

Petitioner Motorola Solutions, Inc.'s Presentation for Oral Argument in IPR2023-01294

January 15, 2025

OVERVIEW OF THE PATENT, AND DISPUTED ISSUES

01

OVERVIEW OF 664 PATENT, INSTITUTED GROUNDS, AND DISPUTED ISSUES

THE 664 PATENT 1.1

Overview – Challenged Patent ('664 Patent)

U.S. Patent No. 8,831,664 Ex[1001]

Assumed Priority Date:



(12) **United States Patent**
Shaffer et al.

(10) **Patent No.:** US 8,831,664 B2
(45) **Date of Patent:** *Sep. 9, 2014

(54) **SYSTEM AND METHOD FOR PROVIDING CHANNEL CONFIGURATIONS IN A COMMUNICATIONS ENVIRONMENT**

(75) **Inventors:** Shmuel Shaffer, Santa Clara, CA (US); Steven Christenson, Santa Clara, CA (US)

(73) **Assignee:** Cisco Technology, Inc., San Jose, CA (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 470 days.
This patent is subject to a terminal disclaimer.

(21) **Appl. No.:** 13/210,967

(22) **Filed:** Aug. 16, 2011

(65) **Prior Publication Data**

US 2011/0299404 A1 Dec. 8, 2011

Related U.S. Application Data

(63) Continuation of application No. 12/340,417, filed on Dec. 19, 2008, now Pat. No. 8,041,378.

(51) **Int. Cl.**
H04W 4/22 (2009.01)
H04W 28/59 (2009.01)
H04W 54/08 (2009.01)

(52) **U.S. Cl.**
CPC: *H04W 28/59* (2013.01); *H04W 54/08* (2013.01)
USPC: 455/521; 370/331; 370/465; 370/266; 370/270; 709/204; 709/227; 709/239; 709/224; 709/206; 709/223

(58) **Field of Classification Search**
USPC: 455/521; 370/331; 465, 266, 270; 709/204, 227, 239, 224, 206, 223
See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS

4,359,603 A 11/1982 Itano
4,730,306 A 3/1988 Uchida
(Continued)

FOREIGN PATENT DOCUMENTS

CU 101461152 6/2009
EP 0849564 6/1998
(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 12/722,389, entitled "System and Method for Providing Data Channel Management in a Network Environment," filed Mar. 11, 2010; Inventors: Shmuel Shaffer, et al.

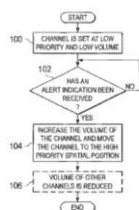
(Continued)

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(74) **Attorney, Agent, or Firm** — Patent Capital Group

(57) **ABSTRACT**

A method is provided in one example embodiment and includes monitoring media streams associated with channels in a communication environment. The method also includes receiving an alert in one of the media streams and elevating a priority associated with the media stream receiving the alert. Elevating the priority can include increasing the volume of the media stream receiving the alert, changing a spatial direction for rendering the media stream receiving the alert, rendering the media stream receiving the alert to a priority spatial direction, identifying a primary channel and rendering the alert message to the primary channel, turning a volume down on media streams not receiving the alert, or a combination thereof.

29 Claims, 5 Drawing Sheets



Motorola Solutions, Inc., Ex1001, p. 1

(63) Continuation of application No. 12/340,417, filed on Dec. 19, 2008, now Pat. No. 8,041,378.

Ex[1001] ('664 Patent) Code (63).

Example Claim - Claim 1

1[Pre]	A method, comprising:
1[a]	monitoring media streams associated with channels in a communication environment;
1[b]	receiving an alert in one of the media streams; and
1[c]	elevating a priority associated with the media stream receiving the alert,
1[c']	such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

Ex[1001] ('215 Patent) 48:34-46.

Ex[1001] ('664 Patent) Cover.

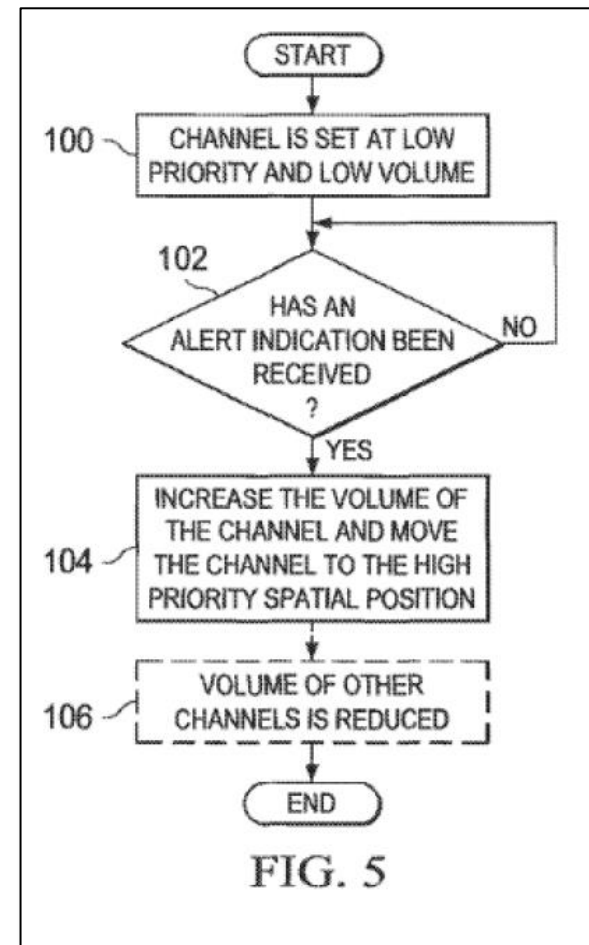
Overview – Challenged Patent ('664 Patent)

In accordance with the techniques and teachings of the present invention, communication system 10 can readily identify this alert message and respond in any number of ways to ensure that the message was properly received. One intelligent response mechanism of the present invention provisions communications from the left ear to the right ear or vice versa. Another intelligent response mechanism simply turn up the volume on a channel that the alert. Note that these responses could easily be combined into an automatic reconfiguration.

Ex[1001] ('664 Patent) 3:56-64.

Note also that the term 'alert message' as used herein in this Specification is meant to connote any type of message or signal that was intended for one or more end users. The message may inform the end users or apprise them of some situation, or alternatively simply convey some information from a sender. This may include simple conversational exchanges and/or simple correspondence between two end users operating their endpoints.

Ex[1001] ('664 Patent) 7:41-48.

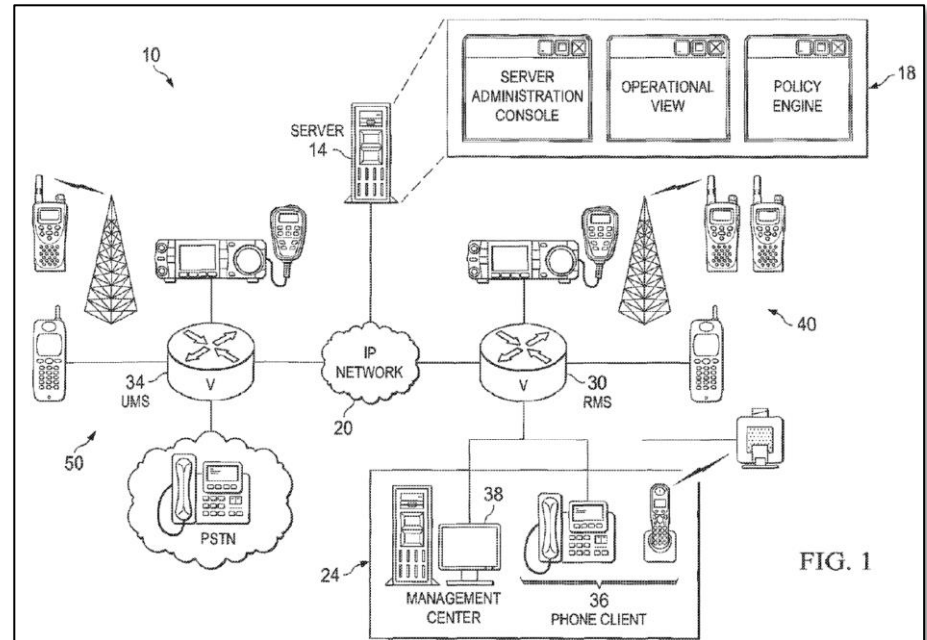


Ex[1001] ('664 Patent) Fig. 5.

Overview – Challenged Patent ('664 Patent)

Note that the end-user devices of FIG. 1, as generally depicted at 40 and 50, are providing just some of the many examples that could be used in conjunction with the present invention. In a general sense, elements 40 and 50 are examples of field equipment, while element 24 is an example for end-user equipment, which resides in the control center. These devices (referred to as 'endpoint' as used herein in this document) may include VHF radios, UHF radios, PSTN telephones, IP phones, push-to-talk telephones, cellular telephones, laptops, desktop computers, personal digital assistants (PDAs), or any other suitable end-user device capable of

Ex[1001] ('664 Patent) 2:47-58.



Ex[1001] ('664 Patent) Fig. 1.

Overview – Challenged Patent ('664 Patent)

- The '664 Patent acknowledges that radio systems that received alerts and enabled manual elevation of priority were known before the alleged invention:

situations. Push-to-talk (PTT) devices are commonly used in safety and security environments. PTT devices carried by emergency response personnel (ERT) can support a single channel or a plurality of channels.

Typically, a management center supports a plurality of channels, where less important channels are rendered to one ear, and channels that are more important are rendered to the other ear. Universally, channels are statically configured, where the volume of each channel can be manually adjusted by an end user. When important information needs to be

Ex[1001] ('664 Patent) 1:29-38.

INSTITUTED GROUNDS 1.2

Overview – Petitioner’s Instituted Grounds

Ground	Claims	Basis for Challenge
1	1-6, 8-9, 11-20	Obvious over Downs in view of EDACS
2	1-6, 8-9, 11-20	Obvious over Ground 1 in further view of Childress
3	3-5, 13-14, 18, 19	Obvious over Ground 1 in further view of Hancock
4	3-5, 13-14, 18, 19	Obvious over Ground 2 in further view of Hancock
5	7, 10	Obvious over Ground 1 in further view of Reich
6	7, 10	Obvious over Ground 2 in further view of Reich
7	1-2, 6-9, 11-12, 15-17 20	Obvious over Kim
8	3-5, 13-14, 18-19	Obvious over Ground 7 in view of Ishibashi
9	10	Obvious over Ground 7 in view of Goss

Pet. at 2.

OVERVIEW OF THE PRIOR ART

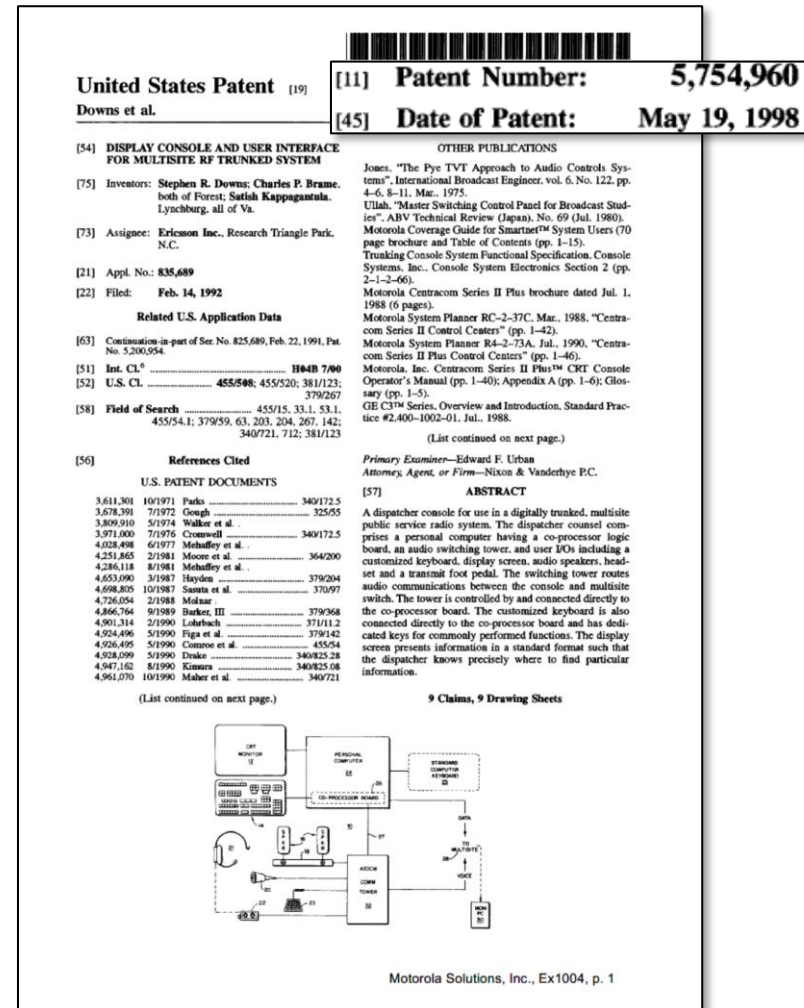
1.3

Overview – Asserted References

Downs (U.S. Patent No. 5,754,960) Ex[1004]

Downs discloses a system where data signals can be organized into communication modules “represent[ing] a particular group, unit, console, channel, line, etc., that is available to” a dispatch console.

Emergency calls “are broadcast louder from the dispatcher speakers than other calls”



Ex[1004] (Downs) Cover.

Ex[1004] (Downs) 2:40-55, 2:60-64, 3:24-25, 4:18-25, 6:22-25, 6:47-52, 8:41-48, Figs. 1, 3-4; Pet. at 7-9; Ex[1002] (Williams) ¶¶ 91-97.

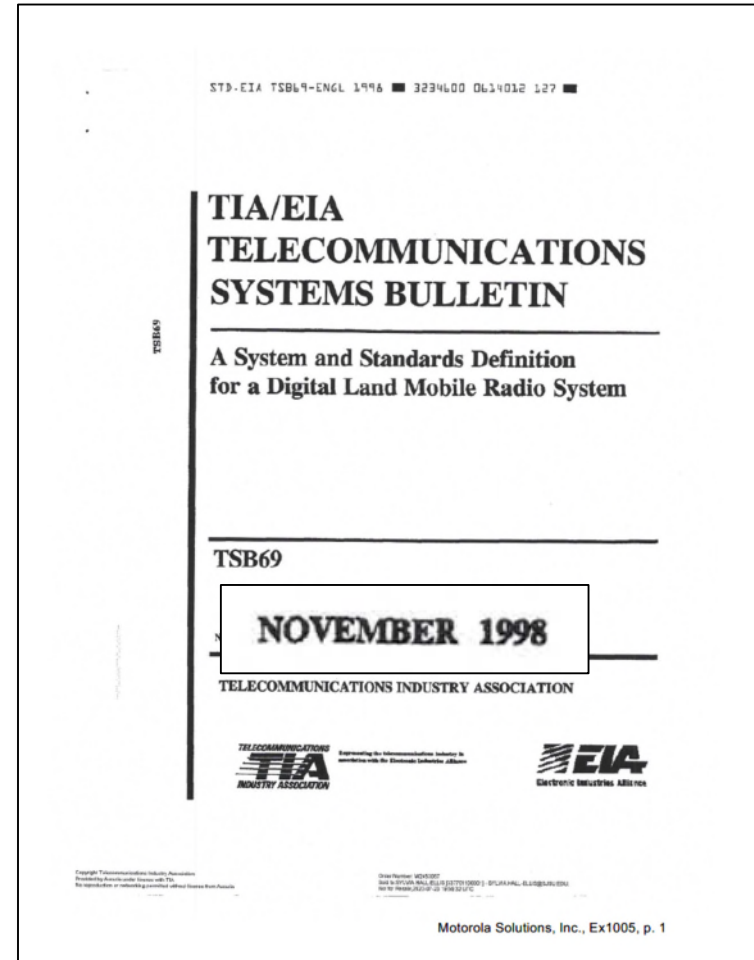
Overview – Asserted References

A System and Standards Definition for a Digital Land Mobile Radio System, TSB69 (“EDACS”)(Ex[1005])

Published November 30, 1998.

Describes the Enhanced Digital Access Communications System intended to be used with a variety of different devices.

EDACS “automatically assigns the highest priority to the talk group[’s]” signals receiving the emergency message.



Ex[1005] (EDACS) Cover

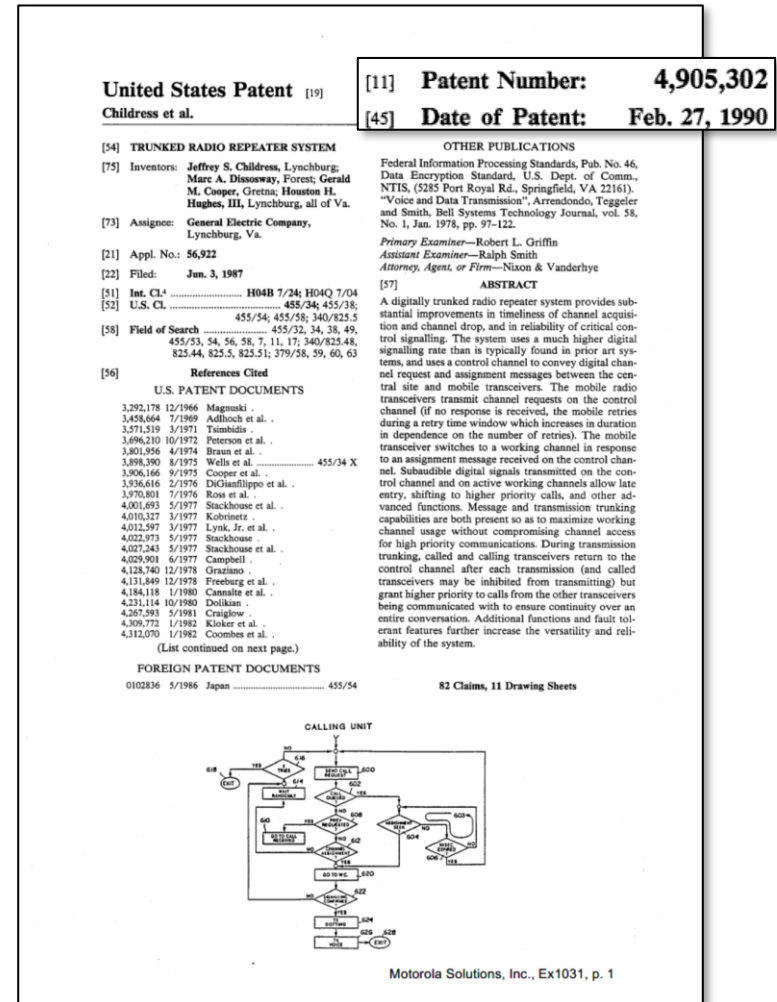
Ex[1005] (EDACS) Title, Foreward, 5-6, 15-17, 29, 43, 54; Pet. at 9-11; Ex[1002] (Williams) ¶¶ 98-103; Ex[1014] (Hall-Ellis) ¶¶ 18-26.

Overview – Asserted References

Childress (U.S. Patent No. 4,905,302) Ex[1031]

Childress discloses a “trunked radio” system using “digital control signals transmitted over a dedicated control channel” and “plural working channels.”

Childress discloses a messaging sequence and structure where “all mobiles of the called group” receive an “emergency group call confirmation message” on the working channel.



Ex[1031] (Childress) Cover.

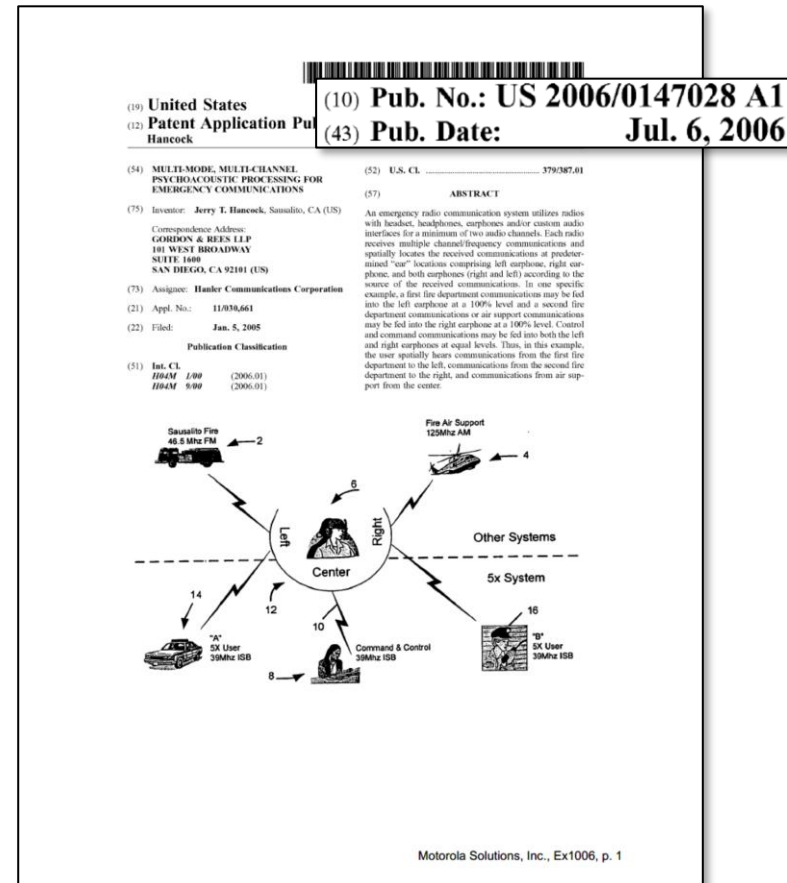
Ex[1031] (Childress) 1:6-11, 2:29-38, 4:59-61, 28:42-58, Fig. 10; Pet. at 11-12; Ex[1002] (Williams) ¶¶ 104-106.

Overview – Asserted References

Hancock (U.S. Patent Pub. No. 2006/0147028 A1) Ex[1006]

Hancock discloses “[a]n emergency radio communication system” in which multiple channels are spatially provisioned “at predetermined ‘ear’ locations comprising left earphone, right earphone, and both earphones (right and left).”

When an emergency alert is received, the spatial location is changed such that “emergency transmissions would be routed to both ears.”



Ex[1006] (Hancock) Cover.

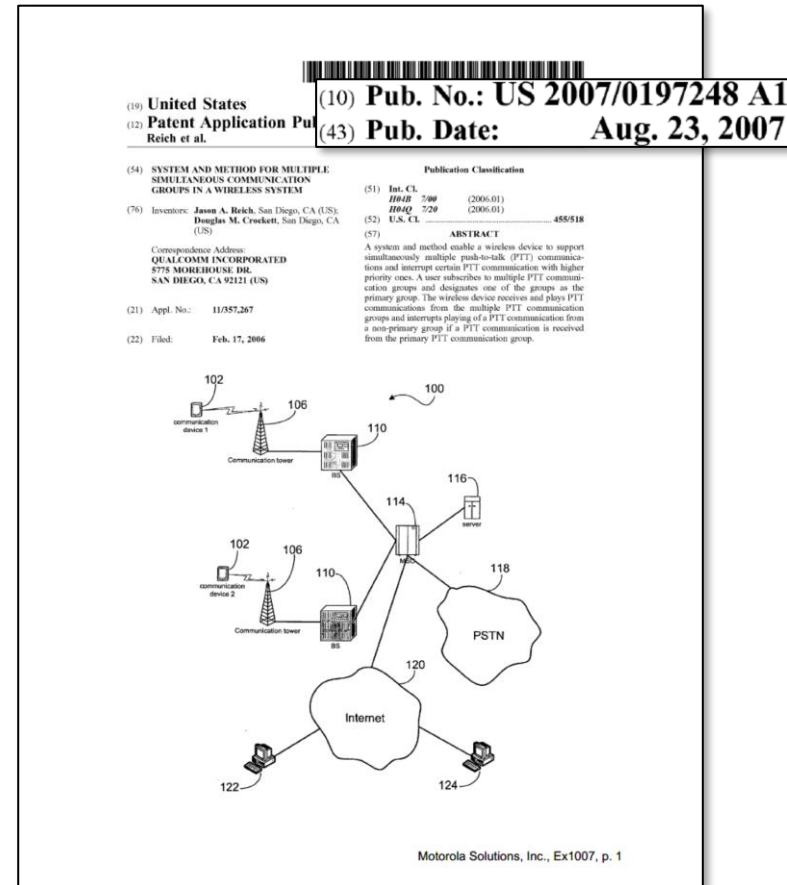
Ex[1006] (Hancock) at Abstract, [0008]-[0009], [0022], [0032], [0045], [0076]-[0080], Fig. 1; Pet. at 12-14; Ex[1002] (Williams) ¶¶ 107-111.

Overview – Asserted References

Reich (U.S. Patent Pub. No. 2007/0197248 A1) Ex[1007]

Reich enables “a wireless device to simultaneously monitor multiple PTT communication groups” and elevates “higher priority PTT communication.”

When receiving overlapping communications of different priorities, “a particular PTT communications group be muted, or volume significantly lessened.”



Ex[1007] (Reich) Cover.

Ex[1007] (Reich) [0008], [0025], [0027], [0028], [0041], Fig. 1; Pet. at 7-9; Ex[1002] (Williams) ¶¶ 112-116.

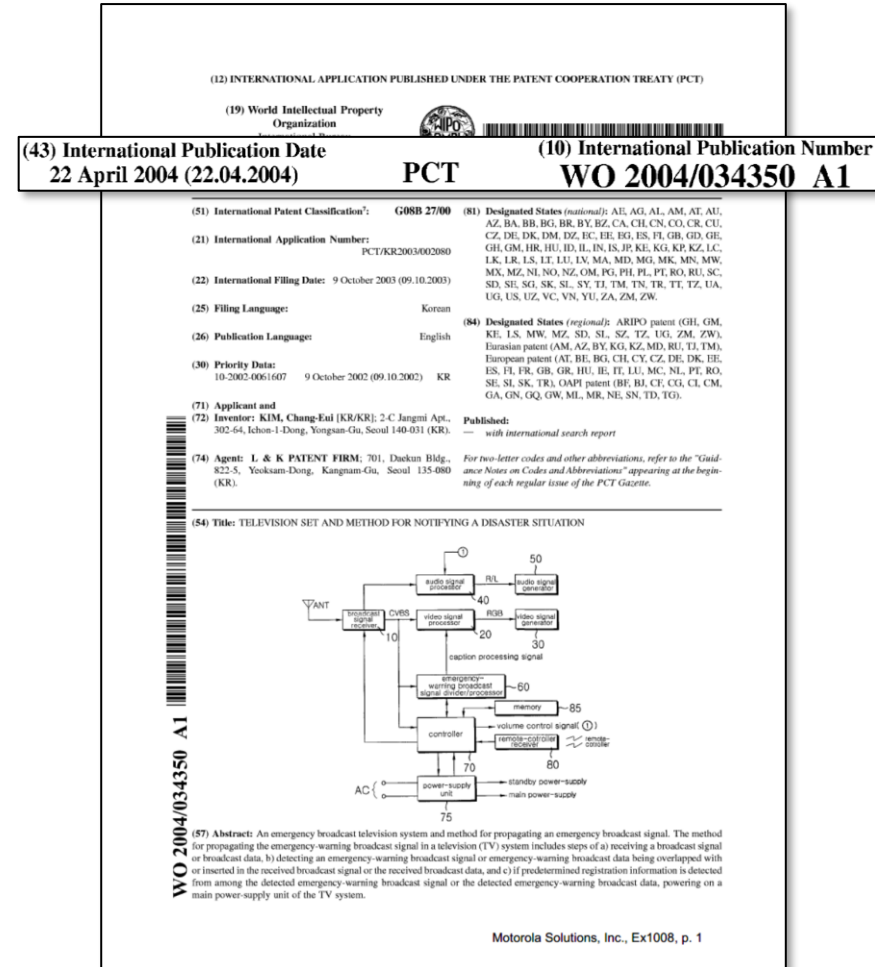
Overview – Asserted References

Kim (PCT Pub. No. WO2004/034350A1) Ex[1008]

Kim discloses techniques for notification of emergencies via a television set

a controller determines volume and selects appropriate signal receivers.

When an emergency-warning broadcast signal is received, “[t]he TV system’s controller 70” “selects a channel transferring the emergency-warning broadcast signal” and controls the volume of the TV via a volume control signal.



Ex[1008] (Kim) Cover.

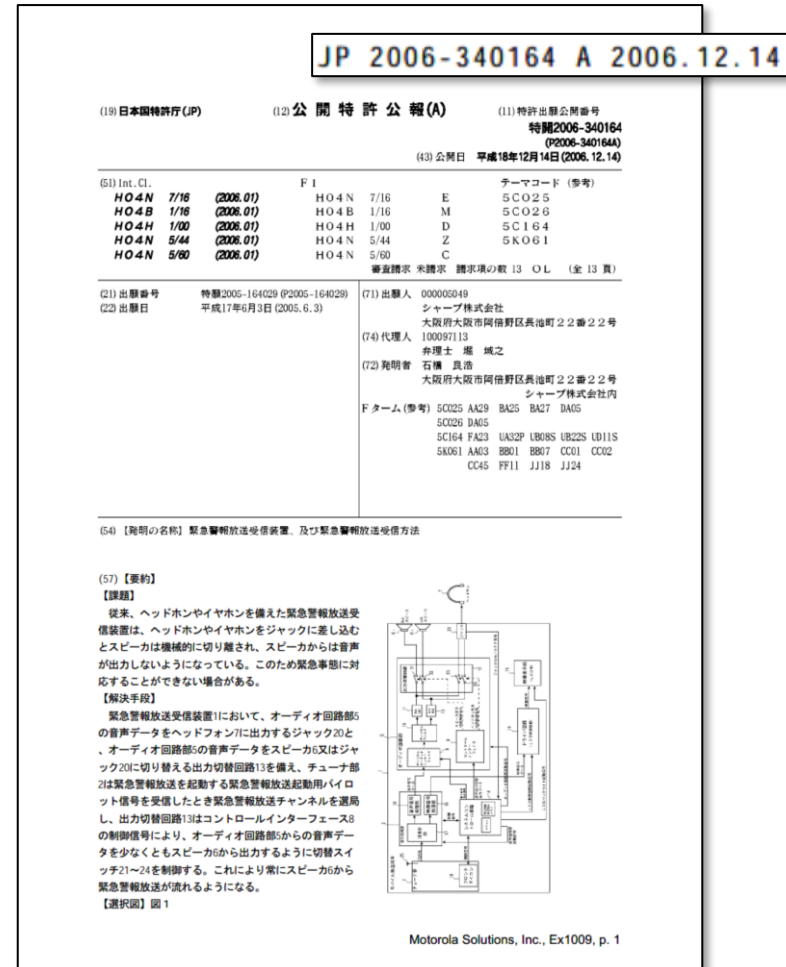
Ex[1008] (Kim) Title, 1:11-21, 3:19-4:11, 14:7-12, 23:2-11, 29:20-21, Figs. 1, 3, 5; Pet. at 16-19; Ex[1002] (Williams) ¶¶ 117-121.

Overview – Asserted References

Ishibashi (Japanese Pat. Pub. No. 2006-340164A) Ex[1009]

Ishibashi discloses “an emergency-alert broadcast receiver that automatically switches the audio output to the loudspeaker upon receipt of an emergency-alert broadcast.”

When an emergency-alert-broadcast activation flag is received, Ishibashi sets “the audio output to the maximum volume,” and routes the audio to “both the [] loudspeaker and the [] jack,” during an emergency-alert broadcast.



Ex[1009] (Ishibashi) Cover.

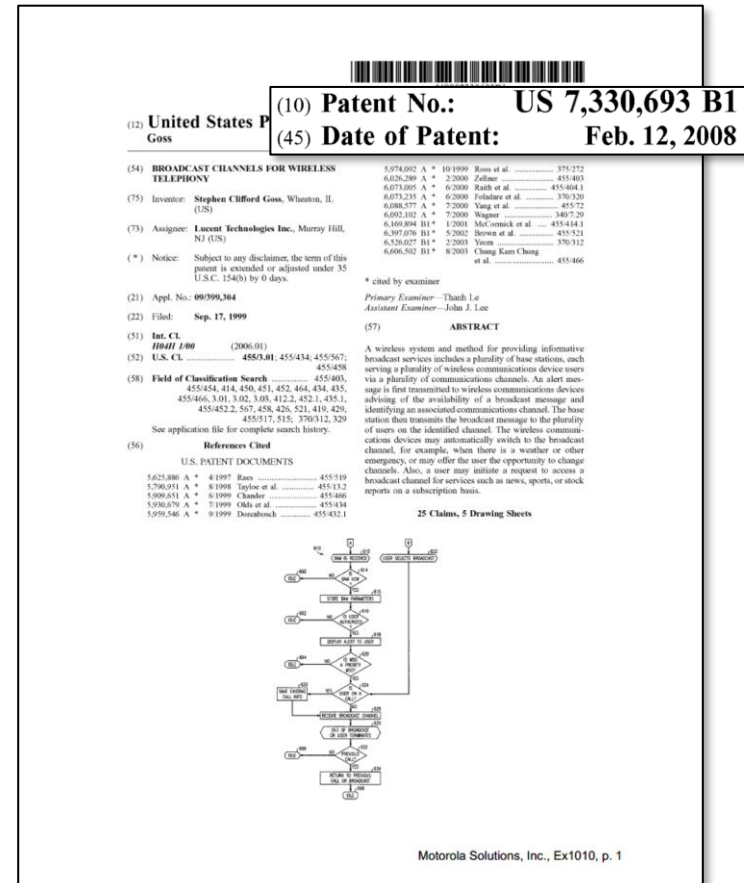
Ex[1009] (Ishibashi) [0001]-[0002], [0005]-[0007], [0015], [0017], [0043], Fig. 1, pp.14-42 (translation); Pet. at 19-21; Ex[1002] (Williams) ¶¶ 122-126.

Overview – Asserted References

Goss (U.S. Patent No. 7,330,693) Ex[1010]

Goss discloses broadcasting live or recorded emergency bulletin messages to a plurality of users.

“Broadcast announcement messages may be retransmitted from time to time to alert users who did not receive the message when first transmitted” which “may be useful for alerting users to an urgent situation.”



Ex[1010] (Goss) Cover.

Ex[1010] (Goss) 1:7-9, 1:34-37, 2:56-57, 3:1-5, 6:4-7, 7:55-57, Fig. 1; Pet. at 21-22; Ex[1002] (Williams) ¶¶ 127-130.

COMBINATIONS FOR GROUNDS 1.4

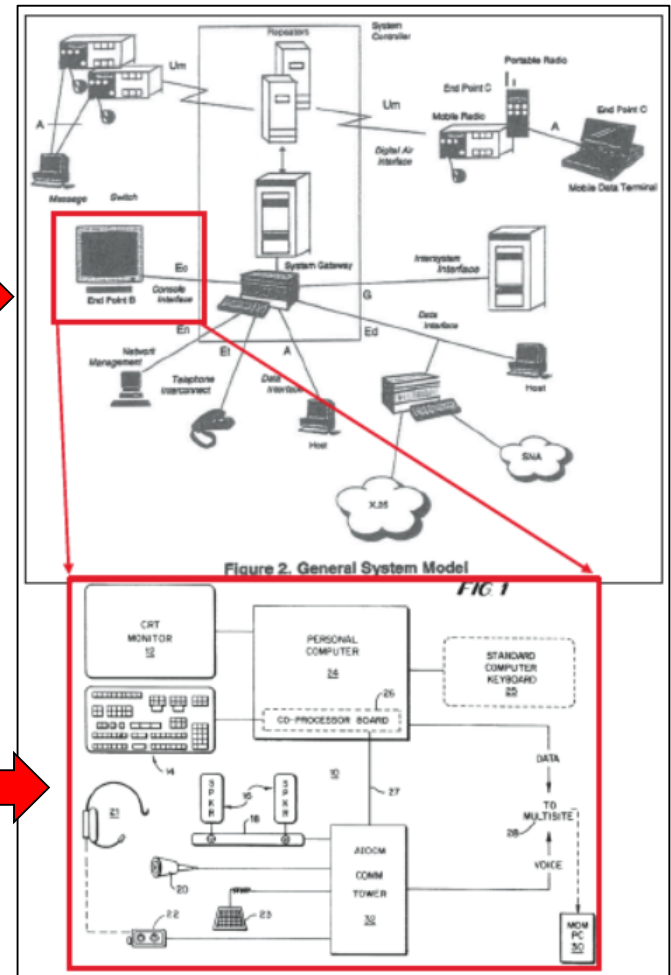
Ground 1: Downs + EDACS

EDACS:

- Trunked radio standard which discloses that call requests are sent in a specific format. Ex[1005], p.54.
- “Group Emergency” calls are “assign[ed] the highest priority.” Ex[1005], p.43.

Downs:

- Discloses a dispatch console that “routes audio (voice) and data signals throughout [an] RF system” comprised of “trunked and conventional radio systems...telephone lines...[and] other dispatch consoles.” Ex[1004], 4:18-25.



Ex[1002] (Williams) ¶ 141.

Ground 2: Ground 1 + Childress

EDACS:

- Discloses an “FDMA, digital, trunked, Land Mobile Radio communication system.”

Childress:

- Discloses specific digital control signals to ensure that the system “meets and, in many areas, surpasses all of the existing APCO-16 requirements.”
- Motivation to use control signals in EDACS

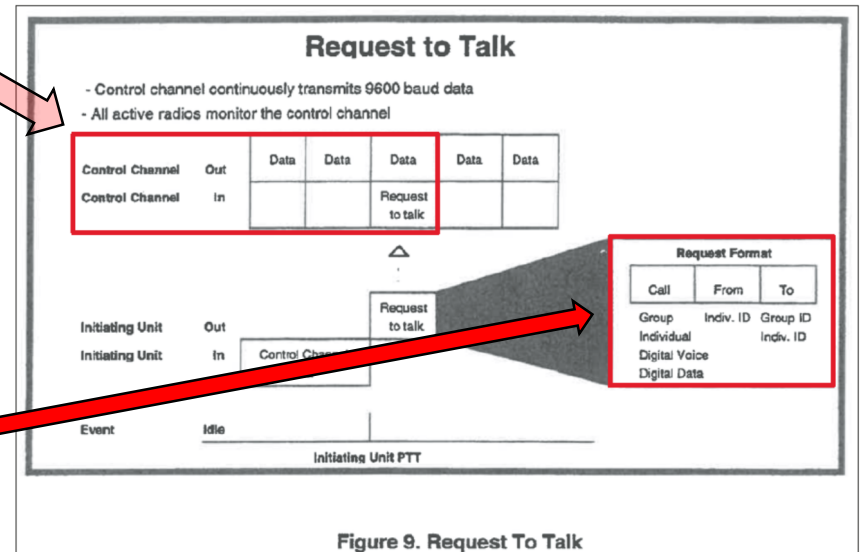


Figure 9. Request To Talk

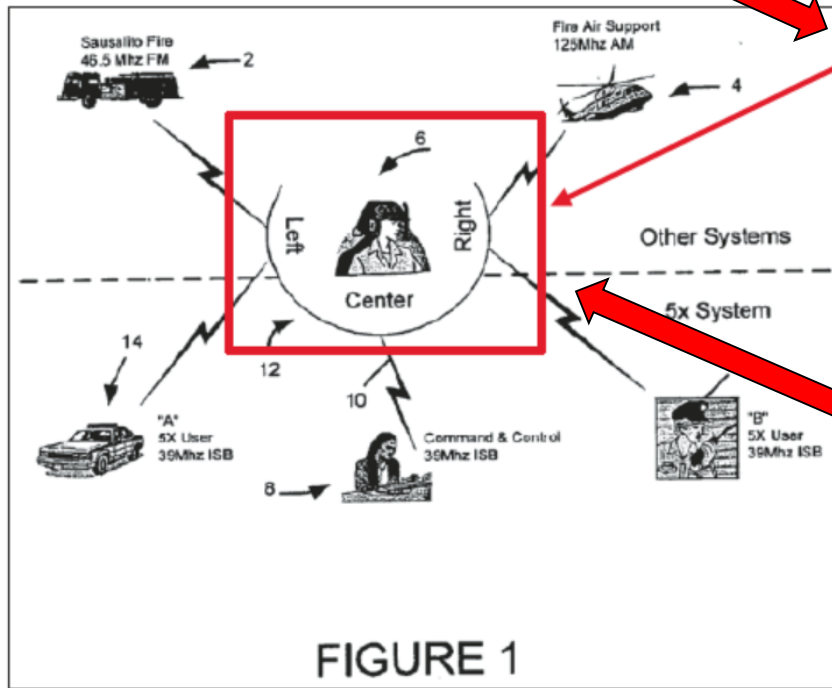
Ex[1002] (Williams) ¶ 194.

Pet. at 49-50; Ex[1002] (Williams) ¶¶ 208-211; Reply at 15-17.

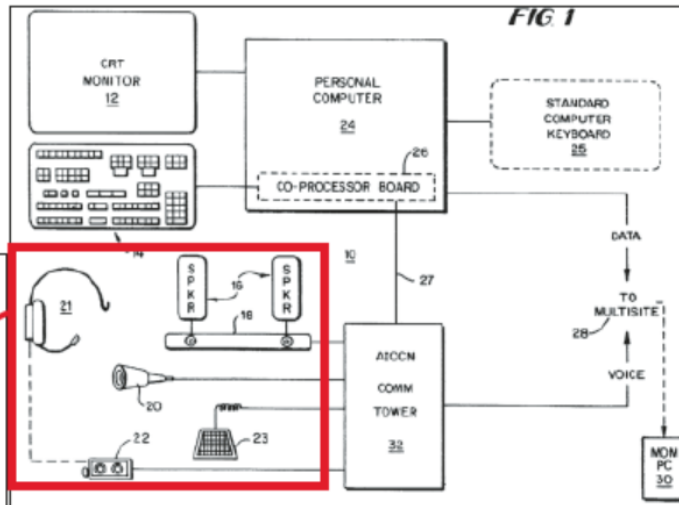
Ground 3/4: Ground 1/2 + Hancock

Downs:

- Discloses a dispatch console with headphones (21).



Ex[1002] (Williams) ¶ 223



Hancock:

- “position[s] a received channel/frequency at locations in addition to the direct left, right or center.” Ex[1006], [0009].

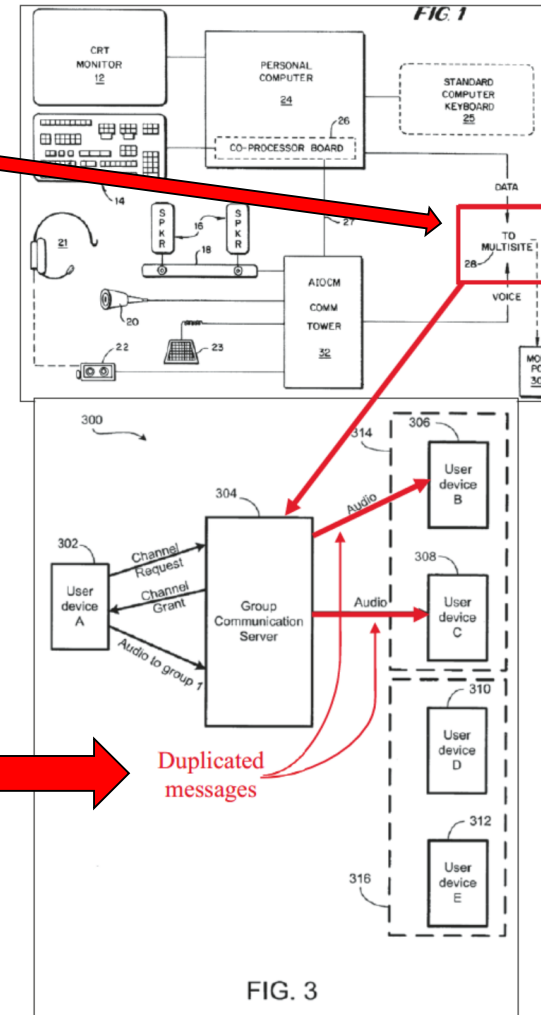
Ground 5/6: Ground 1/2 + Reich

Downs:

- Discloses multisite switch 28 which handles each message.

Reich:

- Teaches that a “user’s message is received by the server and the server duplicates the message for each and every receiving party.” Ex[1007], [0005].



Ex[1002] (Williams) ¶ 248

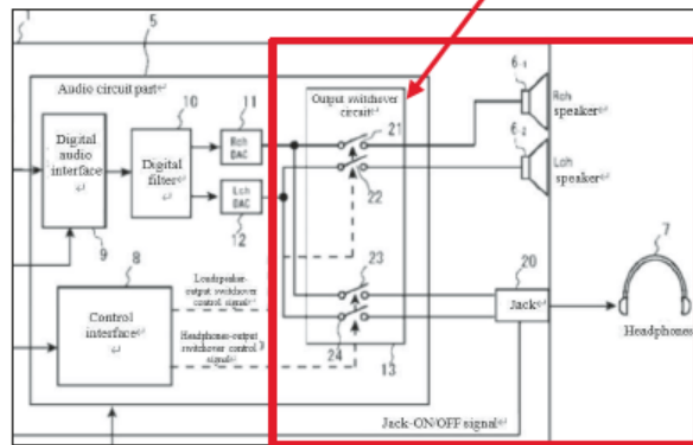
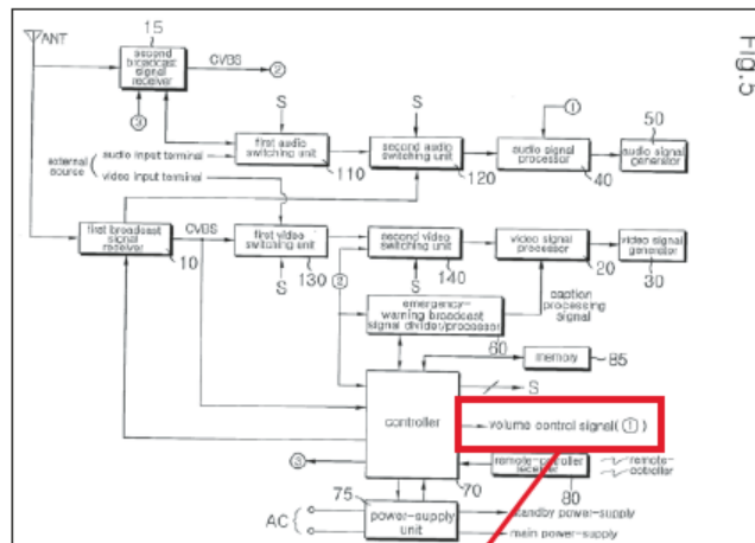
Ground 8: Ground 7 + Ishibashi

Kim:

- Designed for situations when the viewer is viewing a different channel than the one receiving the alert, the TV is muted, or the TV is turned off. Ex[1008], 14:7-12.

Ishibashi:

- Discloses an “output-switchover circuit” which “switches the output of audio signals to loudspeaker 6” in case headphones are left plugged in. Ex[1009], [0015].



Ex[1002] (Williams) ¶ 305

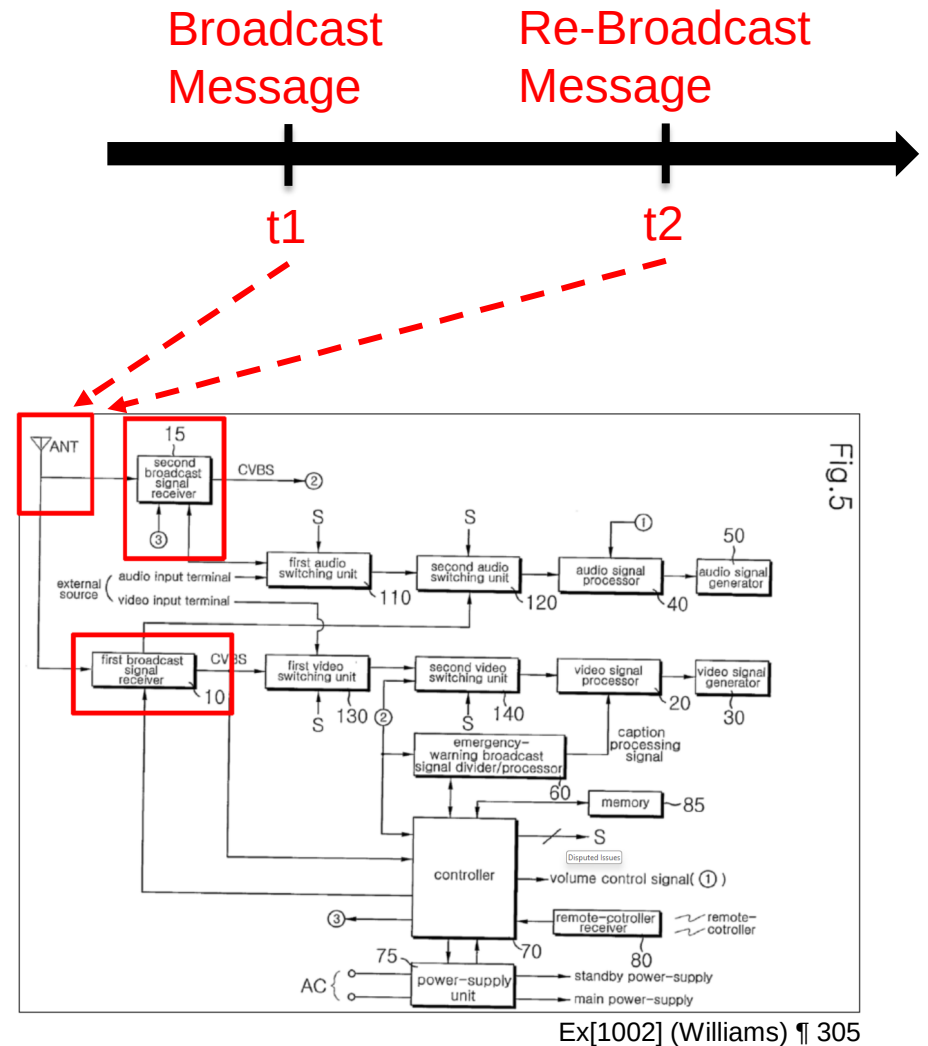
Ground 9: Ground 7 + Goss

Kim:

- Designed to ensure that the viewer receives the emergency warning information.

Goss:

- Discloses that “[b]roadcast announcement messages may be retransmitted from time to time” and the potential to “transmit one or more broadcast messages on an occasional basis,” thus “alerting users to an urgent situation.” Ex[1010], 6:4-6, 7:55-57.



Pet. at 86-88; Ex[1002] (Williams) ¶¶ 324-330.

DISPUTED ISSUES 1.5

Disputed Issues

Claim Construction

- Whether “receiving an alert in one of the media streams” can include out-of-band signaling.

Ground 1

- Whether the Downs-EDACS combination discloses or at least renders obvious “receiving an alert in one of the media streams” as recited in limitations 1[b], 11[b] and 16[e].
- Whether the Downs-EDACS combination discloses or at least renders obvious “elevating a priority associated with the media stream receiving the alert” as recited in limitations 1[c], 11[c] and 16[f].
- Whether the Downs-EDACS combination discloses or at least renders obvious “an adjustment is made to how the media stream is provisioned to an endpoint” as recited in limitation 1[c].

Reply at 1-13.

Disputed Issues

Ground 2

- Whether the Downs-EDACS-Childress combination discloses or at least renders obvious “receiving an alert in one of the media streams” as recited in limitations 1[b], 11[b] and 16[e].
- Whether a POSITA would have been motivated to combine Childress with Downs-EDACS.

Ground 7

- Whether Kim discloses or at least renders obvious “elevating a priority associated with the media stream receiving the alert” as recited in limitations 1[c], 11[c] and 16[f].
- Whether Kim discloses or at least renders obvious “elevating a priority ... such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment” as recited in limitation 1[c].
- Whether Kim operates as claimed in the '664 patent.

Reply at 13-27.

CLAIM CONSTRUCTION 02

Interpretation of Certain Claim Terms

“media stream[s]”

- The District Court construed “media stream[s]” as “audio or video or both, which may include **associated data**.”

2. Court’s Construction

For the reasons set forth above, the Court construes the term “media stream[s]” to mean “audio or video or both, which may include associated data.”

Ex[2004] at 42

- STA’s expert ignores the “associated data”:

97. In furtherance to the above, the District Court has defined media stream to include “audio or visual [data] or both” as a requirement for something to be a media stream. Ex. 2004, 42. The control channel does not carry audio or visual data as described in the glossary of *EDACS*. Ex. 1005, 50 (“system

Ex[2005] (Shaffer Decl.) at ¶97; see also *id.* at ¶¶104, 130; Ex[1042] at 217:7-219:12

Pet. at 30-32; Reply at 2-5; Ex[2004], 42; see also Ex[1036], 1.

STA's Construction of “media stream[s]” and “alert”

The claims cover receiving an alert out-of-band.

- Claim language does not preclude one media stream associated with multiple channels (e.g., control channel and working channel).

1. A method, comprising:
monitoring media streams associated with channels in a
communication environment;
receiving an alert in one of the media streams; and

Plural

- The inventor (also STA's expert) agrees:

So, again, my question is: In the '664
Patent, can one media stream be associated
with multiple channels?

MS. LEGAARD: Object to form.

A I think I say, yes. I think I say, yes.

Ex[1042] (Shaffer Dep. 10/1/24) at 160:4-8

Reply at 2-5; Ex[2004], 42; see also Ex[1036], 1.

STA's Construction of “media stream[s]” and “alert”

The claims cover receiving an alert out-of-band.

out-band/out-of-band signaling Control signaling that is carried separate from the informational portion of a message. See Signaling System 7.

Ex[1039] (Telecommunications Illustrated Dictionary) at 3.

- Specification explicitly describes an embodiment using out-of-band signaling:

In other embodiments, a resource management server (capable of processing media services) can coordinate an effective response that includes either an audio tone or a message being sent out-of-band. This server could be UMS 34 or RMS 30. For the out-of-band signaling, the identification of the alert is provided in the header of a packet, in the payload of the packet, in control packets, or in any other suitable location. Furthermore, this out-of-band signaling is sent to management center 38, which can assist in processing this data.

Ex[1001] ('664 Patent) 4:10-18.

- This disclosure was relied upon by the district court when construing “media stream[s].”

Reply at 2-5; Ex[2004], 42; see also Ex[1036], 1.

STA's Construction of "media stream[s]" and "alert"

The claims cover receiving an alert out-of-band.

- The inventor (also STA's expert) agrees:

Q Okay. So what the '664 Patent is saying here is that, at least for old devices, it can coordinate an effective response that includes either an audio tone or a message being sent out-of-band, right?

A Yeah.

Ex[1042] (Shaffer Dep. 10/1/24) at 124:7-12

The question is does Claim 1 of the '664 Patent cover the embodiment of Column 4, Lines 10 through 18 regarding out-of-band signaling?

A Oh, I'm sorry. You're talking only about Claim 1?

Q Correct.

A Whether it includes out-of-band signaling, yes. Yeah, it includes out-of-band signaling, yes.

Ex[1042] (Shaffer Dep. 10/1/24) at 127:16-128:3

Reply at 2-5; Ex[1042], 97:22-98:19, 99:21-100:12, 101:11-102:1, 104:11-15, 127:16-128:3.

STA's Construction of “media stream[s]” and “alert”

The claims cover receiving an alert out-of-band.

- Claim 9 confirms that out-of-band signaling is within the scope of the independent claims.

9. The method of claim 1, wherein the alert is received in a control packet of the media stream.

Ex[1001] ('664 Patent) 8:61-62.

Q You're not sure, sitting here today, whether the specification discusses alert tones?

MS. LEGAARD: Object to form.

A No. I think I discussed very clearly that the alert tone can be a signal, like a gunshot, that the system is programmed to basically analyze the media. And I think it can be from the control channel as a message, so.

Ex[1042] (Shaffer Dep. 10/1/24) at 101:11-20.

Reply at 2-5; Ex[2004], 42; see also Ex[1036], 1.

STA's Construction of “media stream[s]” and “alert”

The claims cover receiving an alert out-of-band.

Q Or thirdly, it could be the officer presses the emergency alert button indicating that there's an emergency situation and, that would be the alert, right?

A That's correct -- yeah.

Ex[1042] (Shaffer Dep. 10/1/24) at 100:8-12

Reply at 2-5; Ex[1042], 97:22-98:19, 99:21-100:12, 101:11-102:1, 104:11-15, 127:16-128:3.

OBVIOUSNESS OF THE '664 PATENT 03

35 U.S.C § 103 - .Obviousness

Dr. Shaffer does not understand the concept of obviousness.

Q Okay. And you understand that a patent is invalid if the claimed invention would have been obvious based on what was known before, right?

MS. LEGAARD: Object to form.

THE WITNESS: I -- I personally struggle

always with the obviousness one. So -- I -- I honestly never understood the meaning of "obvious," because some of the greatest inventions, in my mind, are obvious to me today, but were not obvious to me during the time that the person allegedly invented it.

So I can -- if you want, I can dwell more, but I'm not sure if you want or --

Ex[1037] (EDTX Shaffer) 37:9-21.

BY MS. BURKE:

Q I guess, you understand that a patent can be rejected or found invalid if it's determined to be obviousness -- obvious over what was known

before, correct?

A I understand that, but I still -- as I said before, I don't understand -- really, the obviousness is not hundred percent. I understand the word -- that there is a word "obvious." When it -- as it refers to legalese, I'm not sure that I understand -- I can give you, you know, some examples.

Ex[1037] (EDTX Shaffer) 37:22-38:8.

Reply at 2.

GROUND 1: DOWNS + EDACS 3.1

RENDERS OBVIOUS CLAIMS 1-6, 8-9,
AND 11-20

EDACS Is Prior Art Under Pre-AIA § 102(a) and § 102(b)

EDACS (A System and Standards Definition for a Digital Land Mobile Radio System, TSB69)(Ex[1005])

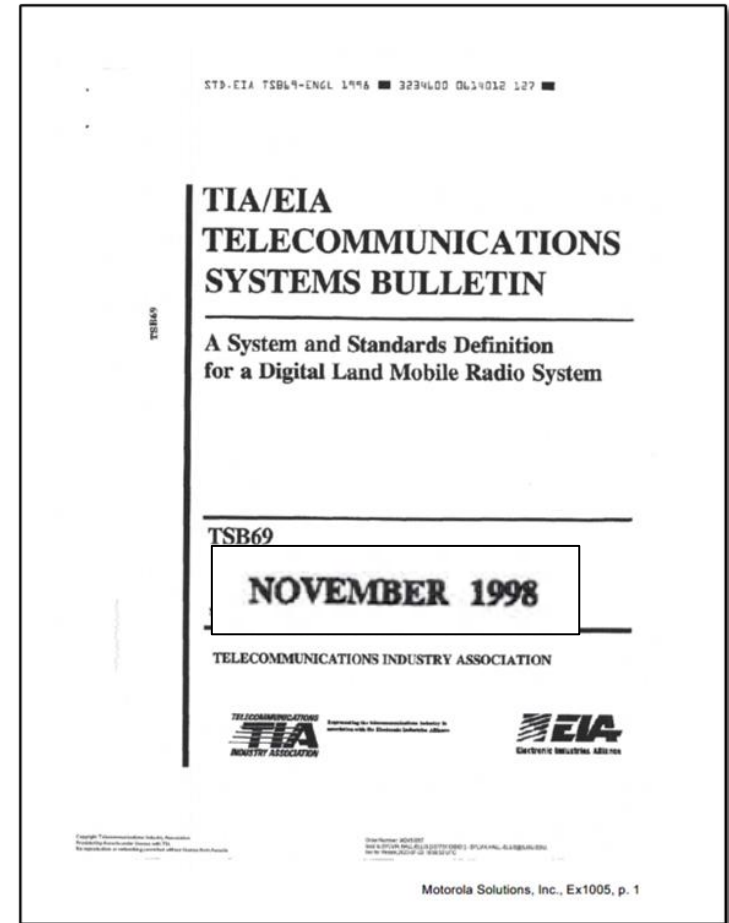
EDACS was published by the Telecommunications Industry Association by at least March 16, 2003.

Dr. Hall-Ellis' testimony establishes publication:

22. At least as early as March 16, 2003, the Telecommunications Industry Association was making copies of standards documents, including TSB69, available for purchase through its catalog that included subject matter descriptions of the various publications. See Attachment D. Additionally, the Telecommunications Industry Association provided the TIA/EIA TSB69 document through its digital repository of official documents that can be purchased. An

Ex[1014] (Hall-Ellis) ¶ 22.

Pet. at 9; Ex[1002] (Williams) ¶ 98; Ex[1014] (Hall-Ellis), ¶¶ 18-27.



Ex[1005] (EDACS)

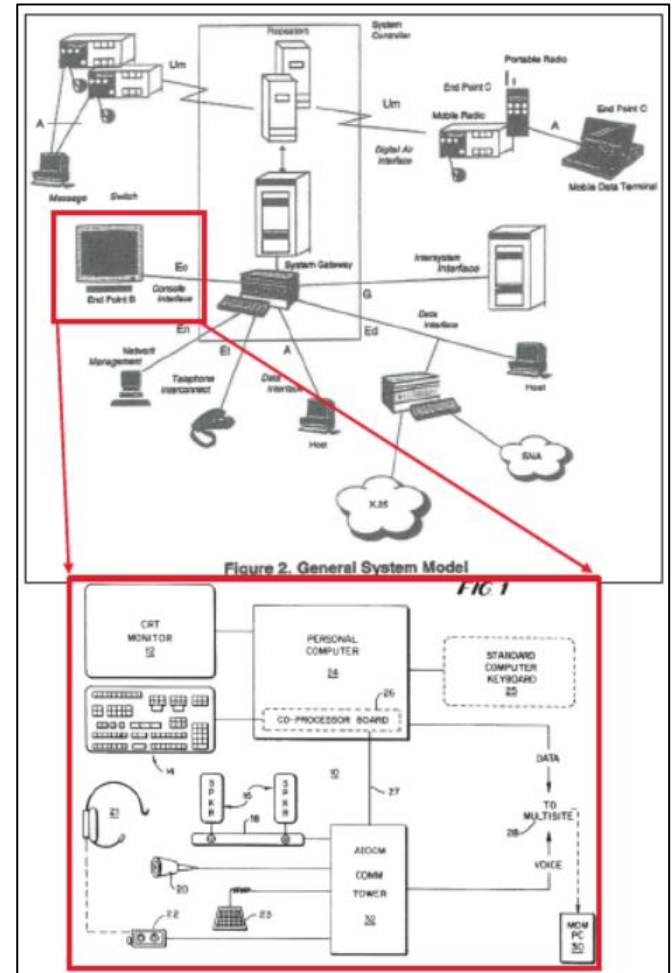
Ground 1 (Downs + EDACS) – Motivation to Combine

A POSITA would have been motivated to combine Downs with EDACS.

142. It would have been known that applying the Downs system to a C3™ Series Console would result in a compatible endpoint in an EDACS-based communication system. Further, by working at Ericsson, a POSITA would likely have had direct access to the Downs Patent, C3™ Series Consoles, and EDACS Standards documents, all of which were owned by Ericsson. Ex[1004], Cover; Ex[1005], p.2; Ex[1015], p.2. Thus, the EDACS Standard would have been an ideal starting place for a POSITA seeking further information regarding “route[ing] audio (voice) and data signals throughout the RF system” as described in Downs. Ex[1004], 4:18-25.

Ex[1002] (Williams) ¶ 142.

Pet. at 22-27; Ex[1002] (Williams) ¶¶ 136-143.



Ex[1002] (Williams) ¶ 141.

Ground 1 (Downs + EDACS) – Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in carrying out the combination.

143. Implementing requirements of the EDACS Standard in the Downs dispatch console would have been a simple, predictable combination that a POSITA would have understood and reasonably expected to succeed. For example, the EDACS Standard was already implemented in the C3™ Series Consoles. Ex[1015], Title. Additionally, the EDACS standard is intended to “allow both compatibility and interoperability between various systems and elements,” including being “backward compatible and interoperable with existing” EDACS equipment. Ex[1005], Foreword. Therefore, a POSITA would be both motivated and able, to combine Hancock and Downs and would have had an expectation of success.

Ex[1002] (Williams) ¶ 143.

Pet. at 22-27; Ex[1002] (Williams) ¶¶ 136-143.

Ground 1 (Downs + EDACS) – Motivation to Combine

STA does not dispute that a POSITA would have and could have combined Downs and EDACS.

V.	FOR GROUND 1, THE PETITION FAILS TO DEMONSTRATE THAT <i>Downs</i> AND <i>EDACS</i> RENDER ALL CLAIMS OBVIOUS BY A PREPONDERANCE OF THE EVIDENCE	25
A.	<i>EDACS</i> Does Not Disclose or Render Obvious “receiving an alert in one of the media streams”	26
B.	<i>EDACS</i> Does Not Disclose or Render Obvious “elevating a priority associated with the media stream receiving the alert”	31
C.	<i>Downs</i> Also Does Not Disclose or Render Obvious “elevating a priority associated with the media stream receiving the alert”	34
D.	<i>Downs</i> Does Not Disclose or Render Obvious “an adjustment is made to how the media stream is provisioned to an endpoint”	36

Patent Owner Response at i.

A.	Ground 1: Claims 1-6, 8, 9 and 11-20 are Not Obvious Over Downs-EDACS	7
1.	EDACS Does not Disclose “Monitoring Media Streams Associated with Channels in a Communication Environment” and then “Receiving an Alert in one of the Media Streams”	7
2.	The Out-of-Band Signaling from the Specification of the '664 Patent does not Support Petitioner’s Reliance on EDACS.....	10

Sur-Reply at i.

Reply at 2; see also Patent Owner Response at 25-38.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[Pre]

1[Pre] A method, comprising:

11[pre] Non-transitory readable media that includes code for execution and when executed by a processor operable to perform operations comprising:

16[pre] An apparatus comprising:

Downs discloses a “method” that enables “radio dispatchers” to “communicate with hundreds, if not thousands, of system users.”

Since more channels are available, the number of system users has increased. In the past, an individual system would have had one police station or one fire department. Now, a single system handles an entire metropolitan government, including the police department, fire department, ambulances, hospitals, and other governmental services. **Instead of only communicating with a small number of users, radio dispatchers can now communicate with hundreds, if not thousands, of system users.**

Ex[1004] (Downs) 1:52-60.

The software routines performed by the co-processor board monitor the keyboard, scan inputs and other inputs for command messages. FIG. 8 shows the over all main processing loop. In step 801, the process checks whether its input queue is empty. If an input is in the queue, then the message code is retrieved, step 802, and the commands necessary in view of the message are issued to the audio tower (AIOCM) step 803. Similarly, the code is stored in the DPRAM 320 and an interrupt is sent to the PC microprocessor in step 804.

Ex[1004] (Downs) 9:51-60.

Pet. at 27, 46-48; Ex[1004], 9:51-53, 1:59-60, 2:43-46; Ex[1002], ¶¶145-146, 199-200, 203-204.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[a]

1/11/16[a] monitoring media streams associated with channels in a communication environment;

Downs+EDACS discloses that the dispatch console monitors media streams (audio talk group signals).

The dispatcher console must now be informed of the individual transmitters and channels that are being used, and of the status of other transmitters and receivers in the system.

Ex[1004] (Downs) 2:20-23.

The CRT display screen presents information on ongoing communications throughout the RF system and historical information on recently terminated calls. The display is segmented into functional windows. These windows provide information in a uniform and easy to read manner. For example, information on individual communications is shown in an array of communication module windows. Each communication module provides information on a specific call or group such as the caller, volume, and emergency.

Ex[1004] (Downs) 3:17-25.

The dispatcher console 10 communicates with the RF system through a console interface module (CIM) (not shown) in a multisite switch 28. The multisite switch routes audio (voice) and data signals throughout the RF system. By way of the multisite switch, the dispatcher console communicates with the trunked and conventional radio systems coupled to the switch, to telephone lines connected to the switch and to other dispatch consoles. The dispatch console

Ex[1004] (Downs) 4:18-25.

Communications module windows 44 are arranged conveniently in columns and rows. These modules provide call access to individual groups, entities, consoles and telephone lines in the system. Each communication module is programmed by the dispatcher to represent a particular group, unit, console, channel, line, etc., that is available to the console. To assist in programming the communications

Ex[1004] (Downs) 6:20-26.

Pet. at 19-20; Ex[1002] (Williams), ¶¶147-153; Reply at 2.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[a]

1/11/16[a] monitoring media streams associated with channels in a communication environment;

Downs+EDACS discloses that the dispatch console monitors media streams (audio talk group signals).

A POSITA would have understood from Downs that “dispatcher console 10” is informed of the status of transmitters and channels (control and working) by “communicat[ing] with the RF system” “through a console interface module (CIM) (not shown) in a multisite switch 28,” which “routes audio (voice) and data signals throughout the RF system.” *Id.*, 4:18-21, 4:23-25; Ex[1002], ¶¶147-149. Downs’

A POSITA would have understood that Downs+EDACS discloses that the dispatch console *monitors media streams* (audio talk group signals) *associated with channels* (control channel and working channels) *in the communication environment*. *Id.*, 3:4-26, 6:24-26; *see also id.*, 4:18-29, 6:19-29, 11:55-12-7, 12:15-39, 12:46-64, 13:4-14:8; Ex[1002], ¶¶151-153.

Petition at 29

Petitioner concedes that Downs does not disclose monitoring media streams associated with channels in a communication environment and then receiving an alert in one of the media streams. Petition, 30-31; Reply, 2-5. Petitioner instead relies

Sur-Reply at 7

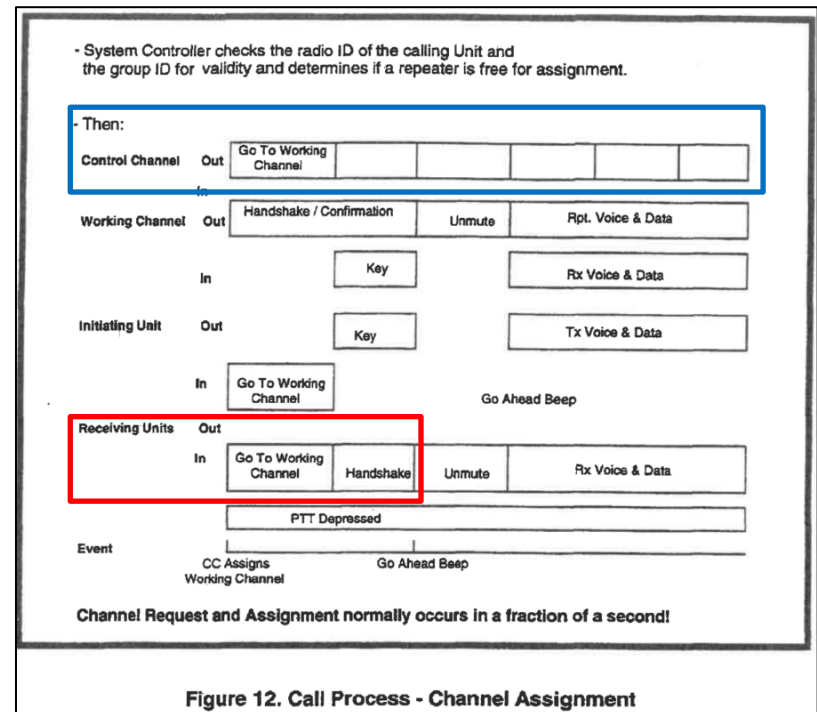
Pet. at 19-20; Ex[1002] (Williams), ¶¶147-153; Reply at 2.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[a]

1/11/16[a] monitoring media streams associated with channels in a communication environment;

Downs+EDACS discloses media streams associated with channels (control channel and working channels) in the communication environment.

Receiving Unit receives the emergency call request (*alert*) in the voice and data signals for a talk group (*media stream*)



Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[a]

1/11/16[a] monitoring media streams associated with channels in a communication environment;

STA did not dispute that Downs-EDACS discloses “monitoring media streams associated with channels in a communication environment” in its Patent Owner Response

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Patent Owner Response at i.

Reply at 2; see also Patent Owner Response at 25-38.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[a]

1/11/16[a] monitoring media streams associated with channels in a communication environment;

STA’s sur-reply introduces a new argument that Downs-EDACS does not disclose “monitoring media streams associated with channels in a communication environment.”

- A. Ground 1: Claims 1-6, 8, 9 and 11-20 are Not Obvious Over Downs-EDACS**
- 1. EDACS Does not Disclose “Monitoring Media Streams Associated with Channels in a Communication Environment” and then “Receiving an Alert in one of the Media Streams”**

Sur-Reply at 7.

Sur-Reply at 7-10.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[a]

1/11/16[a] monitoring media streams associated with channels in a communication environment;

STA's new argument introduced in the sur-reply is flawed because it attacks EDACS individually.

148. Due to the “increasingly complex” nature of radio dispatch work caused by “[t]he number of radio frequency (RF) channels” having “increased substantially,” Downs discloses that “[t]he dispatcher console must now be informed of the individual transmitters and channels that are being used, and of the status of other transmitters and receivers in the system” (*monitoring media streams associated with channels in a communication environment*). Ex[1004], 1:48-51, 2:20-23.

Ex[1002] (Willimas) at ¶148.

152. Therefore, it would have understood that Downs in view of EDACS discloses that the dispatch console *monitors media streams* (audio talk group signals) associated with channels (control channel and working channels) in the communication environment. *Id.*, 3:4-26, 6:24-26; see also *id.*, 4:18-29, 6:19-29, 11:55-12-7, 12:15-39, 12:46-64, and 13:4-14:8.

Ex[1002] (Willimas) at ¶152.

Petition at 27-29; Ex[1002] (Willimas) at ¶¶ 147-153; Reply at 2.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[a]

1/11/16[a] monitoring media streams associated with channels in a communication environment;

STA's new argument also assumes an incorrect interpretation of "media streams"

EDACS is focused on monitoring for emergency call requests as a trigger for enabling video and/or audio between mobile radios. Ex. 2005, ¶¶68-70. EDACS monitors only for emergency call requests. EDACS does not monitor audio and/or video, and also is not concerned with later monitoring audio and/or video from mobile radios.

Paper 30 (Sur-Reply) at 9-10

- **STA concedes EDACS monitors for emergency call requests**
- **Emergency call requests are part of the "media stream"**

Q Yeah, and the control channel of EDACS is required in order to initiate a call on the working channels, correct?

A That's correct. That's part of initiation of the call, correct.

Ex[1042] (Shaffer Dep.) 216:14-18.

Petition at 27-29; Ex[1002] (Willimas) at ¶¶ 147-153; Reply at 2.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[b]

1/11/16[b] receiving an alert in one of the media streams; and

EDACS discloses receiving an emergency call request (alert) in one of the talk groups (media streams).

4.5.2.1.2 Emergency Group Call

An emergency call is initiated by pressing the emergency button on the radio. Once initiated, the radio immediately transmits the emergency call request on the inbound control channel. The system receives the request and assigns the emergency call to a free channel. If all channels are busy, the request is placed at the 'top of the queue,' where it will be assigned the first available channel. Even on heavily loaded systems, emergency calls are handled quickly and efficiently.

Ex[1005] (EDACS) 17.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[b]

1/11/16[b] receiving an alert in one of the media streams; and

Dr. Shaffer admits that receiving and alert in a media stream was in the prior art before December 2008.

Q Okay. And you would agree that, before December 2008, there were systems in the prior art that could receive an alert in a media stream, under your understanding of "media stream"?

MS. LEGAARD: Object to form.

THE WITNESS: Yes. If I am sending an alert, then the other side will hear it. You know, if I'm screaming "Fire," you will hear the alert, yes.

Ex[1037] (EDTX Shaffer) 266:1-9.

Reply at 2.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[b]

1/11/16[b] receiving an alert in one of the media streams; and

A POSITA would understand that control and working channels used together to receive an alert and communicate associated audio, teach the claimed “media stream.”

Q Yeah, and the control channel of EDACS is required in order to initiate a call on the working channels, correct?

A That's correct. That's part of initiation of the call, correct.

Ex[1042] (Shaffer Dep.) 216:14-18.

Q And for out-of-band signaling in a trunked radio system, certain information is transmitted on a control channel, and other information is transmitted on a working channel, correct?

A That would be correct.

Ex[1042] (Shaffer Dep.) 15:17-22.

Q And what do you -- what do you understand the word "media stream" -- the phrase "media stream" to mean?

A "Media stream" -- so it's a mean of communication between two points on computer networks or -- not on computer networks, okay, because I said IPICS also works over cellphone, your home phone, et cetera, can incorporate those.

Within media stream, there are always two things -- at least two -- three things, I should say, that exist as far as this media stream is concerned.

One thing is the metadata associated with it. So, for example, if you look at the old -- plain old telephony, also known as POTS, POTS had a/b signaling. So a/b signaling was signaling associated with transmission of data; and, as such, there is a certain control channel associated with it that may have certain information, give you a hint about what's happening.

Ex[1037] (EDTX Shaffer) 257:15-258:9.

Pet. at 29-32; Ex[1002] (Williams), ¶¶154-159; Reply at 2-5, 15

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[b]

1/11/16[b] receiving an alert in one of the media streams; and

The claims do not restrict the media stream to a “working channel,” nor exclude an associated control channel.

1. A method, comprising:
monitoring media streams associated with channels in a communication environment;
receiving an alert in one of the media streams; and
elevating a priority associated with the media stream receiving the alert, such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

Ex[1001] ('664 Patent), cl. 1.

9. The method of claim 1, wherein the alert is received in a control packet of the media stream.

Ex[1001] ('664 Patent), cl. 9.

So, again, my question is: In the '664 Patent, can one media stream be associated with multiple channels?

MS. LEGAARD: Object to form.

A I think I say, yes. I think I say, yes.

Ex[1042] (Shaffer Dep. 10/1/24) at 160:4-8

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[b]

1/11/16[b] receiving an alert in one of the media streams; and

STA's interpretation would read out a preferred embodiment.

In other embodiments, a resource management server (capable of processing media services) can coordinate an effective response that includes either an audio tone or a message being sent out-of-band. This server could be UMS 34 or RMS 30. For the out-of-band signaling, the identification of the alert is provided in the header of a packet, in the payload of the packet, in control packets, or in any other suitable location. Furthermore, this out-of-band signaling is sent to management center 38, which can assist in processing this data. Management center 38 promptly identifies the information included in these packets. In the case of out-of-band signaling, if an end user has stepped out (for whatever reason), because the specific channel has been moved, the actions taken by the system in response to the alert could signify to him what has occurred while he was away.

Ex[1001] ('664 Patent), 4:14–20.

The question is does Claim 1 of the '664 Patent cover the embodiment of Column 4, Lines 10 through 18 regarding out-of-band signaling?

A Oh, I'm sorry. You're talking only about Claim 1?

Q Correct.

A Whether it includes out-of-band signaling, yes. Yeah, it includes out-of-band signaling, yes.

Ex[1042] (Shaffer Dep.) 127:16-128:3.

Pet. at 29-32; Ex[1002] (Williams), ¶¶154-159; Reply at 2-5

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[b]

1/11/16[b] receiving an alert in one of the media streams; and

Dr. Shaffer STA's expert, agrees that pressing an emergency button constitutes the "alert."

Someone can push a button that basically is addressing that this is alert message.

Q What would happen when somebody pushes a button that indicates it's an alert message?

A So a message can come here indicating that -- so, for example, I can be talking to you now over the channel, and as I'm talking to you, I get shot and I push the button, and the button -- while I'm talking to you, let's you know that something is of high urgency. I should be getting high priority.

Ex[1042] (Shaffer Dep.) 98:9-19.

Pet. at 29-32; Ex[1002] (Williams), ¶¶154-159; Reply at 2-5

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[c]

1/11/16[c] elevating a priority associated with the media stream receiving the alert,

EDACS discloses automatically assigning the highest priority to a talk group after receiving an emergency alert.

Emergency

An “Emergency” message is initiated by the caller and automatically transmitted by the radio on the control channel. The system automatically assigns the highest priority to the talk group. All members of the talk group are notified of the emergency condition.

Ex[1005] (EDACS) 43.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[c]

1/11/16[c] elevating a priority associated with the media stream receiving the alert,

EDACS elevates priority of the media stream via message trunking.

During typical system operation, group calls are transmission trunked, while emergency group calls are message trunked. Transmission trunking means that a working channel is assigned for the duration of a caller's transmission. Upon the caller's un-key, the system immediately de-allocates the channel and makes it available for reassignment. This is equivalent to zero-second hang time. Transmission trunking for normal traffic increases system efficiency (reference section 4.5.5.1). Message trunking, on the other hand, means a channel is assigned for the duration of the conversation, or emergency (reference section 4.5.5.2).

Ex[1005] (EDACS) 17.

Pet. at 32-36; Ex[1002] (Williams), ¶¶103, 139, 160-166, 187; Reply at 5-7.

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[c]

1/11/16[c] elevating a priority associated with the media stream receiving the alert,

Downs discloses elevating a priority “associated with the media stream.”

(57)

ABSTRACT

A method is provided in one example embodiment and includes monitoring media streams associated with channels in a communication environment. The method also includes receiving an alert in one of the media streams and elevating a priority associated with the media stream receiving the alert. Elevating the priority can include increasing the volume of the media stream receiving the alert, changing a spatial direction for rendering the media stream receiving the alert, rendering the media stream receiving the alert to a priority spatial direction, identifying a primary channel and rendering the alert message to the primary channel, turning a volume down on media streams not receiving the alert, or a combination thereof.

Ex[1001] ('664 Patent), (57).

FIG. 4 illustrates a sample dispatcher profile 84 that can be displayed on the screen. The profile presents the logical id for the dispatcher 85, volume settings 86, delay times 87 and other features of the profile. The volume levels can be set such that emergency calls are broadcast louder from the dispatcher speakers than other calls. The dispatcher profile is displayed by depressing keys on the console keyboard.

Ex[1004] (Downs) 6:47-54.

Q So turning up the volume would be elevating the priority, in this example?

A Yeah, I think that's what it says.

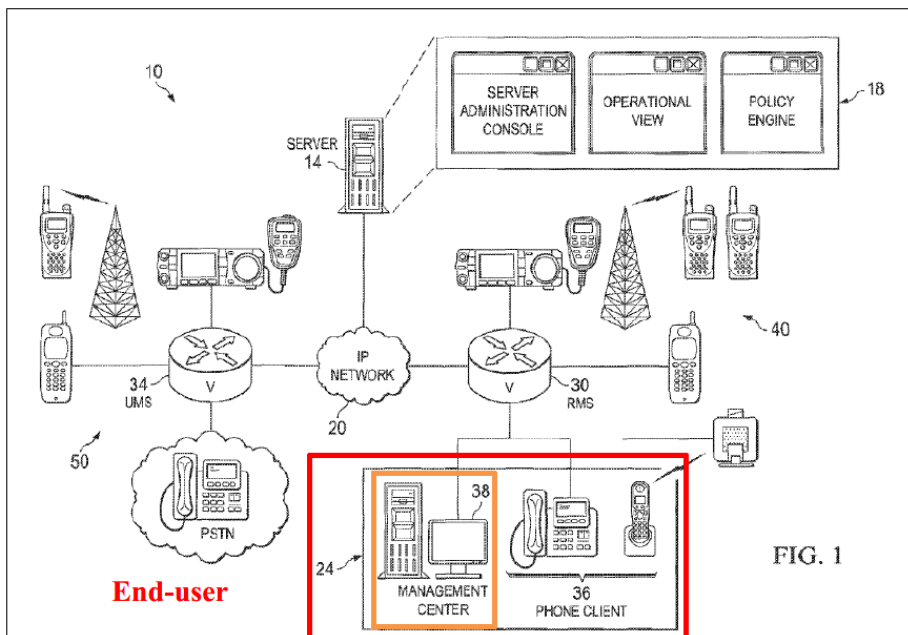
Ex[1042] (Shaffer Dep.) 111:4-6.

Pet. at 32-36; Ex[1002] (Williams), ¶¶160-166; Reply at 7-11.

Ground 1 (Downs + EDACS) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

STA's argument that the adjustment must be made before the media stream reaches the endpoint is incorrect.



Ex[1001] ('664 Patent), FIG. 1 (annotated).

invention. In a general sense, elements 40 and 50 are examples of field equipment, while element 24 is an example for end-user equipment, which resides in the control center. These devices (referred to as 'endpoint' as used herein in this document) may include VHF radios, UHF radios, PSTN telephones, IP phones, push-to-talk telephones, cellular telephones, laptops, desktop computers, personal digital assistants (PDAs), or any other suitable end-user device capable of exchanging audio or other data in the architecture. Before

Ex[1001] ('664 Patent), 2:50-58.

Thus, management center 38 can promptly identify an event alert and coordinate a suitable response autonomously, or in conjunction with a server that would assist in provisioning the appropriate channels.

Ex[1001] ('664 Patent), 4:6-9.

Pet. at 32-36; Ex[1002] (Williams), ¶¶160-166; Reply at 7-13.

Ground 1 (Downs + EDACS) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

Dr. Shaffer agrees that Management Center 38 is a dispatch console and adjusts the media stream.

Q Just to clarify, so Claim 1 of the '664 Patent covers this example in which at least the volume is increased for the dispatcher sitting at Management Center 38, correct?

A Increase, yes.

Q Okay.

Ex[1042] (Shaffer Dep.) 114:22-115:4.

Q Understood. What is the endpoint in this example on Column 3, Lines 56 through 65?

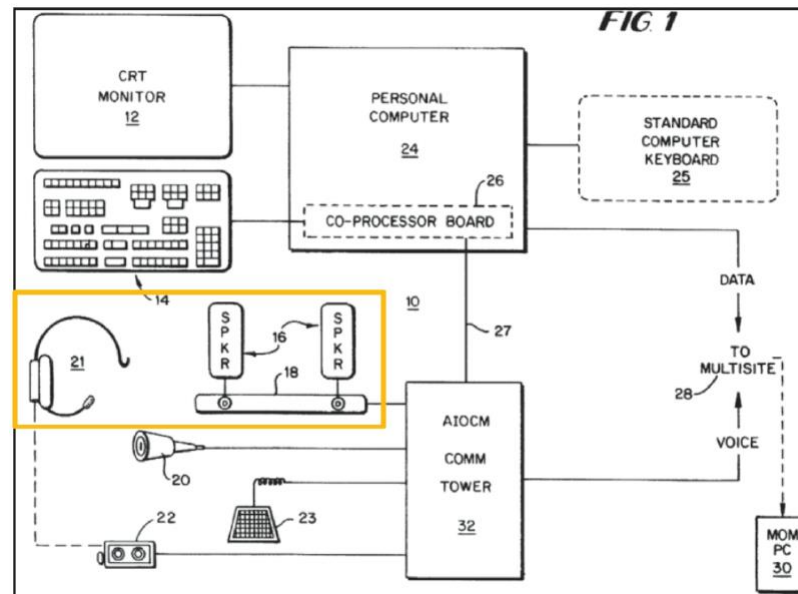
A Well, the endpoints are usually what we discussed before. So if we're talking about a dispatcher, it's basically they dispatch stations at things like what is depicted here in Channel 38, I think. What is depicted in channel -- in Figure 2.

Ex[1042] (Shaffer Dep.) 113:8-16.

Ground 1 (Downs + EDACS) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

Even under STA's narrow interpretation Downs discloses end-user devices associated with its dispatch console including interface components such as a monitor, speakers, and headphones.



Ex[1004] (Downs) FIG. 1.

Pet. at 32-36; Ex[1002] (Williams), ¶¶160-166; Reply at 7-13.

Ground 1 (Downs + EDACS) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

Dr. Shaffer agrees that components such as a monitor, speakers, and headphones are endpoints.

A Yeah, so 24 includes two things, correct? It includes, for example, a server, the management center, okay. So the server itself, I would not call it end point, okay. And the end point is the screen, maybe, that the user listen -- is using. The end point may be a speaker or the microphone that the user is using. Servers usually would not be called end points.

Ex[1042] (Shaffer Dep.) 75:1-9.

Pet. at 32-36; Ex[1002] (Williams), ¶¶160-166; Reply at 7-13.

Ground 1 (Downs + EDACS) – Claims 2, 12, and 17

- 2 The method of claim 1, wherein elevating the priority comprises increasing the volume of the media stream receiving the alert.

Downs discloses elevating the priority by increasing the volume of the media stream receiving the alert.

(57)

ABSTRACT

A method is provided in one example embodiment and includes monitoring media streams associated with channels in a communication environment. The method also includes receiving an alert in one of the media streams and elevating a priority associated with the media stream receiving the alert. **Elevating the priority can include increasing the volume of the media stream receiving the alert,** changing a spatial direction for rendering the media stream receiving the alert, rendering the media stream receiving the alert to a priority spatial direction, identifying a primary channel and rendering the alert message to the primary channel, turning a volume down on media streams not receiving the alert, or a combination thereof.

Ex[1001] ('664 Patent), (57).

FIG. 4 illustrates a sample dispatcher profile 84 that can be displayed on the screen. The profile presents the logical id for the dispatcher 85, volume settings 86, delay times 87 and other features of the profile. The volume levels can be set such that emergency calls are broadcast louder from the dispatcher speakers than other calls. The dispatcher profile is displayed by depressing keys on the console keyboard.

Ex[1004] (Downs) 6:47-54.

Q So **turning up the volume would be elevating the priority,** in this example?

A **Yeah,** I think that's what it says.

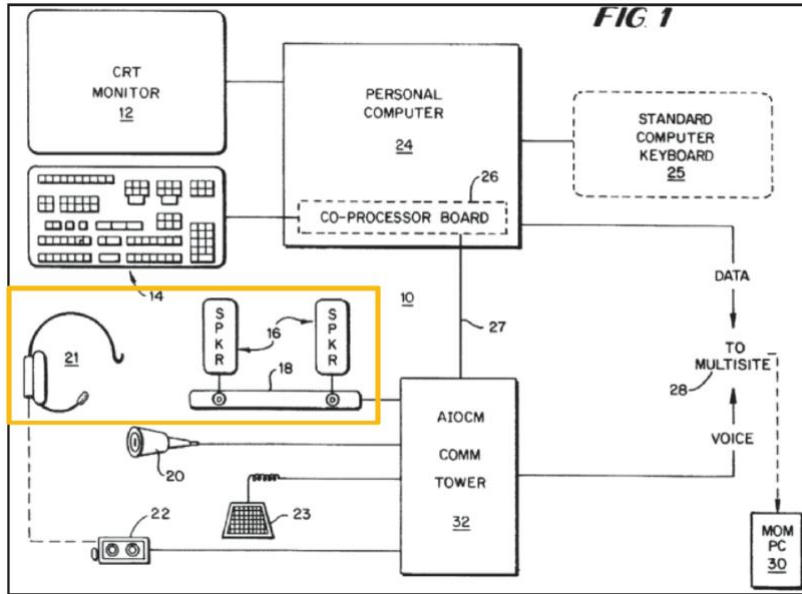
Ex[1042] (Shaffer Dep.) 111:4-6.

Pet. at 37-38, 48; Ex[1002] (Williams), ¶¶167-171, 201-202, 205-206.

Ground 1 (Downs + EDACS) – Claims 3, 5, 13, and 18

- 3 The method of claim 1, wherein elevating the priority comprises changing a spatial direction for rendering the media stream receiving the alert.
- 5 The method of claim 1, wherein elevating the priority comprises rendering the media stream receiving the alert to a priority spatial direction.

Downs discloses Claims 3, 5, 13, and 18 because it discloses selectively route audio to the select speaker.



Ex[1004] (Downs) FIG. 1.

Through the use of the customized keyboard, the dispatcher can choose a particular communications module by depressing the appropriate key 114, e.g. MDL 3, to pick module 3. Once this module has been picked, then the dispatcher can adjust its volume via volume keys 118, mute the module, 116, highlight the module for the select speaker (may be headset), modify the module, 116, or establish (or clear) an emergency condition for the module 124.

Ex[1004] (Downs) 8:40-48.

Pet. at 38-41, 48; Ex[1002] (Williams), ¶¶172-176, 179-183, 201-202, 205-206.

Ground 1 (Downs + EDACS) – Claims 4, 14, and 19

- 4 The method of claim 1, wherein elevating the priority comprises increasing the volume of the media stream receiving the alert and changing a spatial direction for rendering the media stream receiving the alert.

Claim 4 recites a combination of the limitations of 2 and 3, and is rendered obvious for the same reasons.

FIG. 4 illustrates a sample dispatcher profile 84 that can be displayed on the screen. The profile presents the logical id for the dispatcher 85, volume settings 86, delay times 87 and other features of the profile. The volume levels can be set such that emergency calls are broadcast louder from the dispatcher speakers than other calls. The dispatcher profile is displayed by depressing keys on the console keyboard.

Ex[1004] (Downs) 6:47-54.

Through the use of the customized keyboard, the dispatcher can choose a particular communications module by depressing the appropriate key 114, e.g. MDL 3, to pick module 3. Once this module has been picked, then the dispatcher can adjust its volume via volume keys 118, mute the module, 116, highlight the module for the select speaker (may be headset), modify the module, 116, or establish (or clear) an emergency condition for the module 124.

Pet. at 37-41, 48; Ex[1002] (Williams), ¶¶ 167-183 201-202, 205-206.

Ex[1004] (Downs) 8:40-48.

Ground 1 (Downs + EDACS) – Claims 6, 15, and 20

- 6 The method of claim 1, wherein elevating the priority includes identifying a primary channel and rendering the alert message to the primary channel.

A POSITA would have understood that the “free channel” in EDACS discloses the primary channel because the “free channel” is identified “[d]ue to the urgency of this event alert” as in the ’664 Patent.

4.5.2.1.2 Emergency Group Call

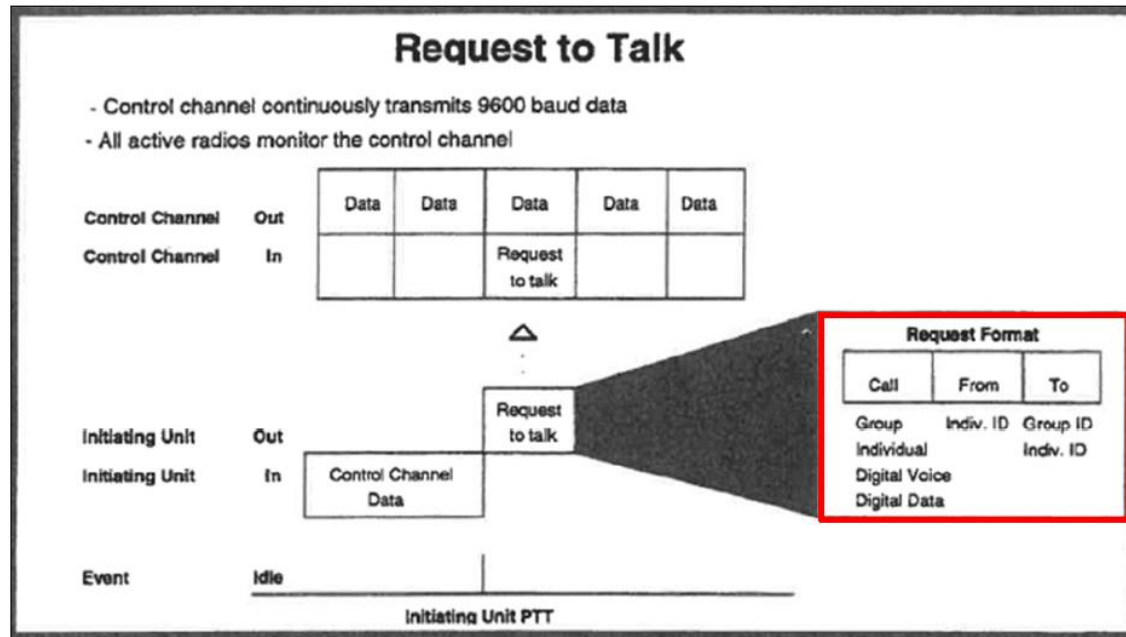
An emergency call is initiated by pressing the emergency button on the radio. Once initiated, the radio immediately transmits the emergency call request on the inbound control channel. The system receives the request and assigns the emergency call to a free channel. If all channels are busy, the request is placed at the 'top of the queue,' where it will be assigned the first available channel. Even on heavily loaded systems, emergency calls are handled quickly and efficiently.

During typical system operation, group calls are transmission trunked, while emergency group calls are message trunked. Transmission trunking means that a working channel is assigned for the duration of a caller's transmission. Upon the caller's un-key, the system immediately de-allocates the channel and makes it available for reassignment. This is equivalent to zero-second hang time. Transmission trunking for normal traffic increases system efficiency (reference section 4.5.5.1). Message trunking, on the other hand, means a channel is assigned for the duration of the conversation, or emergency (reference section 4.5.5.2).

Ground 1 (Downs + EDACS) – Claim 8

- 8 The method of claim 1, wherein the alert is received in a header of a packet of the media stream.

A POSITA would have understood that EDACS's call types are included in a header because they are the first piece of information sent in the "request to talk."



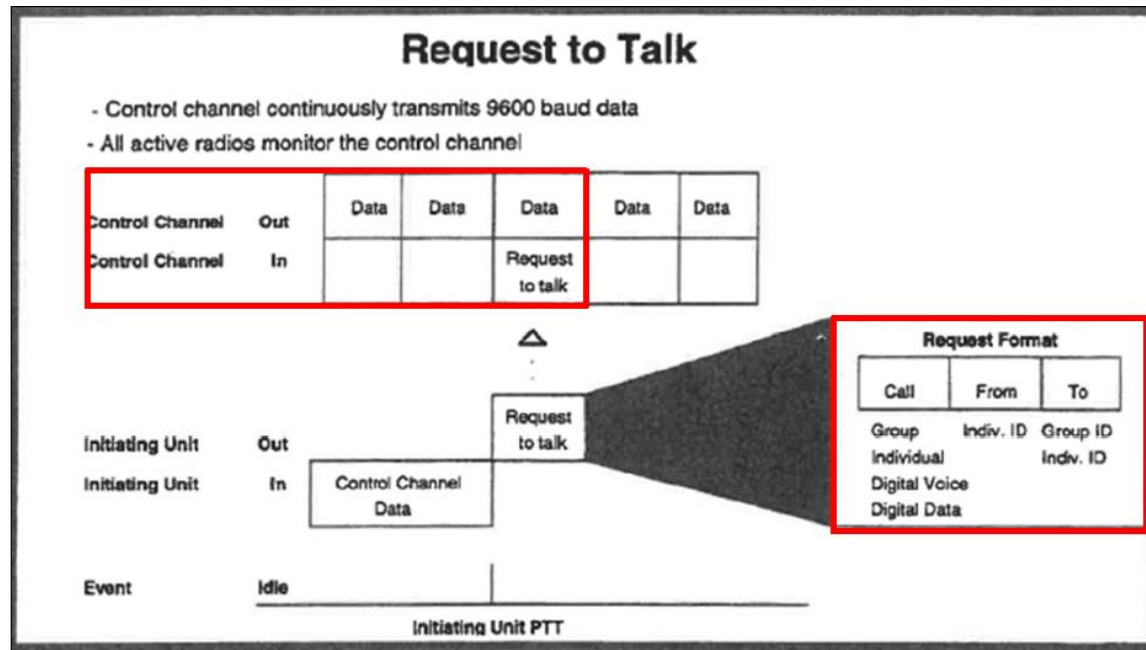
Ex[1005] (EDACS) FIG. 9 (annotated).

Pet. at 43-44; Ex[1002] (Williams), ¶¶189-193.

Ground 1 (Downs + EDACS) – Claim 9

- 9 The method of claim 1, wherein the alert is received in a control packet of the media stream.

A POSITA would have understood that request to talk information would be transmitted in a packet on the control channel because it is a concise set of data.



Ex[1005] (EDACS) FIG. 9 (annotated).

Pet. at 44-46; Ex[1002] (Williams), ¶¶194-198.

Ground 1 (Downs + EDACS) – Claim 9

- 9 The method of claim 1, wherein the alert is received in a control packet of the media stream.

Dr. Shaffer agrees that the '664 Patent considers transmitting an alert in a packet on the control channel.

A No. I think I discussed very clearly that the alert tone can be a signal, like a gunshot, that the system is programmed to basically analyze the media. And I think it can be from the control channel as a message, so.

Q It can also be carried in a control packet, right?

A Control packet is good, yeah.

Ex[1042] (Shaffer Dep.) 101:15-102:1.

Reply at 3-5.

Ground 1 (Downs + EDACS) – Claims 11 and 16

- 11 Non-transitory readable media that includes code for execution and when executed by a processor operable to perform operations comprising...
- 16 An apparatus, comprising: a memory element; a processor; and a management element stored in the memory element and configured to interface with the processor such that the apparatus is configured for...

Downs discloses a “logic board” and a standard personal computer.

The speakers, microphone, headset and foot pedal are connected to an audio communications tower 32. The CRT monitor 12 and an optional standard keyboard 25 are connected to a conventional personal computer 24. In the preferred embodiment, the personal computer is an AT-class

Ex[1004] (Downs) 3:63-67.

PC computer equipped with VGA graphics, 2 megabytes of RAM, a hard disk and a floppy disk for loading software. The computer uses a proprietary (VRTX) multi-tasking operating system published by Ready Systems, Inc. of Sunnyvale, Calif.

Ex[1004] (Downs) 4:1-5.

In addition, the computer has an internal co-processor logic board 26 that is further described in U.S. Pat. No. 5,384,854 entitled “Co-Processor Controlled Switching Apparatus and Method for Dispatching Console” and incorporated by reference above. This co-processor board performs the audio and command routing functions necessary for the dispatcher console. The logic board allows a standard personal computer to be converted into a dispatcher console. The customized keyboard 14 is coupled to the logic board and thereby to the personal computer. A standard keyboard 25 may also be connected to the personal computer, but is not necessary for the operation of the dispatcher console.

Ex[1004] (Downs) 4:1-5.

Pet. at 46-48; Ex[1002] (Williams), ¶¶199-200, 203-204 .

GROUND 2 – GROUND 1 + CHILDRESS 3.2

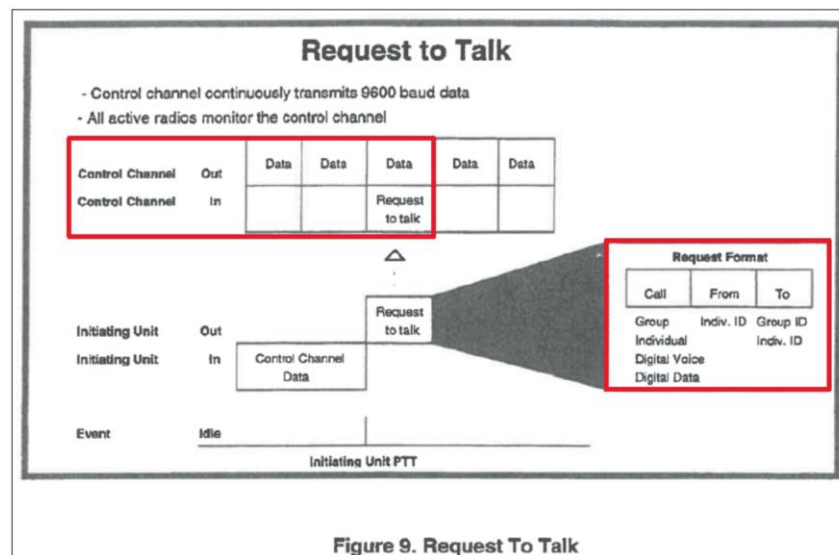
RENDERS OBVIOUS CLAIMS 1-6, 8-9,
AND 11-20

Ground 2 (Ground 1 + Childress) – Motivation to Combine

A POSITA would have been motivated to combine Downs + EDACS with Childress.

210. A POSITA would have been motivated to implement Childress's digital control signals in the Down-EDACS Standard combination in order to define the control signals used in EDACS, but not explicitly described, and to ensure that the system "meets and, in many areas, surpasses all of the existing APCO-16 requirements" laid out by the Association of Public-Safety Communications Officers, Inc. Ex[1031], 2:29-38, 4:59-61. Meeting and exceeding the APCO-16 requirements would have provided benefits such as: enhancing interoperability between systems; improving communications speed and efficiency (through the use of more efficient protocols), enhancing data and voice capabilities (enabling more effective and efficient transfer of multimedia data, videos, images, *etc.*), and generally increased public safety (by optimizing communications infrastructure and protocols, Public Safety Officers will have better coordinated responses).

Ex[1002] (Williams) ¶ 210.



Ex[1002] (Williams) ¶ 194.

Pet. at 49-50; Ex[1002] (Williams) ¶¶ 208-211; Reply at 15-17.

Ground 2 (Ground 1 + Childress) – Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in carrying out the combination.

208. As discussed previously, Downs discloses a dispatch console connected to a multisite switch that “routes audio (voice) and data signals throughout [an] RF system.” Ex[1004], 4:18-25. The EDACS Standard discloses an “FDMA, digital, trunked, Land Mobile Radio communication system.” Ex[1005], Forward.

209. Childress discloses “digital control signals transmitted over a dedicated control channel” and “plural working channels” in a “trunked radio repeater system[]”, like EDACS. Ex[1031], 1:6-11.

Ex[1002] (Williams) ¶¶ 208-209.

Pet. at 49-50; Ex[1002] (Williams) ¶¶ 208-211; Reply at 15-17.

Ground 2 (Ground 1 + Childress) – Claims 1, 11, and 16, Element 1[b]

1/11/16[b] receiving an alert in one of the media streams; and

Childress discloses that “all mobiles of the called group” receive the emergency alert on the *working channel*.

214. The EDACS Standard discloses the ‘Group Emergency’ call type, which corresponds to the claimed *alert* and are ‘message trunked’ rather than ‘transmission trunked.’ *Supra* §§IX.B.2.c, IX.B.7. Childress further discloses that “all mobiles of the called group” receive an “emergency group call confirmation message” that contains a “Message/Transmission Trunking” bit and a 12-bit “Group ID” on a working channel. Ex[1031], 28:42-58. Therefore, it would have been

Ex[1002] (Williams) ¶214.

D. All mobiles of the called group switch to assigned working channel and receive a confirmation message. Slotted working channel messages are transmitted using the following frame:

- Dotting = 32 bits
- Barker = 16 bits
- Message = 32 bits
- Message (inverted) = 32 bits
- Message = 32 bits

The emergency group call confirmation message is coded as follows:

- MT Code = 4 bits
- Subaudible count = 2 bits
- Message/Transmission Trunking = 1 bit
- Group/Logical ID = 1 bit
- Group ID = 12 bits
- BCH = 12 bits

Ex[1031] (Childress) 28:42-58.

Pet. at 50; Ex[1002] (Williams), ¶¶212-215; Reply at 13-15.

GROUNDS 3 AND 4 – GROUNDS 1 AND 2 + HANCOCK

3.3

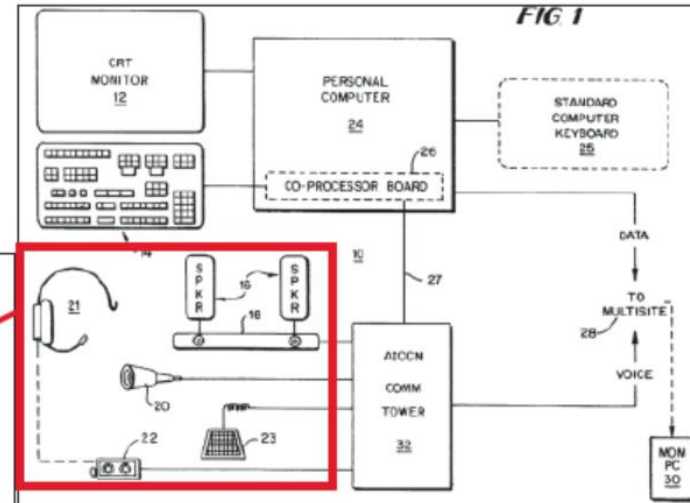
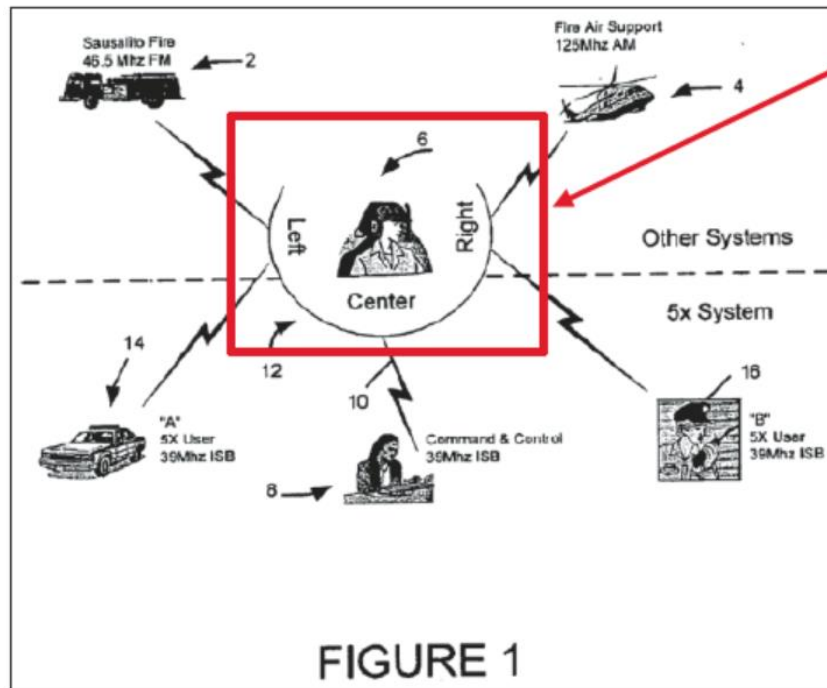
RENDERS OBVIOUS CLAIMS 3-5, 13-14,
 AND 18-19

Grounds 3/4 (Grounds 1/2 + Hancock) – Motivation to Combine

A POSITA would have been motivated to combine Grounds 3 and 4 with Hancock.

locations. For example, DoD instructs that “[i]f several channels are to be monitored simultaneously by means of loudspeakers, the speakers shall be mounted at least 10° apart in the horizontal plane frontal quadrant, from 45° left to 45° right of the operator's normal forward facing position.” Ex[1016], p.49.

Ex[1002] (Williams) ¶ 174



Pet. at 51-55; Ex[1002] (Williams) ¶¶ 216-227.

Ex[1002] (Williams) ¶ 223

Grounds 3/4 (Grounds 1/2 + Hancock) – Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in carrying out the combination.

[0044] Referring to FIG. 1, at a high level, the communication system consists of one or more dispatch or command and control consoles 8 communicating with many mobile or portable communication systems (such as walkie-talkies). In this illustration, the 5x communication systems

Ex[1006] (Hancock) [0044]

¶226. For example, Hancock discloses that “the communication system consists of one or more dispatch or command and control consoles 8 communicating with many mobile or portable communication systems.” Ex[1006], [0044]. Thus, a POSITA would have understood that Hancock’s psychoacoustic spatial presentation would be suitable for use with the dispatch console of Downs. Ex[1002], ¶¶226-227.

Pet. at 55.

Pet. at 22-27; Ex[1002] (Williams) ¶¶ 136-143.

Grounds 3/4 (Grounds 1/2 + Hancock) – Claims 3, 5, 13, and 18

- 3 The method of claim 1, wherein elevating the priority comprises changing a spatial direction for rendering the media stream receiving the alert.
- 5 The method of claim 1, wherein elevating the priority comprises rendering the media stream receiving the alert to a priority spatial direction.

Hancock discloses changing a spatial direction of a media stream.

(57) ABSTRACT

An emergency radio communication system utilizes radios with headset, headphones, earphones and/or custom audio interfaces for a minimum of two audio channels. Each radio receives multiple channel/frequency communications and spatially locates the received communications at predetermined “ear” locations comprising left earphone, right earphone, and both earphones (right and left) according to the source of the received communications. In one specific

Ex[1006] (Hancock) Abstract.

tone. As illustrated in FIG. 1, command and control signals 10 are routed to the center acoustic spatial position 12, mobile communications among team members are routed to the left position, and a second police unit 16 is routed to the right. Typically, emergency transmissions would be routed to both ears. By phasing two audio channels, the signals can be rotated to any position in the stereo soundfield though in practice, left, right, and center are more easily discernable.

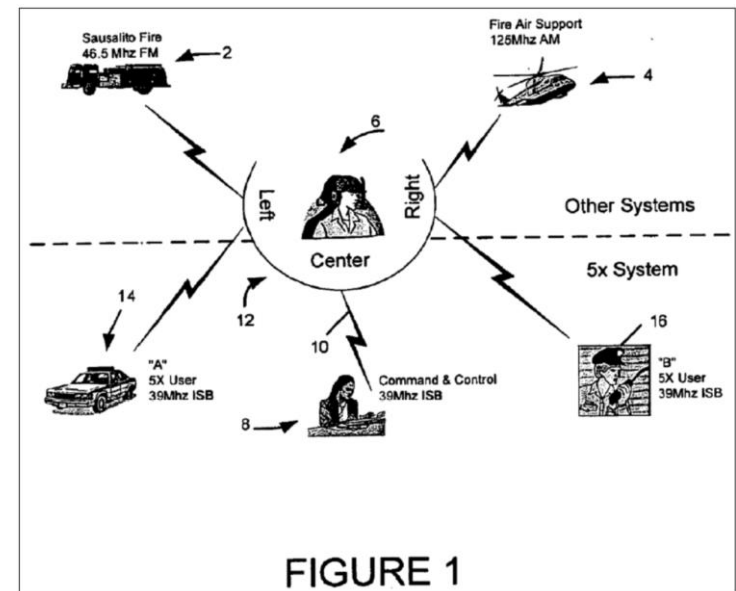


FIGURE 1

Ex[1006] (Hancock) FIG. 1.

Ex[1006] (Hancock) [0045].

Pet. at 55-58; Ex[1002] (Williams), ¶¶228-233, 236-243.

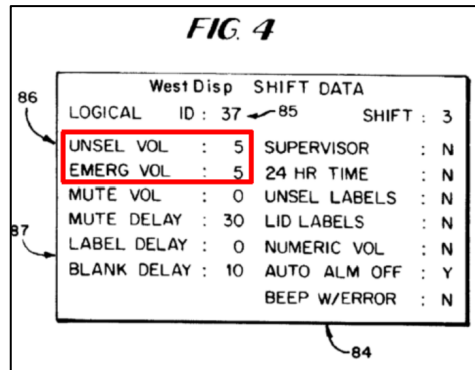
Grounds 3/4 (Grounds 1/2 + Hancock) – Claims 4, 14, and 19

- 4 The method of claim 1, wherein elevating the priority comprises increasing the volume of the media stream receiving the alert and changing a spatial direction for rendering the media stream receiving the alert.

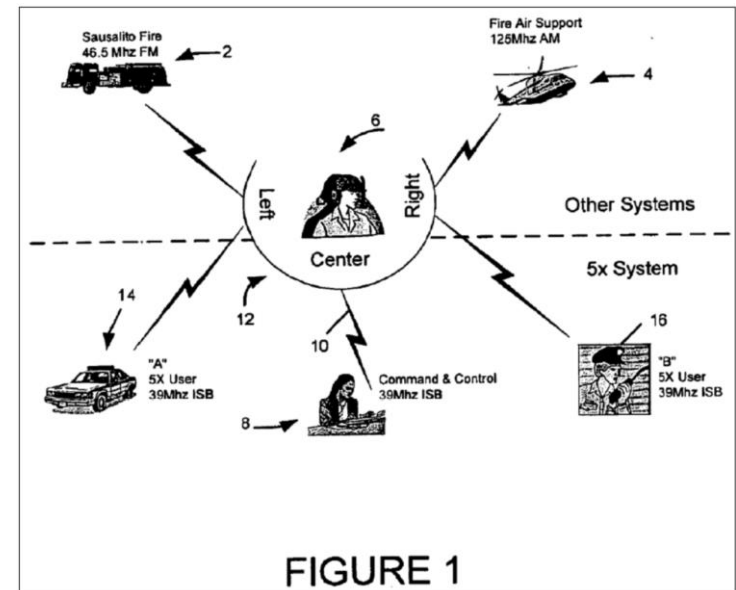
Grounds 1/2 + Hancock disclose changing volume and spatial direction of a media stream.

FIG. 4 illustrates a sample dispatcher profile 84 that can be displayed on the screen. The profile presents the logical id for the dispatcher 85, volume settings 86, delay times 87 and other features of the profile. The volume levels can be set such that emergency calls are broadcast louder from the dispatcher speakers than other calls. The dispatcher profile is displayed by depressing keys on the console keyboard.

Ex[1004] (Downs) 6:47-54.



Ex[1002] (Williams) ¶ 167.



Ex[1006] (Hancock) FIG. 1.

Pet. at 57-58; Ex[1002] (Williams), ¶¶ 234-235, 241-243.

GROUNDS 5 AND 6 – GROUNDS 1 AND 2 + REICH 3.4

RENDERS OBVIOUS CLAIMS 7 AND 10

Grounds 3/4 (Grounds 1/2 + Reich) – Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in carrying out the combination.

250. Implementing Reich's lowered non-priority communication volumes in the Downs dispatch console would have been a simple, predictable combination, which a POSITA would have reasonably expected to succeed. Downs and Reich are in the same field of art (e.g., multi-channel radio communications systems) and both disclose receiving and processing communications from multiple channels and distinguish priority messages from other communications to ensure that a user is able to properly prioritize those emergency transmissions. Ex[1004], 1:39-60, 2:40-50; Ex[1007], [0013], [0041]. Accordingly, a POSITA would have been able to plug Reich's volume decrease and message duplication into the Downs dispatch console.

Ex[1002] (Williams) ¶ 250.

Pet. at 58-63; Ex[1002] (Williams) ¶¶ 244-251.

Grounds 3/4 (Grounds 1/2 + Reich) – Claim 7

- 7 The method of claim 1, wherein elevating the priority includes turning a volume down on media streams not receiving the alert.

Reich discloses turning the volume down on non-priority media streams.

[0036] A user may also set one or more primary PTT groups each time he is monitoring a plurality PTT groups. If the user has selected to monitor a plurality of PTT groups and the user may set some of them as the primary PTT groups. He may also rank these PTT groups in a priority order. For example, a user may select to monitor the PTT group with his family members, the PTT group with friends, and the PTT group with his co-workers, and the user may rank the PTT group of his co-workers with the highest priority followed by the PTT group of his family members, then followed by the PTT group of his friends. The user can then monitor all three groups, but the communication from his co-workers will trump communications from his family members and friends. For example, if the user is listening to conversation from a friend in his PTT friend group and a message from his boss is received, the conversation from his friend will be dropped, muted, or placed in the background in favor of the message from his boss.

Ex[1007] (Reich) [0036].

[0041] Alternatively, if the server is transmitting a non-primary PTT communication to a user and a primary PTT communication directed to the same user is received, the server may lower the volume of the non-primary PTT communication that is being broadcasted to the targeted user and then transmitting the incoming primary PTT communication on the top of the non-primary PTT communication. The user will then hear the primary PTT communication over a fainted non-primary PTT communication.

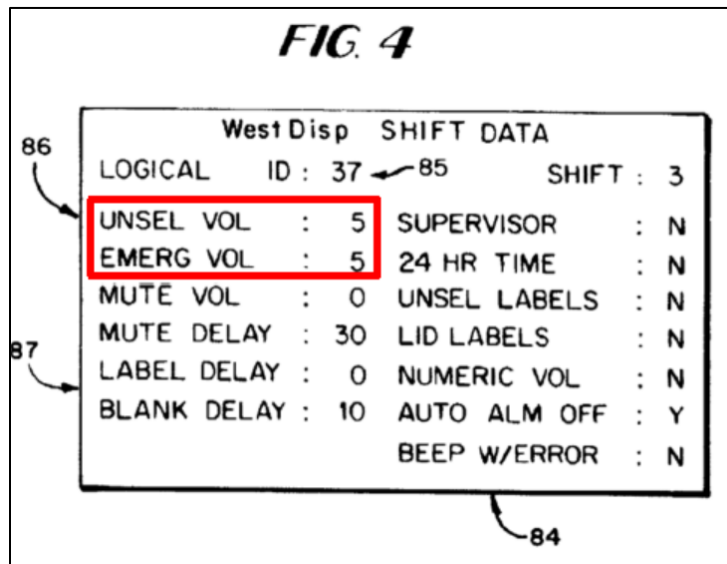
Ex[1007] (Reich) [0041].

Pet. at 62-63; Ex[1002] (Williams), ¶¶252-254.

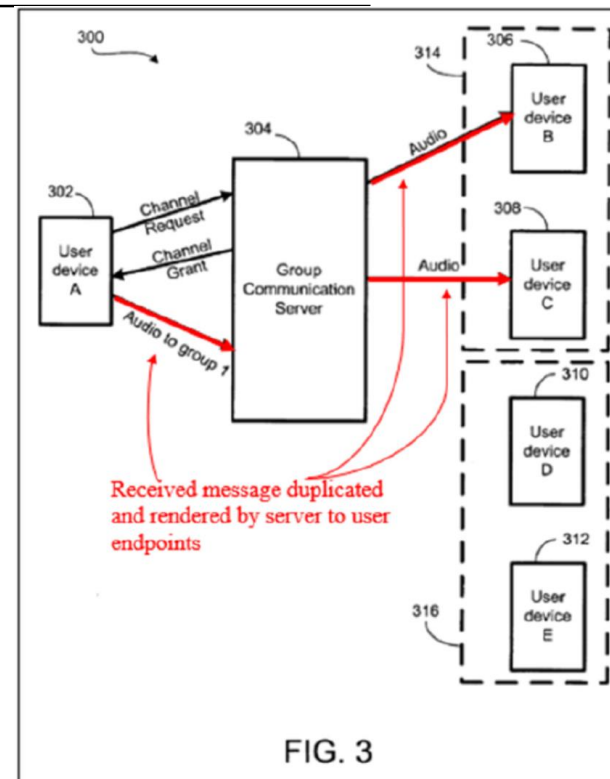
Grounds 3/4 (Grounds 1/2 + Reich) – Claim 10

- 10 The method of claim 1, wherein the alert is duplicated and rendered at a higher volume.

Grounds 1/2 + Reich discloses duplicating messages and increasing the volume of the alert.



Ex[1002] (Williams) ¶ 167.



Ex[1007] (Reich) FIG. 3 (annotated).

Pet. at 63-65; Ex[1002] (Williams), ¶¶ 255-257.

GROUND 7 – KIM 3.5

RENDERS OBVIOUS CLAIMS 1-2, 6-9, 11-12,
15-17, AND 20

Kim operates as claimed in the '664 patent

STA's alleged distinction between message-based and channel-based systems is immaterial.

(57)

ABSTRACT

A method is provided in one example embodiment and includes monitoring media streams associated with channels in a communication environment. The method also includes receiving an alert in one of the media streams and elevating a priority associated with the media stream receiving the alert. Elevating the priority can include increasing the volume of the media stream receiving the alert, changing a spatial direction for rendering the media stream receiving the alert, rendering the media stream receiving the alert to a priority spatial direction, identifying a primary channel and rendering the alert message to the primary channel, turning a volume down on media streams not receiving the alert, or a combination thereof.

Ex[1001] ('664 Patent) Abstract.

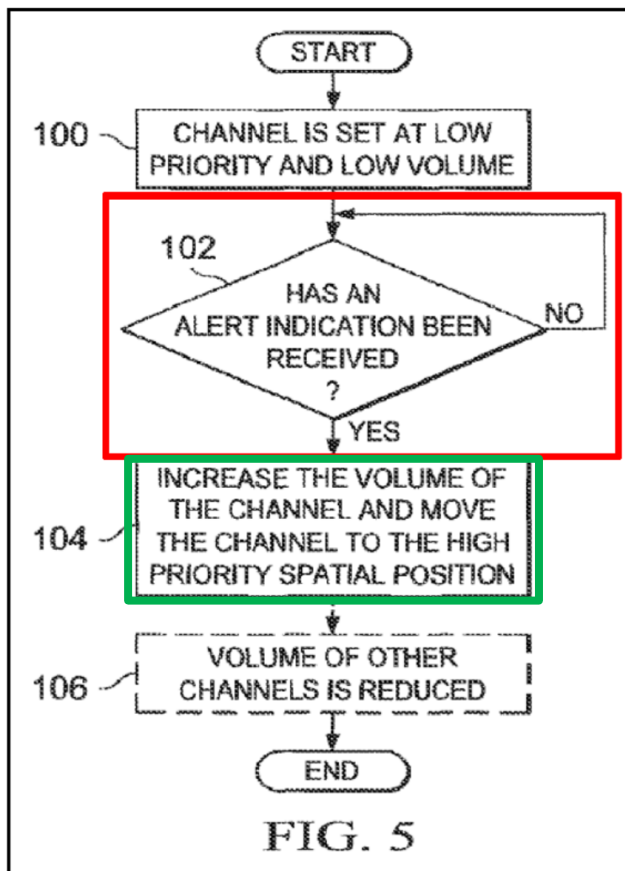
auxiliary data (i.e., emergency-warning broadcast data). If the channel "s" starts broadcasting an emergency-warning broadcast program on the condition that a TV viewer currently views a TV program of the channel "r", the broadcasting station changes the channel code "r" to the other channel code "s" in such a way that it can compulsorily control the TV viewer of the channel r" to view the emergency-warning broadcast program of the channel "s". In other words, the broadcasting station can freely change a current channel code to another channel code if needed.

Ex[1008] (Kim) 30:4-13.

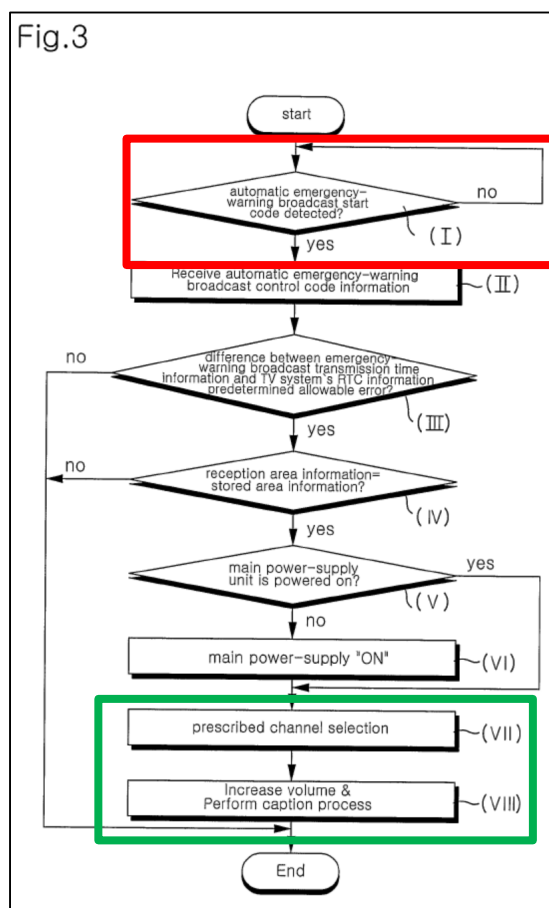
Reply at 22-27.

Kim operates as claimed in the '664 patent

STA's alleged distinction between a hierarchical system and dynamic alert identification is immaterial.



Ex[1001] ('664 Patent) FIG. 5.



Ex[1008] (Kim) FIG. 3.

Pet. at 69-72; Ex[1002] (Williams), ¶¶268-272; Reply at 22-27.

1[Pre] A method, comprising: 11[pre] Non-transitory readable media that includes code for execution and when executed by a processor operable to perform operations comprising: 16[pre] An apparatus comprising:

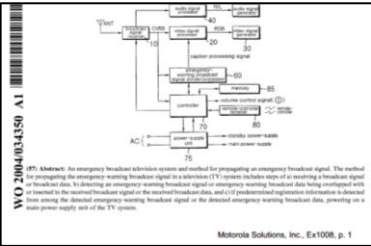
1[Pre] A method, comprising: 11[pre] Non-transitory readable media that includes code for execution and when executed by a processor operable to perform operations comprising: 16[pre] An apparatus comprising:

1[Pre] A method, comprising: 11[pre] Non-transitory readable media that includes code for execution and when executed by a processor operable to perform operations comprising: 16[pre] An apparatus comprising:

Kim discloses a “METHOD FOR NOTIFYING A DISASTER SITUATION” via a television set.



(54) Title: TELEVISION SET AND METHOD FOR NOTIFYING A DISASTER SITUATION



Ex[1008] (Kim) Cover.

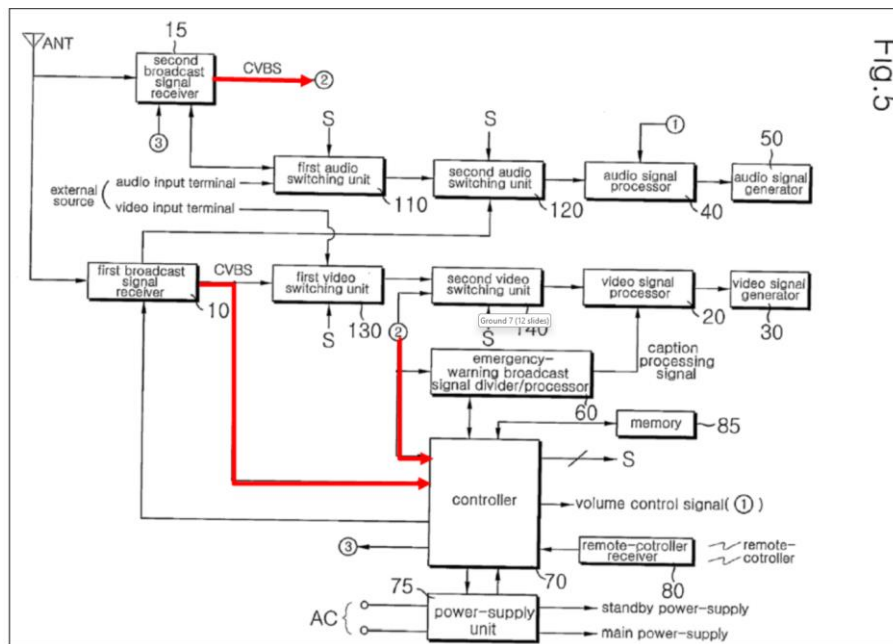
Ground 7 (Kim) – Claims 1, 11, and 16, Element 1[a]

1/11/16[a] monitoring media streams associated with channels in a communication environment;

Kim discloses two broadcast signal receivers used for monitoring individual channels

auxiliary data (i.e., emergency-warning broadcast data). If the channel "s" starts broadcasting an emergency-warning broadcast program on the condition that a TV viewer currently views a TV program of the channel "r", the broadcasting station changes the channel code "r" to the other channel code "s" in such a way that it can compulsorily control the TV viewer of the channel r" to view the emergency-warning broadcast program of the channel "s". In other words, the broadcasting station can freely change a current channel code to another channel code if needed.

Ex[1008] (Kim) 30:4-13.



Ex[1002] (Williams) 262.

Pet. at 66-68, 77-79; Ex[1002] (Williams), ¶¶ 261-267, 295-296, 299-300; Reply at 17.

Ground 7 (Kim) – Claims 1, 11, and 16, Element 1[b]

1/11/16[b] receiving an alert in one of the media streams; and

Kim discloses receiving an emergency-warning broadcast start code in one of the broadcast signals

Fig. 1

control code	TV automatic emergency-warning broadcast start		test code		TV automatic emergency-warning broadcast transmission time		TV automatic emergency-warning broadcast duration		The number of TV automatic emergency-warning broadcast reception areas		TV automatic emergency-warning broadcast reception area 1	
	Hex	ID37			year/month/day/hour/minute	year/month/day/hour/minute	xx	xx	xx	xx	xx/xx/xx/xx	xx/xx/xx/xx
The number of bytes	2	2	1	1	5	5	1	1	1	1	4	4

TV automatic emergency-warning broadcast reception area 2		TV automatic emergency-warning broadcast reception area Nt	TV automatic emergency-warning broadcast reception group	TV automatic emergency-warning broadcast caption start	TV automatic emergency-warning broadcast caption data	TV automatic emergency-warning broadcast caption termination	TV automatic emergency-warning broadcast termination
xx/xx/xx/xx	xx/xx/xx/xx	xx/xx/xx/xx	xx	xx	ID39	ID39	text
4	4	4	1	1	2	2	2

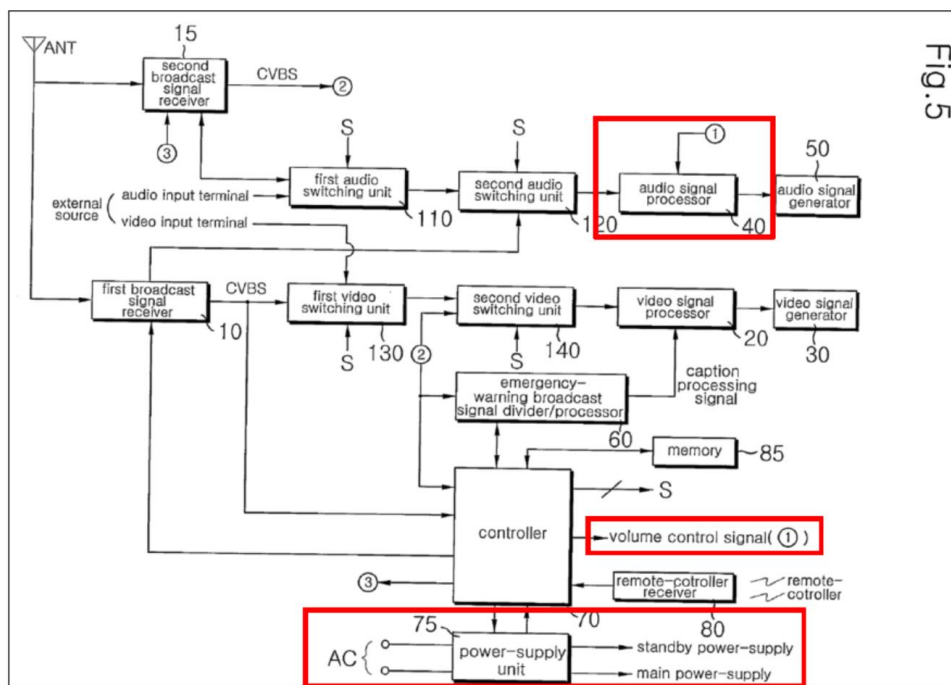
Pet. at 68-69, 77-79; Ex[1002] (Williams), ¶¶ 265-267, 295-296, 299-300; Reply at 17.

Ex[1008] (Kim) FIG. 1.

Ground 7 (Kim) – Claims 1, 11, and 16, Element 1[c]

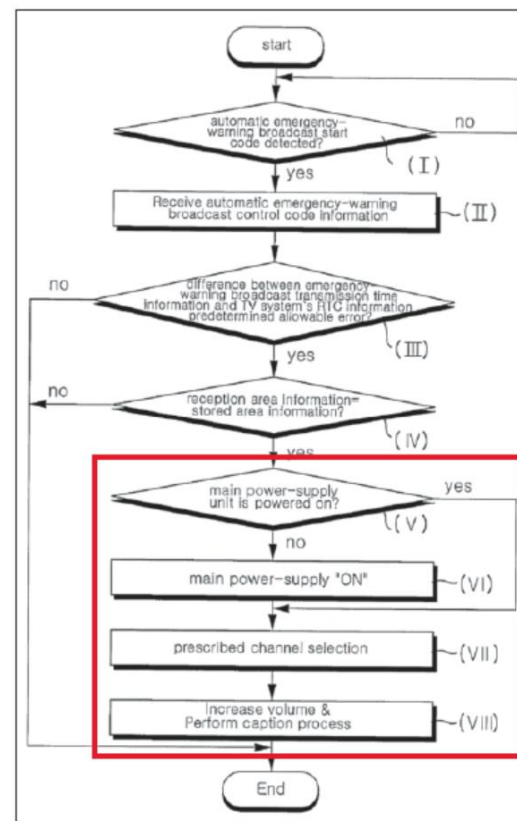
1/11/16[c] elevating a priority associated with the media stream receiving the alert,

Kim discloses elevating a priority associated with the broadcast emergency by changing the channel and/or increasing its volume.



Ex[1002] (Williams) ¶ 268.

Pet. at 69-72, 77-79; Ex[1002] (Williams), ¶¶ 268-272, 295-296, 299-300; Reply at 18-19.



Ex[1002] (Williams) ¶ 270.

Ground 7 (Kim) – Claims 1, 11, and 16, Element 1[c]

1/11/16[c] elevating a priority associated with the media stream receiving the alert,

Reacting to an alert message by adjusting a media stream is equivalent to elevating a priority by adjusting a media stream.

A method is provided in one example embodiment and includes monitoring a plurality of channels provisioned for an endpoint. The method also includes reacting to an alert message by adjusting one of the channels for the endpoint. The adjustment is a selected one of increasing a volume associated with the channel receiving the alert message, or changing a spatial direction from which the alert message and an associated media stream are conveyed to the endpoint. In other embodiments, the adjustment provisions the alert message from a left ear to a right ear of an end user of the endpoint. In still other embodiments, the adjustment includes determining which is a primary channel of the channels and provisioning the alert message to the primary channel of the endpoint. The

Ex[1001] ('664 Patent) 2:11-23.

In other scenarios, management center 38 is monitoring all of the received media streams, where it can detect that media should be rendered to an active channel whose volume was set below a given threshold, and then assumes that the alert may have to be duplicated or a volume adjustment should be made. One reaction to this scenario would be to increase the volume of the channel where the tone is played and relatively decrease the volume of chatter on other channels. Please note

Ex[1001] ('664 Patent) 6:6-13.

At step 106, the volume of other channels is reduced in this example. Note also that the system is designed to check to see if multiple alerts were received at the same time. When this occurs, the system may delay one of the alert tones (but not the other actions, e.g., volume increase and move to high priority spatial position) to ensure that the user is made aware that multiple alerts for multiple events were sent. Any suitable combination of these response reactions are certainly within the broad scope of the present invention.

Ex[1001] ('664 Patent) 8:6-14.

Pet. at 69-72, 77-79; Ex[1002] (Williams), ¶¶ 268-272, 295-296, 299-300; Reply at 18-19.

Ground 7 (Kim) – Claims 1, 11, and 16, Element 1[c]

1/11/16[c] elevating a priority associated with the media stream receiving the alert,

The Board recognized that PO admitted Kim’s actions meet the claim language.

We are not persuaded by Patent Owner’s arguments. That an emergency broadcast arguably has already been prioritized in Kim by the time the TV is turned on, its channel is changed, or its volume is increased, does not negate that such actions elevate a priority associated with the broadcast emergency. Indeed, some of the actions described in Kim — namely, increasing the volume and changing the channel—are identical to those that Patent Owner concedes meet the claim language. *See* Prelim. Resp. 2 (describing the claimed invention and stating that limitation [c], as well as limitation [c’], are met by “increasing the volume of the media stream . . . or rendering it to a primary channel”).

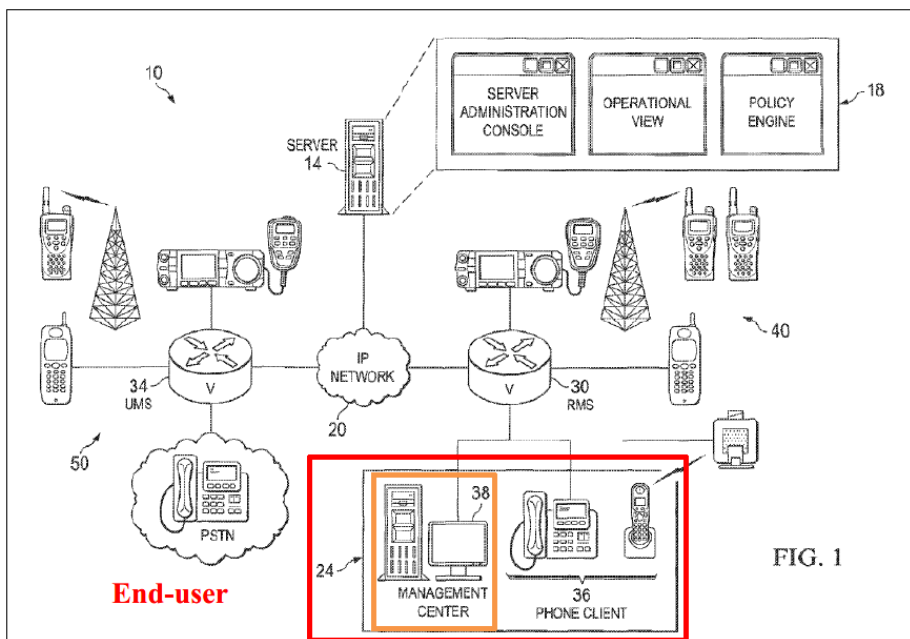
Paper 12, 18-19.

Paper 12, 18-19; Paper 8, 2; Reply at 18-19.

Ground 7 (Kim) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

STA's argument that the adjustment must be made before the media stream reaches the endpoint is incorrect.



Ex[1001] ('664 Patent), FIG. 1 (annotated).

invention. In a general sense, elements 40 and 50 are examples of field equipment, while element 24 is an example for end-user equipment, which resides in the control center. These devices (referred to as 'endpoint' as used herein in this document) may include VHF radios, UHF radios, PSTN telephones, IP phones, push-to-talk telephones, cellular telephones, laptops, desktop computers, personal digital assistants (PDAs), or any other suitable end-user device capable of exchanging audio or other data in the architecture. Before

Ex[1001] ('664 Patent), 2:50-58.

Thus, management center 38 can promptly identify an event alert and coordinate a suitable response autonomously, or in conjunction with a server that would assist in provisioning the appropriate channels.

Ex[1001] ('664 Patent), 4:6-9.

Ground 7 (Kim) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

Dr. Shaffer agrees that Management Center 38 is an endpoint dispatch console and adjusts the media stream.

Q Just to clarify, so Claim 1 of the '664 Patent covers this example in which at least the volume is increased for the dispatcher sitting at Management Center 38, correct?

A Increase, yes.

Q Okay.

Ex[1042] (Shaffer Dep.) 114:22-115:4.

Q Understood. What is the endpoint in this example on Column 3, Lines 56 through 65?

A Well, the endpoints are usually what we discussed before. So if we're talking about a dispatcher, it's basically they dispatch stations at things like what is depicted here in Channel 38, I think. What is depicted in channel -- in Figure 2.

Ex[1042] (Shaffer Dep.) 113:8-16.

Ground 7 (Kim) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

Kim discloses an endpoint that automatically adjusts how the media stream is provisioned.

auxiliary data (i.e., emergency-warning broadcast data). If the channel "s" starts broadcasting an emergency-warning broadcast program on the condition that a TV viewer currently views a TV program of the channel "r", the broadcasting station changes the channel code "r" to the other channel code "s" in such a way that it can compulsorily control the TV viewer of the channel r" to view the emergency-warning broadcast program of the channel "s". In other words, the broadcasting station can freely change a current channel code to another channel code if needed.

Ex[1008] (Kim) 30:4-13.

Pet. at 69-72; Ex[1002] (Williams), ¶¶ 268-272; Reply at 20-22.

Ground 7 (Kim) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

STA argues for the first time in its sur-reply that element 1[c'] “corresponds to separate embodiments disclosed in the specification of the’664 patent.”

The difference in claim language of Claim 1 and Claims 11 and 16 corresponds to separate embodiments disclosed in the specification of the’664 patent. A first embodiment relates to Claim 1 and specifies that adjustments to media streams are made for separate, downstream endpoint devices. A second embodiment, highlighted by Petitioner, relates to Claims 1, 11, and 16 and specifies that adjustments to media streams may be internally for the device that received the alert.

Sur-Reply at 16.

Pet. at 69-72; Ex[1002] (Williams), ¶¶268-272; Reply at 20-22.

Ground 7 (Kim) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

STA admits that claim 1 still relates to the identified embodiment.

The difference in claim language of Claim 1 and Claims 11 and 16 corresponds to separate embodiments disclosed in the specification of the '664 patent. A first embodiment relates to Claim 1 and specifies that adjustments to media streams are made for separate, downstream endpoint devices. A second embodiment, highlighted by Petitioner, relates to Claims 1, 11, and 16 and specifies that adjustments to media streams may be internally for the device that received the alert.

Sur-Reply at 16.

Sur-Reply at 15-20.

Ground 7 (Kim) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

Dr. Shaffer agrees that components such as a screen and speakers, are endpoints.

A Yeah, so 24 includes two things, correct? It includes, for example, a server, the management center, okay. So the server itself, I would not call it end point, okay. And the end point is the screen, maybe, that the user listen -- is using. The end point may be a speaker or the microphone that the user is using. Servers usually would not be called end points.

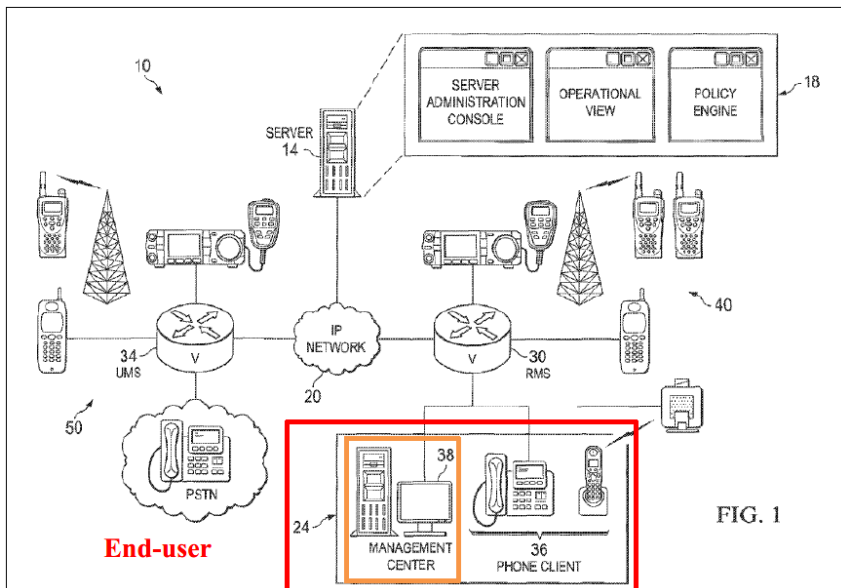
Ex[1042] (Shaffer Dep.) 75:1-9.

Pet. at 69-72; Ex[1002] (Williams), ¶¶268-272; Reply at 20-22.

Ground 7 (Kim) – Claim 1, Element 1[c']

1[c'] such that an adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.

Even under STA's new interpretation, claim 1 does not preclude the device receiving the alert from making the adjustment and Dr. Shaffer agrees.



Ex[1001] ('664 Patent), FIG. 1 (annotated).

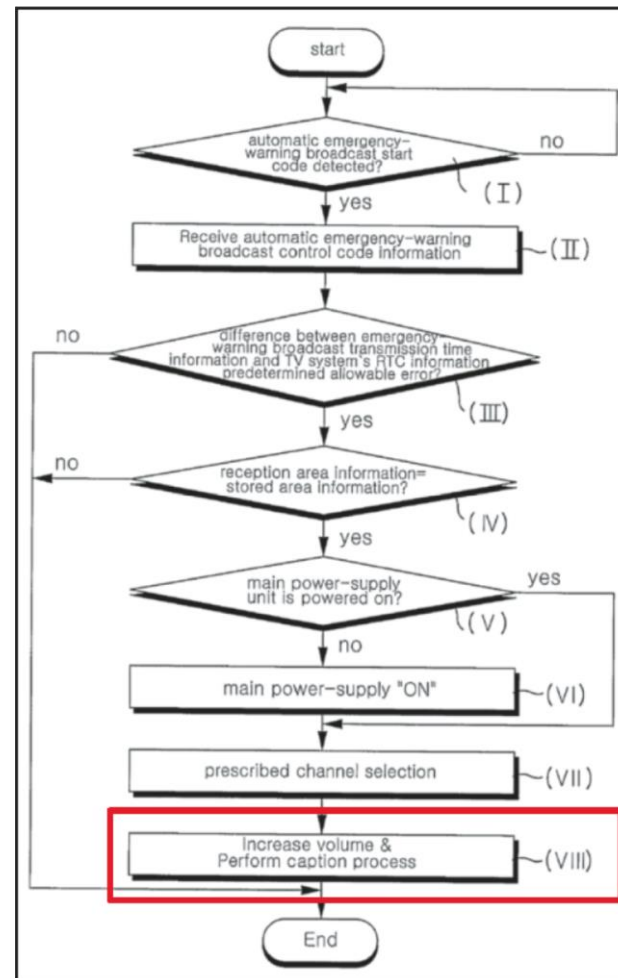
A Yeah, so 24 includes two things, correct? It includes, for example, a server, the management center, okay. So the server itself, I would not call it end point, okay. And the end point is the screen, maybe, that the user listen -- is using. The end point may be a speaker or the microphone that the user is using. Servers usually would not be called end points.

Ex[1042] (Shaffer Dep.) 75:1-9.

Ground 7 (Kim) – Claims 2, 12, and 17

- 2 The method of claim 1, wherein elevating the priority comprises increasing the volume of the media stream receiving the alert.

Kim discloses increasing volume in response to receiving an emergency broadcast.



Pet. at 72-73, 79-80; Ex[1002] (Williams), ¶¶273-277, 297-298, 301.

Ground 7 (Kim) – Claims 6, 15, and 20

- 6 The method of claim 1, wherein elevating the priority includes identifying a primary channel and rendering the alert message to the primary channel.

Kim discloses automatically rendering the broadcast on the primary channel on the TV.

auxiliary data (i.e., emergency-warning broadcast data). If the channel "s" starts broadcasting an emergency-warning broadcast program on the condition that a TV viewer currently views a TV program of the channel "r", the broadcasting station changes the channel code "r" to the other channel code "s" in such a way that it can compulsorily control the TV viewer of the channel "r" to view the emergency-warning broadcast program of the channel "s". In other words, the broadcasting station can freely change a current channel code to another channel code if needed.

Ex[1008] (Kim) 30:4-13.

Pet. at 73-74, 79-80; Ex[1002] (Williams), ¶¶278-281, 297-298, 301.

Ground 7 (Kim) – Claim 7

- 7 The method of claim 1, wherein elevating the priority includes turning a volume down on media streams not receiving the alert.

Kim renders obvious turning the volume of channels not receiving an alert to zero.

283. Kim changes “the channel code ‘r’ to the other channel code ‘s’...to view the emergency-warning broadcast program.” Ex[1008], 30:4-13; *supra* §IX.F.3. It would have been understood that changing from channel ‘r’ to ‘s’ would effectively turn the volume of channel ‘r’ to zero, thus rendering obvious this limitation.

Ex[1002] (Williams) ¶283.

Ground 7 (Kim) – Claim 8

- 8 The method of claim 1, wherein the alert is received in a header of a packet of the media stream.

Kim discloses an “emergency-warning broadcast signal” broken into its “predetermined units (i.e., packets)” with the first (header) packet carrying the emergency-warning broadcast start code.

FIG. 1

control code	TV automatic emergency-warning broadcast start		test code		TV automatic emergency-warning broadcast transmission time		TV automatic emergency-warning broadcast duration		The number of TV automatic emergency-warning broadcast reception areas		TV automatic emergency-warning broadcast reception area 1	
Hex	ID37	ID37			year/month/day/hour/minute	year/month/day/hour/minute	xx	xx	xx	xx	xx/xx/xx/xx	xx/xx/xx/xx
The number of bytes	2	2	1	1	5	5	1	1	1	1	4	4

TV automatic emergency-warning broadcast reception area 2		TV automatic emergency-warning broadcast reception area Nt	TV automatic emergency-warning broadcast reception group	TV automatic emergency-warning broadcast caption start	TV automatic emergency-warning broadcast caption data	TV automatic emergency-warning broadcast caption termination	TV automatic emergency-warning broadcast termination
xx/xx/xx/xx	xx/xx/xx/xx	xx/xx/xx/xx	xx	xx	ID39	ID39	text
4	4	4	1	1	2	2	2

Ex[1008] (Kim) FIG. 1.

Pet. at 75-76; Ex[1002] (Williams), ¶¶285-289; Ex[1008] (Kim), 3:21-4:3, 7:7-9, 29:20-21.

Ground 7 (Kim) – Claim 9

- 9 The method of claim 1, wherein the alert is received in a control packet of the media stream.

Kim discloses that “emergency-warning broadcast signal or data to be transferred from the broadcasting station is composed of TV system control codes”

FIG. 1

control code	TV automatic emergency-warning broadcast start		test code		TV automatic emergency-warning broadcast transmission time		TV automatic emergency-warning broadcast duration		The number of TV automatic emergency-warning broadcast reception areas		TV automatic emergency-warning broadcast reception area 1	
Hex	ID37	ID37			year/month/day/hour/minute	year/month/day/hour/minute	xx	xx	xx	xx	xx/xx/xx/xx	xx/xx/xx/xx
The number of bytes	2	2	1	1	5	5	1	1	1	1	4	4

TV automatic emergency-warning broadcast reception area 2		TV automatic emergency-warning broadcast reception area Nt	TV automatic emergency-warning broadcast reception group	TV automatic emergency-warning broadcast caption start	TV automatic emergency-warning broadcast caption data	TV automatic emergency-warning broadcast caption termination	TV automatic emergency-warning broadcast termination
xx/xx/xx/xx	xx/xx/xx/xx	xx/xx/xx/xx	xx	xx	ID39	ID39	text
4	4	4	1	1	2	2	2

Ex[1008] (Kim) FIG. 1.

Pet. at 76-77; Ex[1002] (Williams), ¶¶290-294; Ex[1008] (Kim), 6:22-7:5.

Ground 7 (Kim) – Claim 9

- 9 The method of claim 1, wherein the alert is received in a control packet of the media stream.

Dr. Shaffer agrees that the '664 Patent considers transmitting an alert in a packet on the control channel.

A No. I think I discussed very clearly that the alert tone can be a signal, like a gunshot, that the system is programmed to basically analyze the media. And I think it can be from the control channel as a message, so.

Q It can also be carried in a control packet, right?

A Control packet is good, yeah.

Ex[1042] (Shaffer Dep.) 101:15-102:1.

Reply at 3-5.

Ground 7 (Kim) – Claims 11 and 16

- 11 Non-transitory readable media that includes code for execution and when executed by a processor operable to perform operations comprising...
- 16 An apparatus, comprising: a memory element; a processor; and a management element stored in the memory element and configured to interface with the processor such that the apparatus is configured for...

Kim discloses memory, processor, management elements, and code for executing the emergency-warning broadcast system.

The controller 70 controls overall operations of the TV system on the basis of control program data stored in a memory 85. For example, if specific information previously

Ex[1008] (Kim) 11:25-12:2.

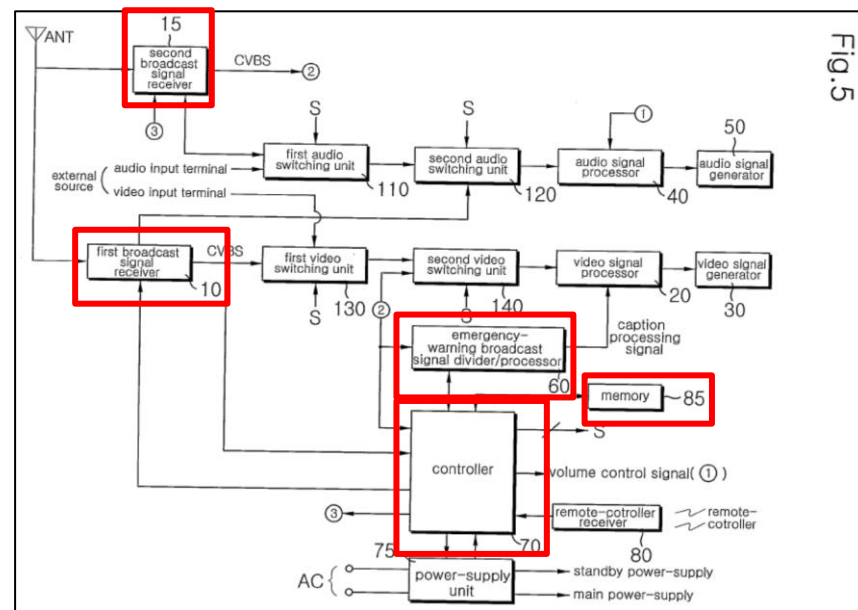


Fig. 5

Pet. at 77-79; Ex[1002] (Williams), ¶¶295-296, 299-300.

Ex[1008] (Kim) Fig. 5.

GROUND 8 – GROUND 7 + ISHIBASHI

3.6

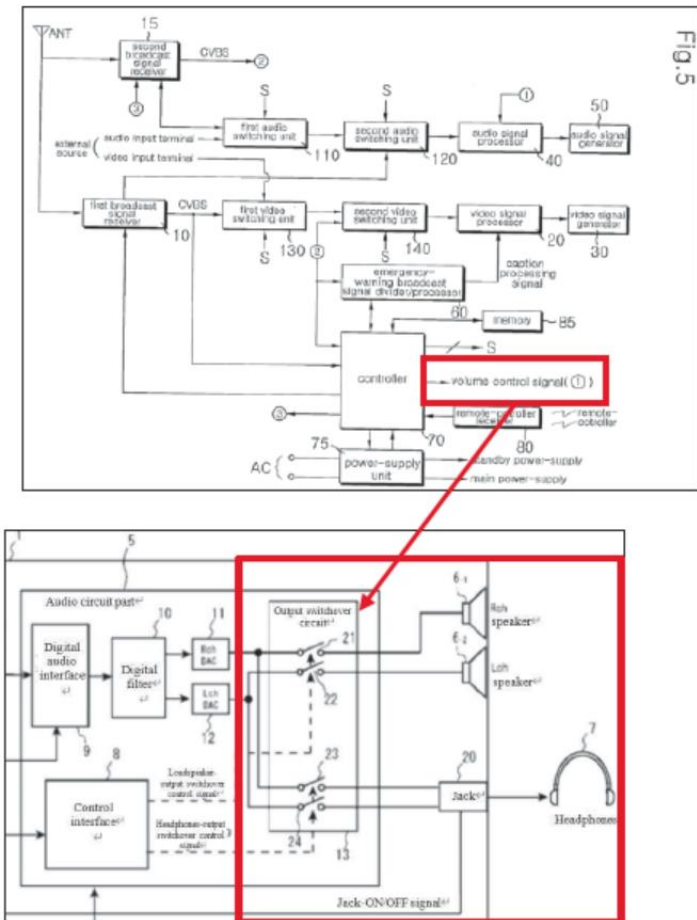
RENDERS OBVIOUS CLAIMS 3-5, 13-14,
AND 18-19

Ground 8 (Ground 7 + Ishibashi) – Motivation to Combine

A POSITA would have been motivated to combine Ground 7 with Ishibashi.

304. Kim discloses that a goal of emergency warning broadcast systems is to ensure that the viewer receives the emergency warning information. Ex[1008], 3:13-19. In this same vein, Ishibashi discloses that problems can arise, for example, “when the audience has forgotten to unplug their headphones or earphones from the jack,” thus potentially preventing the viewer from hearing the audio portion of the warning. Ex[1009], [0005]. The system in Ishibashi solves this problem of headphones remaining plugged into the device by use of an “output-switchover

Ex[1002] (Williams) ¶ 304.



Pet. at 80-83; Ex[1002] (Williams) ¶¶ 302-307.

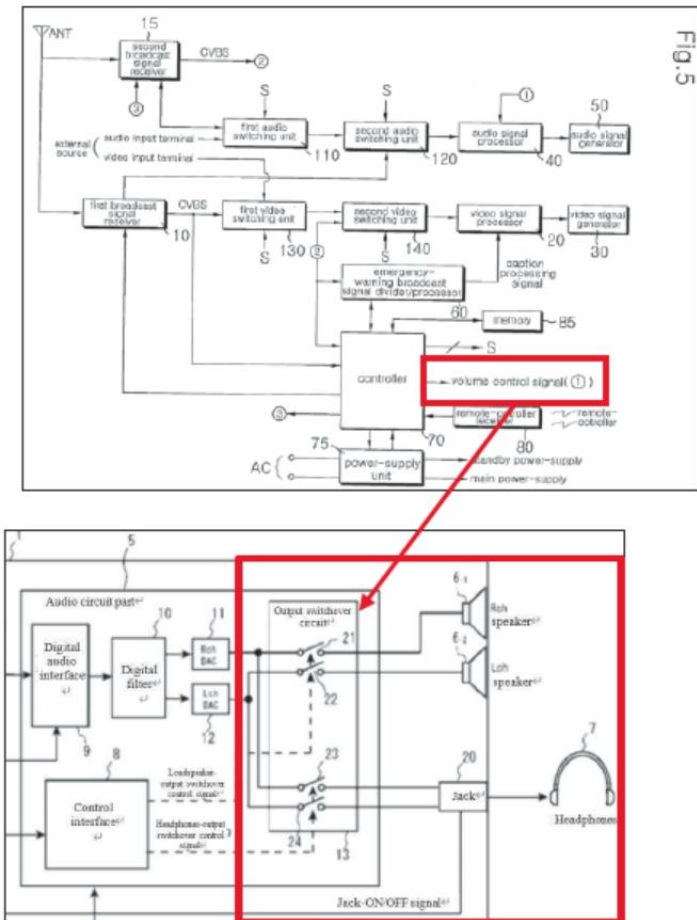
Ex[1002] (Williams) ¶ 305

Ground 8 (Ground 7 + Ishibashi) – Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in carrying out the combination.

306. Additionally, a POSITA would have understood that Ishibashi's audio output-switchover circuit could be implemented as another option for Kim's controller unit. This would have been a simple, predictable combination reasonably expected to succeed because they are both emergency warning notification systems focused primarily on televisions. Further, this combination would have been within the abilities of a POSITA to do and would have provided the benefit of alerting the viewer even if they left their headphones plugged in.

Ex[1002] (Williams) ¶ 306.

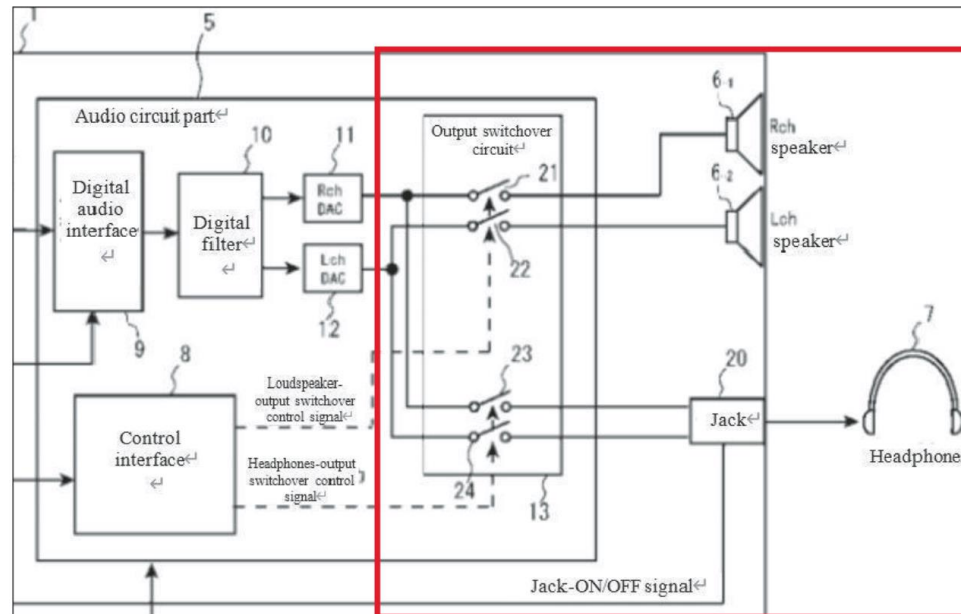


Pet. at 80-83; Ex[1002] (Williams) ¶¶ 302-307.

Ground 8 (Ground 7 + Ishibashi) – Claims 3, 5, 13, and 18

- 3 The method of claim 1, wherein elevating the priority comprises changing a spatial direction for rendering the media stream receiving the alert.
- 5 The method of claim 1, wherein elevating the priority comprises rendering the media stream receiving the alert to a priority spatial direction.

Ishibashi discloses changing the audio output from headphones to speakers.



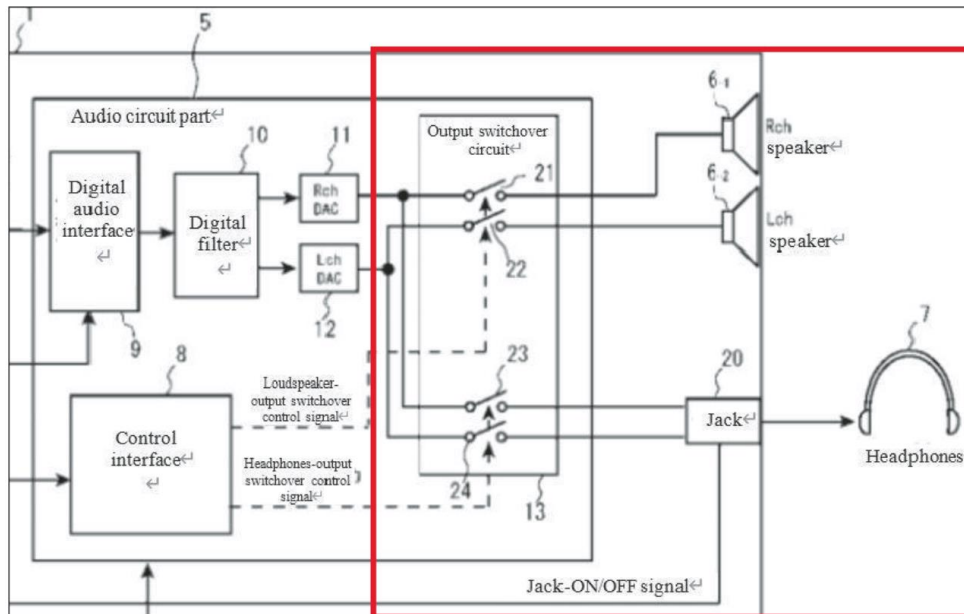
Ex[1002] (Williams) ¶308.

Pet. at 83-86; Ex[1002] (Williams), ¶¶308-312, 315-323.

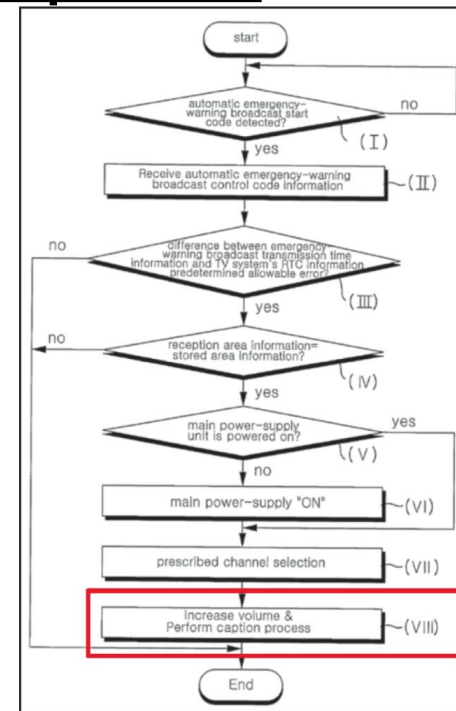
Ground 8 (Ground 7 + Ishibashi) – Claims 4, 14, and 19

- 4 The method of claim 1, wherein elevating the priority comprises increasing the volume of the media stream receiving the alert and changing a spatial direction for rendering the media stream receiving the alert.

Ground 7 + Ishibashi discloses increasing the volume of the emergency warning broadcast signal and changing the audio output from headphones to speakers.



Ex[1002] (Williams) ¶308.



Ex[1008] (Kim), FIG. 3.

Pet. at 85-86, 48; Ex[1002] (Williams), ¶¶ 313-314, 321-323.

GROUND 9 – GROUND 7 + GOSS 3.7

RENDERS OBVIOUS CLAIM 10

Ground 9 (Ground 7 + Goss) – Motivation to Combine

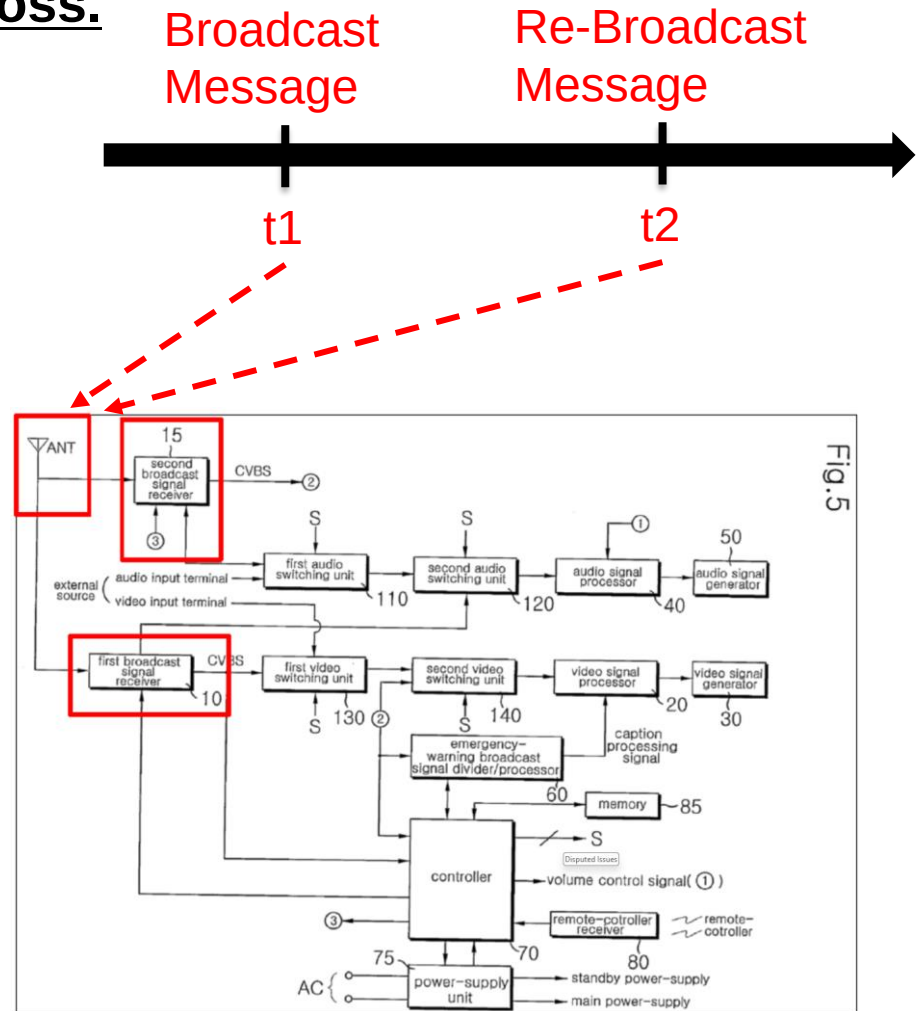
A POSITA would have been motivated to combine Ground 7 with Goss.

327. Kim recognizes that a goal of emergency warning broadcast systems is ensuring that the viewer receives the emergency warning information Ex[1008], 3:13-19. Goss solves the problems that can arise when, for example, users do “not receive the message when first transmitted.” Ex[1010], 6:6-7. For example, Goss prevents missed alerts by providing that “[b]roadcast announcement messages may be retransmitted from time to time.” *Id.*, 6:4-6. Additionally, Goss discloses the potential to “transmit one or more broadcast messages on an occasional basis.” *Id.*, 7:55-56. Thus, “alerting users to an urgent situation.” *Id.*, 7:57.

328. Therefore, a POSITA would have been motivated to improve the likelihood that an emergency warning broadcast is received by the viewer by implementing Goss’s retransmissions in Kim’s emergency warning system.

Ex[1002] (Williams) ¶¶ 327-328.

Pet. at 86-88; Ex[1002] (Williams) ¶¶ 324-330.



Ex[1002] (Williams) ¶ 305

Ground 9 (Ground 7 + Goss) – Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in carrying out the combination.

329. Implementing Goss's broadcast retransmissions as another option to be received by Kim's antenna and broadcast signal receivers would have been an understandable, simple, predictable combination that a POSITA would reasonably expect to succeed. Because Kim and Goss describe similar receiving systems and the technique is already being used in Goss's receivers, this would have been easy for a POSITA to do and this combination would have provided numerous obvious benefits.

Ex[1002] (Williams) ¶ 329.

Pet. at 86-88; Ex[1002] (Williams) ¶¶ 324-330.

Ground 9 (Ground 7 + Goss) – Claim 10

10 The method of claim 1, wherein the alert is duplicated and rendered at a higher volume.

Goss discloses

Some users may not receive the broadcast announcement message when it is first sent. For example, a user may have turned off the WCD, or may have been located outside the coverage area of the wireless system 10. Broadcast announcement messages may be retransmitted from time to time to alert users who did not receive the message when first transmitted. Preferably, the WCD compares one or more parameters of each incoming broadcast announcement message with stored information from parameters of previously received broadcast announcement messages and alerts the user of changes in accordance with the priority of the change. If the parameters have not changed, the WCD may inhibit the alert. Alternatively, the WCD may compare the newly received message to a list of previously received broadcast announcement messages to determine whether the user has previously been alerted to the availability of the associated broadcast messages. If so, the WCD may suppress further notification to the user.

Ex[1010] (Goss), 6:1-15.

4. The method of claim 1 wherein said step of transmitting said alert message further comprises repeatedly transmitting an alert message on a periodic basis while said broadcast message is transmitted.

Ex[1010] (Goss), 11:26-29.

Pet. at 88-89; Ex[1002] (Williams), ¶¶331-334.

NEW SUR-REPLY ARGUMENTS 04

PATENT OWNER'S NEW GROUND 1 SUR-REPLY ARGUMENTS

4.1

Ground 1 (Downs + EDACS) – Claims 1, 11, and 16, Element 1[a]

1/11/16[a] monitoring media streams associated with channels in a communication environment;

In its Sur-Reply, PO argues for the first time that EDACS does not disclose monitoring media streams associated with channels in a communication environment.

V.	FOR GROUND 1, THE PETITION FAILS TO DEMONSTRATE THAT <i>DOWN</i> S AND <i>EDACS</i> RENDER ALL CLAIMS OBVIOUS BY A PREPONDERANCE OF THE EVIDENCE	25
A.	<i>EDACS</i> Does Not Disclose or Render Obvious “receiving an alert in one of the media streams”	26
B.	<i>EDACS</i> Does Not Disclose or Render Obvious “elevating a priority associated with the media stream receiving the alert”	31
C.	<i>Downs</i> Also Does Not Disclose or Render Obvious “elevating a priority associated with the media stream receiving the alert”	34
D.	<i>Downs</i> Does Not Disclose or Render Obvious “an adjustment is made to how the media stream is provisioned to an endpoint”	36

Response at i.

THE CHALLENGED GROUNDS

- A. Ground 1: Claims 1-6, 8, 9 and 11-20 are Not Obvious Over Downs-EDACS**
- 1.** EDACS Does not Disclose “Monitoring Media Streams Associated with Channels in a Communication Environment” and then “Receiving an Alert in one of the Media Streams”

Sur-Reply at 7.

Sur-Reply at 3, 7-10; Petitioner's Identification of New Sur-reply Arguments at 1; Response at 25-38.

PATENT OWNER'S NEW GROUND 2 SUR-REPLY ARGUMENTS

4.2

Ground 7 (Kim) – Claims 1, 11, and 16, Element 1[c]

1/11/16[c] elevating a priority associated with the media stream receiving the alert,

In its Sur-Reply, PO argues for the first time that Kim does not render Claim 1 obvious based on claim differentiation between Claim 1 and Claims 11 and 16.

⁹ The arguments throughout this section are also applicable to the elevating limitations found in claims 1, 11, and 16.

The doctrine of claim differentiation states that no two claims in a patent should be interpreted to cover the same thing when the claims have different recitations. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). Claim 1 and Claims 11 and 16 have different recitations. Claim 1 recites that an “adjustment is made to how the media stream is provisioned to an endpoint in the communication environment.” Ex. 1001, Claim 1. Claims 11 and 16 recite “elevating a priority associated with the media stream receiving the alert.” Ex. 1001, Claims 11 and 16.

Response at 49.

Sur-Reply at 16.

Sur-Reply at 15-20; Petitioner's Identification of New Sur-reply Arguments at 2; Response at 48-49.