ex. 1002 ¶ 250. Combining Schwendeman's teachings to highlight errors in Krebs provides the known benefit of reducing user confusion. Ex. 1002 ¶ 151; Ex. 1009 at 2:30-38.

VII. CONCLUSION

This Petition has demonstrated a reasonable likelihood that Petitioner will prevail in its patentability challenge for claims 1, 2, 4, and 7-9 of the '946 Patent. Petitioner respectfully requests that a trial for IPR on the '946 Patent be instituted.

Petitioner respectfully requests that the invalid claims 1, 2, 4, and 7-9 be canceled. Cancellation of these claims will prevent Patent Owner from improperly claiming technologies that were already known in the prior art and from asserting invalid patent claims against Petitioner and others.

Dated: August 9, 2016

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CERTIFICATE OF COMPLIANCE

I certify that the foregoing Petition complies with the applicable word-count limitation pursuant to 37 CFR § 42.24 because it contains 12,349 words, including headings, footnotes, and quotations, but excluding the title page, Table of Contents, Table of Authorities, Mandatory Notices under § 42.8, Appendix of Exhibits, signature block, and any certificates of counsel.

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true copy of the foregoing PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 5,754,946 and supporting materials (Exhibits 1001-1018 and Power of Attorney) have been served in its entirety this 9th of August, 2016, by UPS Overnight Courier Service on Patent Owner at the correspondence address for the attorney of record for U.S. Patent No. 5,754,946 shown in USPTO PAIR:

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