

Petitioner Motorola Solutions, Inc.'s Presentation for Oral Argument in IPR2023-01292

December 11, 2024

Overview – U.S. Patent No. 7,324,802 ('802 Patent)



(12) **United States Patent**
Jennings

(10) **Patent No.:** US 7,324,802 B2
(45) **Date of Patent:** Jan. 29, 2008

(54) **METHOD AND SYSTEM FOR MANAGING COMMUNICATION IN EMERGENCY COMMUNICATION SYSTEM**

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2005/0215229 A1* 9/2005 Cheng 455/404.1
2005/0233726 A1* 10/2005 Katsube et al. 455/404.1

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(73) Assignee: **Chico 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 113 days.

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(22) Filed: **Jan. 20, 2005**

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(51) **Int. Cl.**
H04M 11/04 (2006.01)

(52) **U.S. Cl.** 455/404.1

(58) **Field of Classification Search** 455/404.1
See application file for complete search history.

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21 Claims, 5 Drawing Sheets



Motorola Solutions, Inc., Ex1001, p. 1

Method and System for Managing Communication In Emergency Communication System

Assumed Priority Date: January 20, 2005

(57)

ABSTRACT

A method and system for managing communication in an emergency communication network is described. The emergency communication network receives a plurality of radio messages from a plurality of channels. The incoming radio messages sometimes overlap in time. Incoming radio messages can be prioritized and played back on the basis of the priority and the time of receipt. In case of overlap of the incoming radio messages in time, the radio message with the highest priority is played first, while the remaining radio messages are stored in a queue. The queue is formed again on the basis of priority. The stored radio messages are played subsequent to the completion of the radio message with the higher priority.

Ex[1001] Abstract.

Ex[1001] Cover, Code (54), (22) (57).

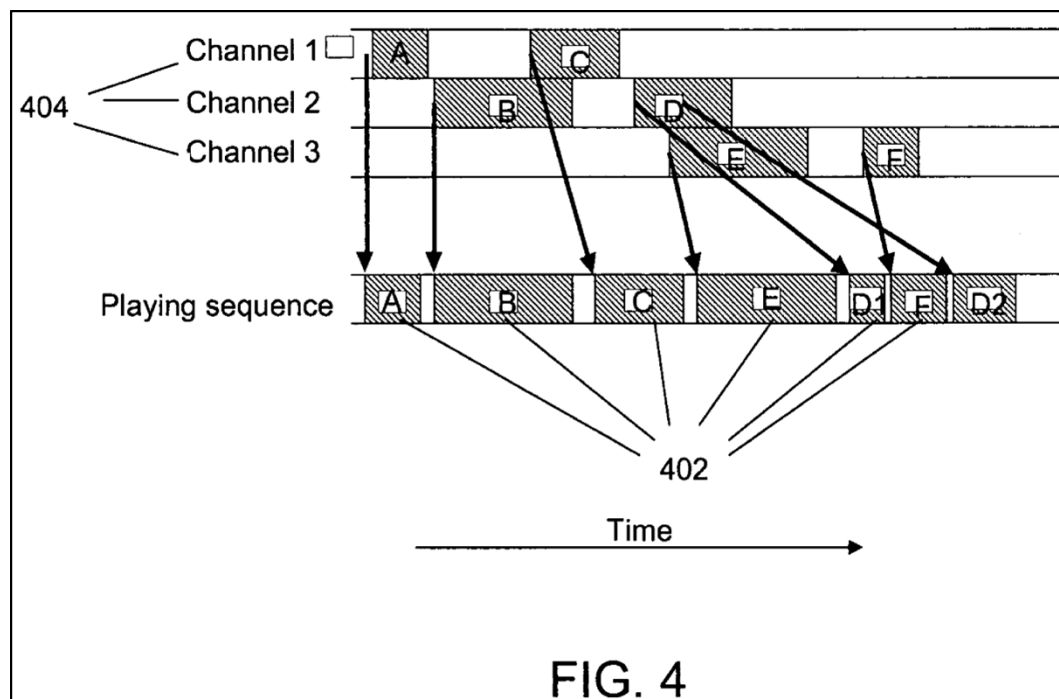
Overview – '802 Patent

Summary: When two messages overlap in time, the higher priority message should be played first, while the other message is stored and played later.

Ex[1002], ¶45

In accordance with an embodiment of the invention, radio message A is played as soon as it is received on channel 1. Thereafter, radio message B is played since it does not overlap in time with radio message A. While radio message B is being played, radio message C is received. After computation and comparison of the priorities of B and C, it is found that the priority of radio message B is higher. Hence, radio message C is stored in the queue. At this point of time, radio message C is the only radio message in the queue. As soon as radio message B is completed, radio message C is played. While radio message C is being played,

Ex[1001], 5:34–44.



Ex[1001] Fig. 4

Overview – '802 Patent

- The Challenged Claims were allowed after applicant amended the independent claims to recite that the first and second messages are received on first and second channels dedicated to receiving messages from first and second entities, respectively.

1. (Currently amended) A method of managing communication in an emergency communication system, the emergency communication system receiving messages from a plurality of channels, the method comprising:

receiving a first message on a first dedicated channel from amongst the plurality of channels at the emergency communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity;

receiving at least one second message on a second dedicated channel being dedicated to receiving messages from a second entity, channels other than the first channel from amongst the plurality of channels at the emergency communication system, the second message overlapping with the first message in time;

Ex[1003], p. 36.

Overview – '802 Patent

Claim 1 of '802 Patent	
1[Pre]	A method of managing communication in a communication system, the communication system receiving messages from a plurality of channels, the method comprising:
1[a]	receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity;
1[b]	receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time;
1[c]	determining one or more priorities for the first message received on the first dedicated channel from the first entity and the second message received on the second dedicated channel from the second entity based on at least one pre-defined parameter;
1[d]	determining which message out of the first message and the second message should be stored and subsequently played based on the second message overlapping with the first message in time and one or more priorities assigned to the first and the second message;
1[e]	playing the message having a higher priority between the first and the second message;
1[f]	storing at least one message having a lower priority between the first and the second message based on the determination; and
1[g]	playing the stored message subsequent to completing playing of the message having higher priority.

Pet. at xi-xii; Ex[1001] 9:43-10:5.

Level of Ordinary Skill in the Art

- Patent Owner does not dispute the Petition's proposed level of ordinary skill in the art:

VI. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art (“POSITA”) as of January 20, 2005, would have had at least a bachelor’s degree in computer science, electrical engineering, or a similar field, and would have had approximately two years industry experience in networking or communication systems. Ex[1002], ¶¶55-58. A person with less or different education but more relevant practical experience, or vice versa, may also meet this standard. *Id.*

Claim Construction – Overview

- In the district court, the parties agreed on an order of steps construction for independent claim 1 (that also applies to claims 18 and 19).
- Patent Owner ***does not challenge*** Petitioner’s means-plus-function constructions for claims 13–17.
- Neither party has proposed express constructions for any term in Claim 1.
- The Board should ***reject*** Patent Owner’s implied constructions of “entity” and “operator.”

Pet. at 3-6; POR at 8-9; Ex[2004] at 15-16; Ex[1034] at 1; Ex[1002], ¶¶59-63.

Claim Construction – Order of Steps Construction

Claim Term/Phrase	Agreed Construction
Order of Steps '802 Patent: Claim 1	The steps of the claim must be performed in the following order: (1) the receiving steps [1A] and [1B] may be performed in any order; (2) the “determining one or more priorities” step [1C] must be performed after the receiving steps [1A] and [1B]; (3) the “determining which message” step [1D] must be performed after the “determining one or more priorities” step [1C]; (4) the “determining which message” step [1D] must be performed before the “playing the message having a higher priority” step [1E] and the “storing at least one message” step [1F]; and (5) the “playing the message having a higher priority” step [1E] and the “storing at least one message” step [1F] may be performed in any order; and (6) the “playing the stored message” step [1G] must be performed after the “storing at least one message” step [1F] and the “playing the message having a higher priority” step [1E].

Ex[2004] at 15-16; Ex[1034] at 1.

Overview – Instituted Grounds

Ground	'802 Patent Claims	Basis for Challenge
1	1–21	Obvious under §103 based on Ohel
2	1–7 and 11–21	Obvious under §103 based on Nigawara
3	3 and 8–10	Obvious under §103 based on Nigawara in view of Doolin

Pet. at 1.

Disputed Issues

Ground 1: Ohel

- Whether Ohel discloses the claimed first and second entities in limitations 1[a] and 1[b]
- Whether Ohel renders claim 5 obvious
- Whether Ohel renders claim 7 obvious
- Whether the queue of limitation 11[f] would have been obvious in view of Ohel
- Whether the Petition shows that Ohel renders limitation 11[h] obvious

Ground 2: Nigawara

- Whether Nigawara's plant sites disclose the claimed first and second entities
- Whether Nigawara discloses limitation 1[d] under the order of steps construction
- Whether Nigawara discloses the claimed "first" and "second" messages
- Whether Nigawara renders claim 5 obvious
- Whether Nigawara renders claim 7 obvious
- Whether the queue of limitation 11[f] would have been obvious in view of Nigawara
- Whether Nigawara renders obvious limitation 11[g]
- Whether the Petition shows that Nigawara renders limitation 11[h] obvious

Ground 1: Claims 1-21 are obvious over Ohel

Overview – Asserted References – Ohel

- U.S. Patent Publication No. 2004/0117859 (“Ohel”) (Ex[1004])
- Ohel describes a **multiple channel data recorder** designed to prevent communication loss when a police officer’s transmission is interrupted and cut off by a police dispatcher’s transmission.
- An example configuration of the recorder includes wireless communications transceivers 2-8 which can be “set to transmit/receive on **different channels** selected by a user.”

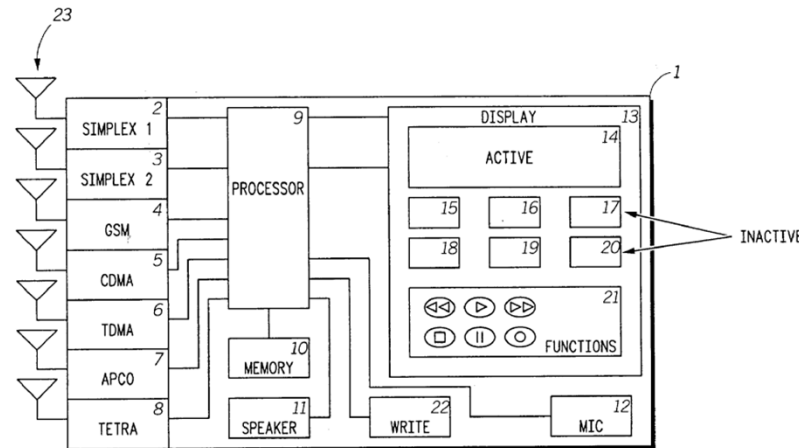


FIG. 2

Pet. at 7-8; Ex[1004] (Ohel), [0002], [0005], [0009], [0035], [0060], FIG. 2; EX [1002], ¶¶99-102.

Overview – Asserted References – Ohel

- Ohel determines which transmissions should be played/recorded based on **priority status** (e.g., “superior user” status).

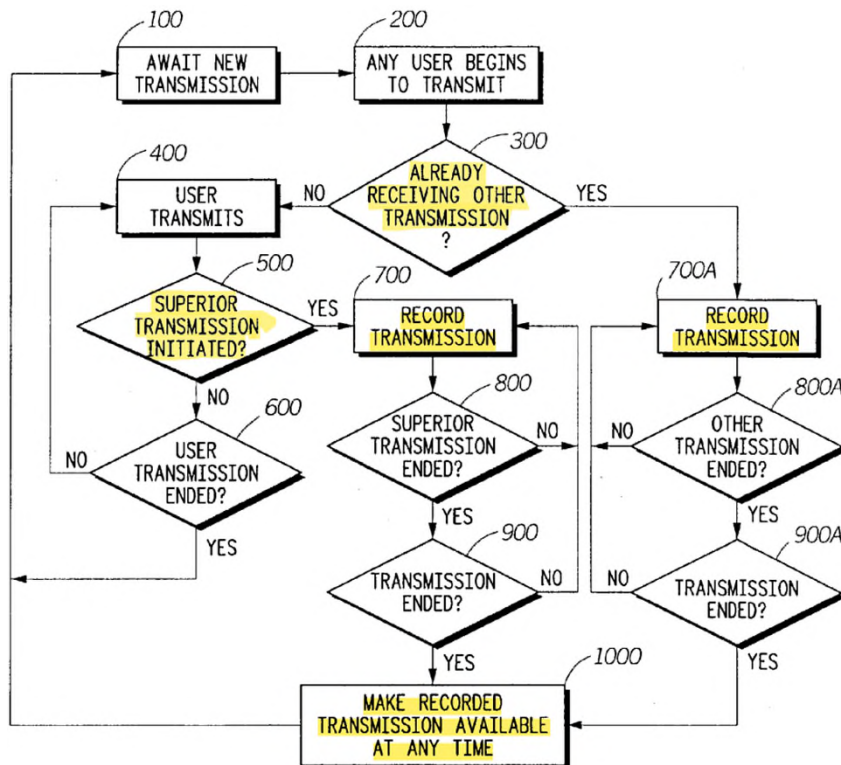


FIG. 1

[0047] It is possible for the user's transmission to be interrupted, for example, by a superior user, such as a dispatcher, who has the ability to suppress any existing transmission between users and, therefore, to transmit over or instead of the currently transmitting user(s). During the

[0048] If, however, the user's communications unit detects a superior user's transmission during the transmission of the user's message, an override process is initiated and begins in step 700. At this point, in one embodiment of the invention, the user's message begins recording so that a recipient can receive and process (decode, hear, view, etc.) the message at a later point in time. In an alternative embodiment of the

[0017] In accordance with yet an added mode of the invention, at least one of the recorded transmissions is played back after the new wireless transmission and/or after the user's transmission has ended. Playback can begin from a starting point of a recorded transmission and/or from a user-selected point of time within a recorded transmission.

Ground 1 (Ohel) – Claim 1, Preamble 1[Pre]

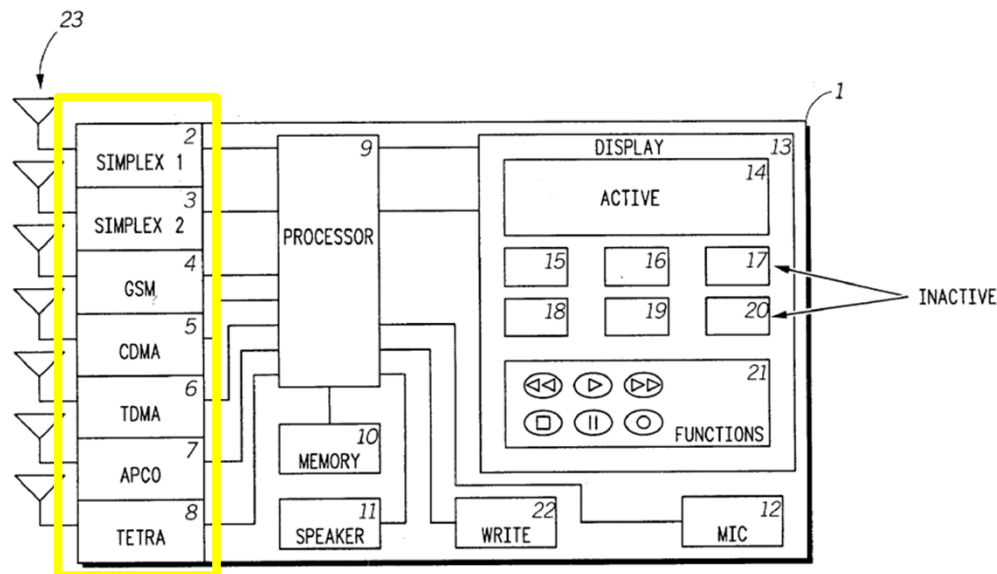
1[Pre] A method of managing communication in a communication system, the communication system receiving messages from a plurality of channels, the method comprising:

(57)

ABSTRACT

A multiple channel data recorder and a method for recording data on multiple wireless communications channels includes a transceiver, a display, and a processor programmed to selectively record the user's transmission for playback by at least one of the user and another user and, if another new transmission starts to be received by the user during the user's transmission, to continue transmitting the user's transmission and to record the new transmission at least from a beginning of the new transmission for playback, or to stop transmitting the user's transmission and to start recording at least a remainder of the user's transmission at least from the beginning of the new transmission for playback, and to receive the new transmission by the user.

Ex[1004] (Ohel) Abstract.



Ex[1004] (Ohel) FIG. 2.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

- 1[a]** receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity;
- 1[b]** receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time;

[0042] With the present invention, a user has the ability to preserve all electronically communicated data, including, but not limited to, voice, code, pictures, and video, that previously would have been lost when a first transmitting entity was talked over by a second transmitting entity or when a second transmitting entity tried to communicate while a first entity was already transmitting. The invention also permits the user to play back any conversation, including the user's current conversation.

Ex[1004] (Ohel) [0042].

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

- 1[a]** receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity;
- 1[b]** receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time;

[0035] With the objects of the invention in view, there is also provided a multiple channel data recorder, including a plurality of wireless communications transceivers including at least one of a simplex transceiver, a CDMA transceiver, a TDMA transceiver, an AMPS transceiver, a GSM transceiver, an APCO transceiver, and a TETRA transceiver, a

[0060] FIG. 2 illustrates one exemplary embodiment of a user communications unit 1 according to the invention. The unit 1 can have various combinations of similar or different transceiver units for communication over separate channels and/or networks. In the example illustrated in FIG. 2, there

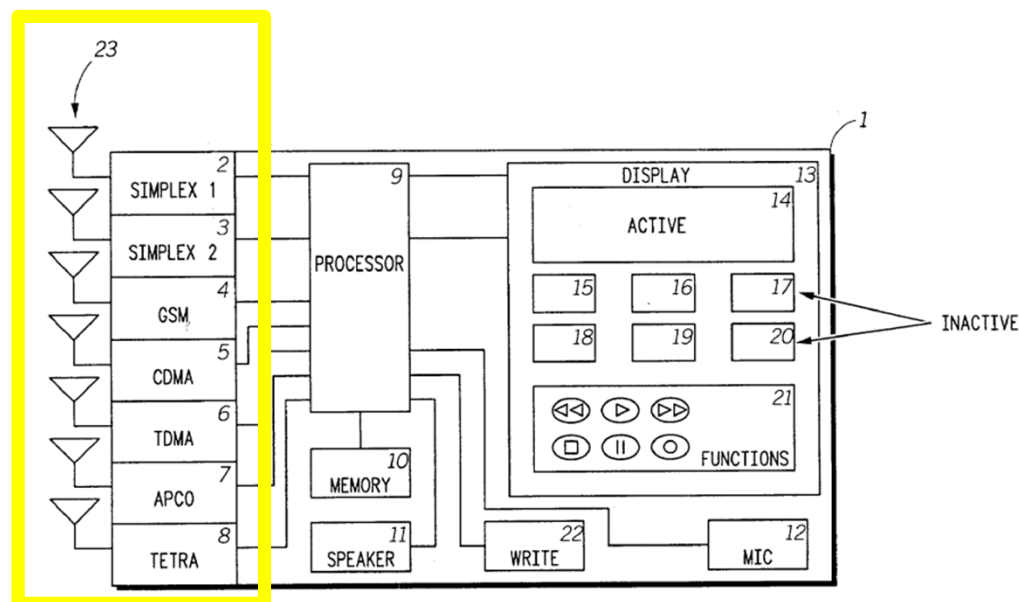


FIG. 2

Ex[1004] (Ohel) FIG. 2.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

- 1[a]** receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity;
- 1[b]** receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time;

[0060] FIG. 2 illustrates one exemplary embodiment of a user communications unit 1 according to the invention. The unit 1 can have various combinations of similar or different transceiver units for communication over separate channels and/or networks. In the example illustrated in FIG. 2, there are seven different transceiver units. The first of the transceiver units is a first simplex communications unit 2, which operates similar to a walkie-talkie. This first simplex unit 2 preferably operates on a given channel, but can be also set to transmit/receive on different channels selected by a user. The second of the transceiver units is a second simplex communications unit 3, which operates similar to the first simplex unit 2, but, preferably, on a channel different from the given channel. Similarly, the second simplex unit 3 also can be set to transmit/receive on any number of different channels selected by a user, including the channels of the first simplex unit 2. For example, the first simplex unit 2 can be set to a dispatch channel, in other words, a channel common to many users, and the second simplex unit 3 can be set to a particular channel of another specific user for direct, two-way communication.

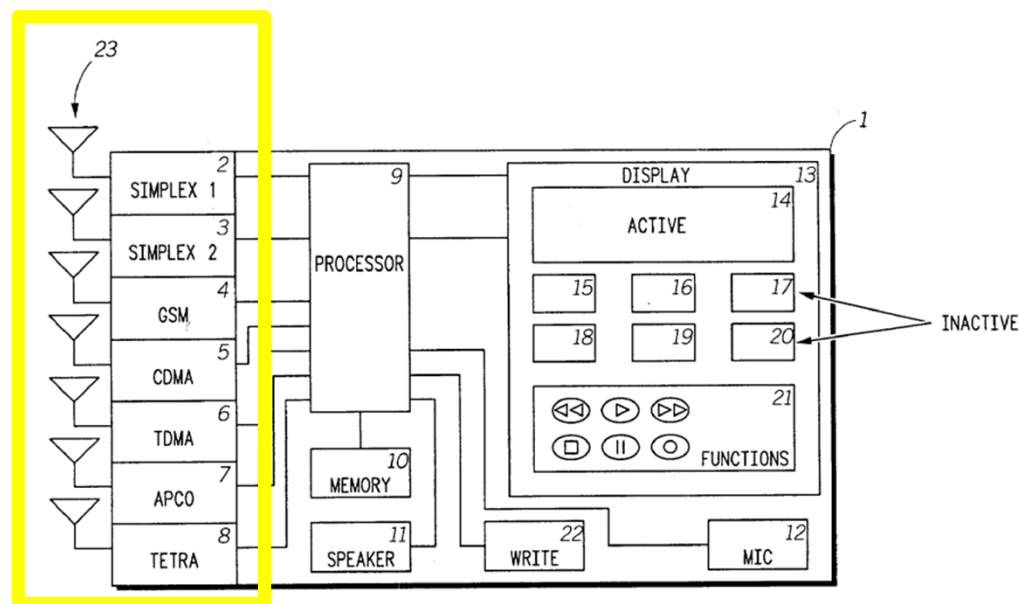


FIG. 2

Ex[1004] (Ohel) FIG. 2.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

- 1[a]** receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity;
- 1[b]** receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time;

[0069] In an example of such communication, it is assumed that the officer is presently talking to another individual by cell phone over the CDMA transceiver 5, during which conversation, information regarding the CDMA transceiver 5 is being displayed in the active display 14. The other transceiver units 2, 3, 4, 6, 7, 8, therefore, are being displayed respectively (possibly in a reduced functional form) in one of the inactive display areas 15 to 20. During the conversation, the police dispatcher begins to transmit one or more messages to the officer over the APCO transceiver 7. At this point in time, two example scenarios exist.

Ex[1004] (Ohel) [0069].

not all compatible. For example, in the United States, public safety entities communicate through radio using the Association of Public Safety Communications Officials standard, also referred to as the APCO standard. Public safety entities

Ex[1004] (Ohel) [0007].

Pet. at 19, 21-22; Ex[1002] ¶128.

[0070] In a first of the scenarios, if the predefined protocol has been defined to force the officer to immediately listen to the dispatcher, then, all communication over the user's CDMA transceiver 5 would be preempted by the user's APCO transceiver 7. (Alternatively, the dispatcher can have an emergency indication within the transmission that forces the officer to listen regardless of the officer's decision to listen at that time.) According to the invention, however, no information still being received over the CDMA transceiver 5 would be lost because at least the officer's unit 1 would immediately start recording all information received by the CDMA transceiver 5 from the point in time when the APCO transceiver 7 took over. (This assumes the officer is not also transmitting via the CDMA transceiver 5. In such a case, the unit 1 would also record the officer's transmission in spite of the fact that the dispatcher's transmission is being played at the officer's unit 1.) At takeover, the CDMA transceiver

Ex[1004] (Ohel) [0070].

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

- | | |
|-------------|--|
| 1[a] | receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity; |
| 1[b] | receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time; |

- A POSITA would have understood that each of Ohel's transceivers 2-8 would operate in a similar fashion to the CDMA transceiver 5 and the APCO transceiver 7.

[0072] These examples are only two possible scenarios in a variety of many different scenarios possible with the transceiver units 2 to 8 and the display configuration 13 to 21. In each possible example, the unit 1 according to the invention provides the user with the ability to record any number of simultaneous transmissions to the user without loss of information from any of the potential sources.

Ex[1004] (Ohel) [0072].

- Thus, Ohel teaches that its system is able to operate similarly when an officer is talking to the “another specific user” on the “particular channel” to which simplex unit 3 is set and the police dispatcher begins to transmit over the dispatch channel to which simplex unit 2 is set.

Pet. at 19-20, 22; Ex[1002] ¶¶128-131, 135-136.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

- | | |
|-------------|--|
| 1[a] | receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity; |
| 1[b] | receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time; |

- Ohel's embodiment in which an "officer is presently talking to ***another individual*** . . . Over the CDMA transceiver" teaches receiving a first message from a first entity.
- Ohel's disclosure that "[d]uring the conversation, the police dispatcher begins to transmit one or more messages to the officer over the APCO transceiver" teaches receiving a second message from a second entity, ***the dispatcher***.
- Ohel teaches that these examples ***apply to different scenarios***, including "first simplex unit 2 . . . set to ***a dispatch channel***" and "second simplex unit 3 . . . set to a ***particular channel of another specific user***."

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

Ohel discloses the claimed first and second entities

- Patent Owner argues that Ohel does not disclose first and second entities because “a dispatcher is not an ‘entity’ as claimed.”
- The Board should **reaffirm** its preliminary determination that “entity” is broad enough to encompass a user (e.g., a police officer) and a dispatcher.

Id. at 1319. Here, consistent with Petitioner’s argument in favor of a broader definition, the Specification suggests that users and dispatchers are entities as are a group/locality/unit. Thus, we are not persuaded that Patent

Paper 11 (Decision) 15.

- The intrinsic record establishes that ***a dispatcher and a user are entities***.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

The claim language does not limit the scope of the term “entity”

- “Entity” appears only in the independent claims and nothing in those claims narrows its scope to exclude a dispatcher.
- The claims merely recite a “first entity” and a “second entity”
- Entity is a **broad term** and would have been understood as encompassing individuals, including a dispatcher and a user:

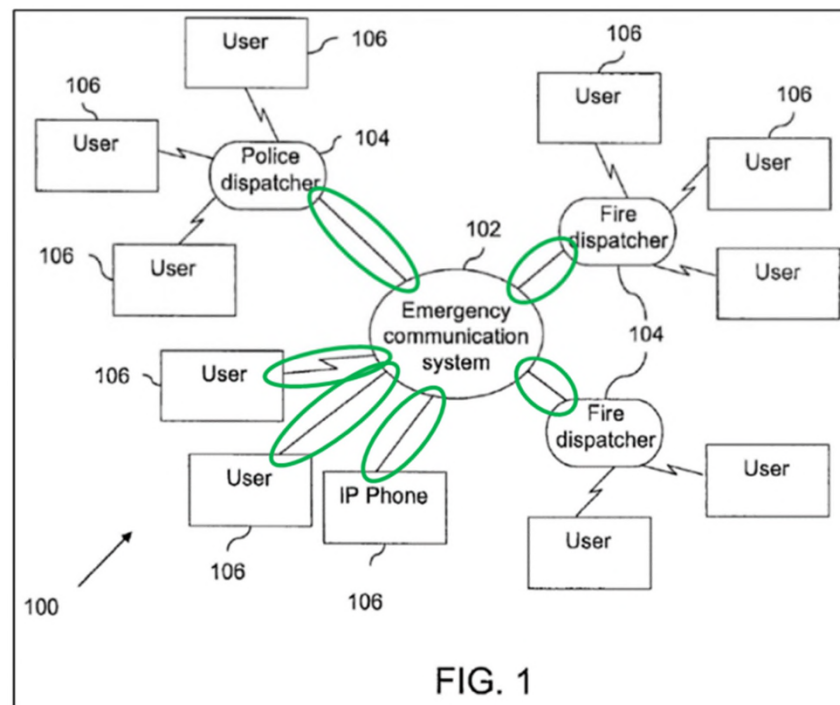
en·ti·ty \ˈen-tā-tē, ˈe-nə-\ *n*, *pl* -ties [ML *entitas*, fr. L *ent-*, *ens* existing thing, fr. coined prp. of *esse* to be — more at *is*] (1596) *n* 1 **a** : BEING; EXISTENCE; *esp* : **independent, separate, or self-contained existence** \ **b**

Ex[2002] (Merriam-Webster's Collegiate Dictionary).

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

The specification establishes that a dispatcher or user is an entity

- Figure 1 shows **dispatchers, users, and other devices** communicating with emergency communication system 102 via dedicated channels:



Ex[1001], FIG. 1 (annotated).

- Patent Owner's interpretation would read out this embodiment: "Such an interpretation is **rarely, if ever, correct** and would require highly persuasive evidentiary support, which is wholly absent in this case."

Reply at 3. • *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (emphasis added).

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

The specification establishes that a dispatcher or user is an entity

- The specification discloses that emergency communication system 102 ***receives messages from dispatchers and other individual users*** over dedicated channels:

embodiment of the invention. In accordance with an embodiment of the invention, an emergency communication system 102 is connected to dispatchers 104 belonging to the emergency teams. Emergency communication system 102 includes a communication sub-system for sending and receiving messages. Dispatchers 104 are the operators who handle the communication for the emergency teams and respond to emergency messages received from a plurality of users 106. Emergency communication system 102 receives messages on a plurality of communication channels. The

Ex[1001], 3:54-63.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

The specification establishes that a dispatcher or user is an entity

- The specification states that “**users**” *can be entities*:

other process. The invention can operate between any two processes or entities including users, devices, functional systems, or combinations of hardware and software. Peer-

Ex[1001], 7:18-20.

- The specification **does not limit** an “entity” to a group/locality/unit. Patent Owner admits that these are merely “examples” of entities:

police force, and hospitals. Each emergency communication system supports a plurality of communication channels, wherein each channel may be dedicated to a group/locality/unit. For example, the fire department can allocate one channel to every school, or other public places such as shopping malls, so as to enable effective communication during an emergency.

This allocation of dedicated channels to different entities results in the possibility of multiple messages being received in the form of radio messages on different channels at one time. The receipt of multiple radio messages at one time

Ex[1001], 1:15-25.

Reply at 2-3, 5; POR at 15.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

The prosecution history does not limit the scope of “entity”

- During prosecution, the Applicant did not disclaim a “dispatcher” or “user” from the scope of “entity.”
- Nor did Applicant limit “entity” to “groups, localities, and units” as Patent Owner suggests.

embodiment of a communications system, channels are dedicated to different entities. For example, a fire department can allocate one channel to a school or other public places, such as shopping malls. This may mean more effective communications during an emergency in one

on a second channel from a second entity based on at least one predefined parameter. It should be noted that an entity may include any number of users. For example, a number of users may be in an entity and may be able to send messages on the dedicated channel. Chang and Uchida

Ex[1003] (File History) 45.

- Patent Owner ***admits*** that the prosecution history merely provides “***examples***” of entities.

Reply at 2; POR at 7.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

Patent Owner's claim differentiation argument fails

- Nothing in claim 6 associates the “user” with either “entity” in claim 1 or requires that the user be “part of an entity” as Patent Owner argues.

6. The method of claim 1, wherein determining the priority comprises assigning priorities to the first message and the second message based on inputs from a user.

Ex[1001] Claim 6.

- The “operator” of claim 7 is ***not associated*** with either “entity” in claim 1 and its scope is ***not limited*** to a dispatcher:

7. The method of claim 1, further comprising informing an operator the time of receipt of a message while playing the first message and the second message.

Ex[1001] Claim 7.

- That different terms have different meanings and scope ***does not mean*** those different claim terms must be accorded mutually exclusive meanings and scope.

Reply at 3-5; POR at 14-15; Ex[1001], cls. 6-7.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

Patent Owner's claim differentiation argument fails

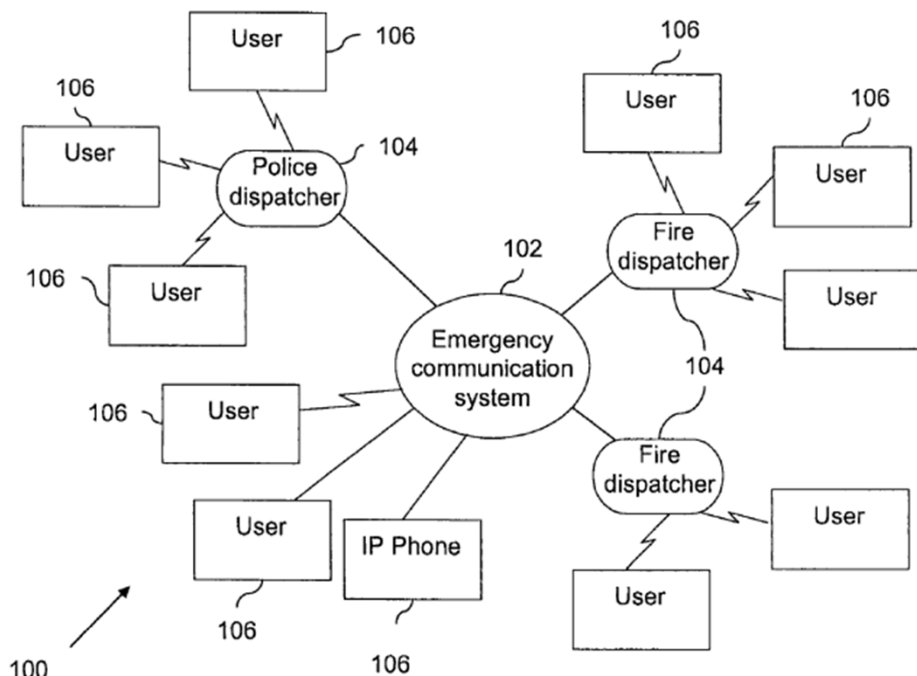


FIG. 1

Ex[1001], FIG. 1.

Emergency communication systems are used by emergency service providers such as the fire department, the police force, and hospitals. Each emergency communication system supports a plurality of communication channels, wherein each channel may be dedicated to a group/locality/unit. For example, the fire department can allocate one channel to every school, or other public places such as shopping malls, so as to enable effective communication during an emergency.

This allocation of dedicated channels to different entities results in the possibility of multiple messages being received in the form of radio messages on different channels at one time. The receipt of multiple radio messages at one time creates confusion for an operator who needs to reply/act on each incoming radio message. To avoid this confusion, the

Ex[1001] 1:13-27.

The invention prevents the loss of radio messages that would otherwise be lost if the operator of a conventional emergency communication system muted one of the channels in the case of overlap in the incoming radio messages. The

Ex[1001] 6:53-56.

receiving messages. Dispatchers 104 are the operators who handle the communication for the emergency teams and respond to emergency messages received from a plurality of users 106. Emergency communication system 102 receives

Ex[1001] 3:59-62.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

The specification does not support Patent Owner's interpretation

- PO incorrectly alleges that the specification “distinguishes an entity from a dispatcher.” No instance of “dispatcher” distinguishes it from an entity.

embodiment of the invention. In accordance with an embodiment of the invention, an emergency communication system 102 is connected to dispatchers 104 belonging to the emergency teams. Emergency communication system 102 includes a communication sub-system for sending and receiving messages. Dispatchers 104 are the operators who handle the communication for the emergency teams and

Ex[1001], 3:54-62.

- The specification makes clear that entities can be users and uses the terms “user” and “operator” interchangeably:

played; and (iv) an alert module to inform a user regarding the time of receipt of a radio message, while playing the radio message.

Ex[1001], 2:57-59.

optical storage device. Alert module 512 generates alerts to inform the operator about the time of receipt of a radio message while playing radio message. The alerts can be in

Ex[1001], 6:31-33.

Reply at 5-6; POR at 10, 15.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

Patent Owner's arguments regarding alleged problems solved lack merit

- PO relies on alleged, ***unclaimed*** distinctions (e.g., overtalk, muting, multiple different multi-party communication channels) and Ohel's alleged focus on "an issue that affects individual officers on a ***single*** multi-party communication channel within a ***single entity***."
- Ohel's description ***directly contradicts*** PO's characterization of Ohel as limited to a single multi-party communication channel:

SUMMARY OF THE INVENTION

[0009] Accordingly, the invention provides a multiple channel data recorder and method for recording data on multiple channels that overcome the hereinafore-mentioned disadvantages of the heretofore-known devices and methods of this general type and that prevent loss of communications during overtalk.

Ex[1004] (Ohel) [0009].

user communications unit 1 according to the invention. The unit 1 can have various combinations of similar or different transceiver units for communication over separate channels and/or networks. In the example illustrated in FIG. 2, there are seven different transceiver units. The first of the trans-

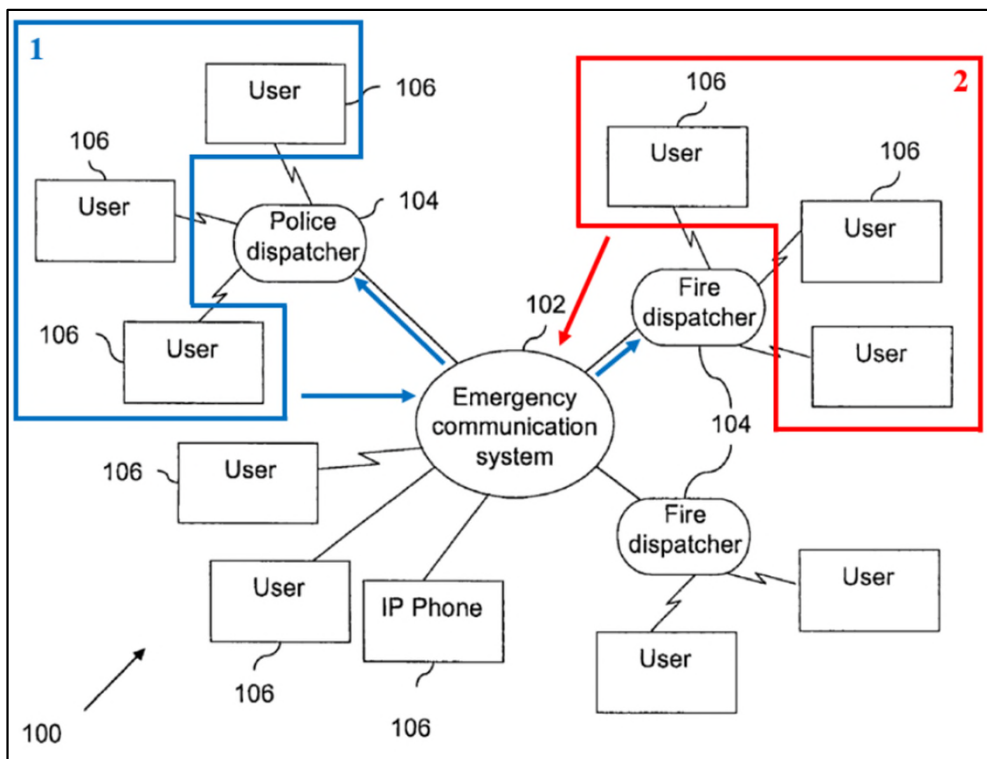
Ex[1004] (Ohel) [0060].

Reply at 6, 9-10; POR at 12, 19-22.

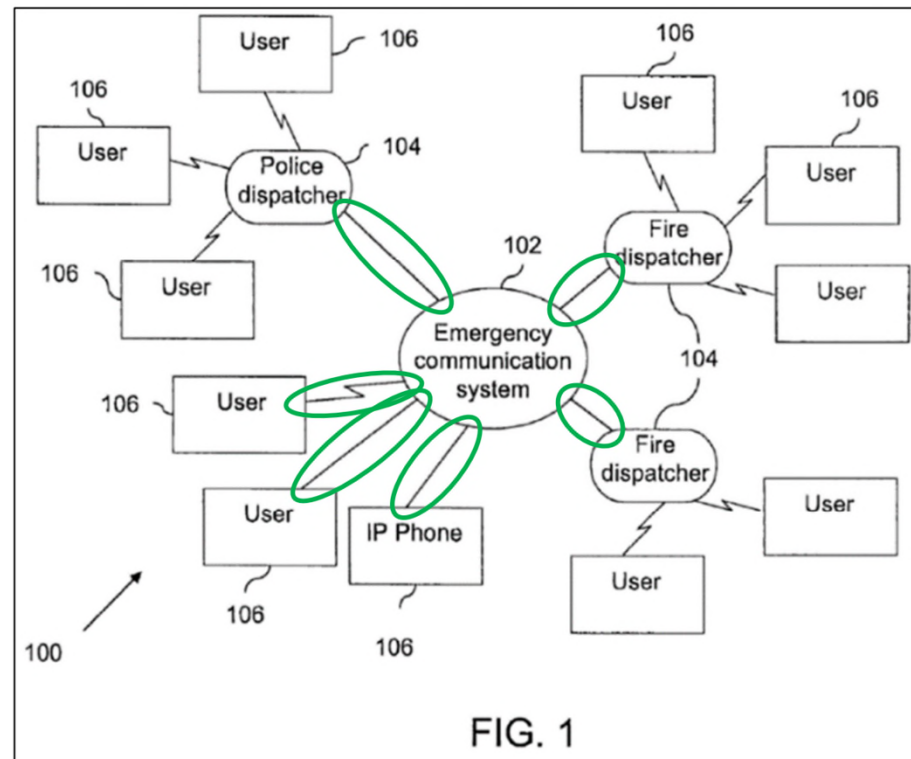
Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

Patent Owner's arguments regarding alleged problems solved lack merit

- Patent Owner **modifies** FIG. 1 to include associations and connections that are **not disclosed** in the '802 Patent.



Ex[1001], FIG. 1 (PO's annotation); POR, 18.



Ex[1001], FIG. 1 (Petitioner's annotation); Reply at 9.

- Only the dispatchers, two users and one IP phone are shown to be connected to the communication system via channels that could plausibly be called dedicated.

Reply at 6-9.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

Patent Owner's arguments regarding alleged problems solved lack merit

- The claims do not recite overtalk, muting, or a multi-party communication channel:

Q Limitation 1A does not recite that the first dedicated channel is a multiparty communication channel, correct?

A I think you've asked me that question before with regard to the claim in general.

 And my response to the claim in general applies to this limitation as well, that those words specifically do not appear, but again, my understanding of legal principles is that the claims are read in light of the specification.

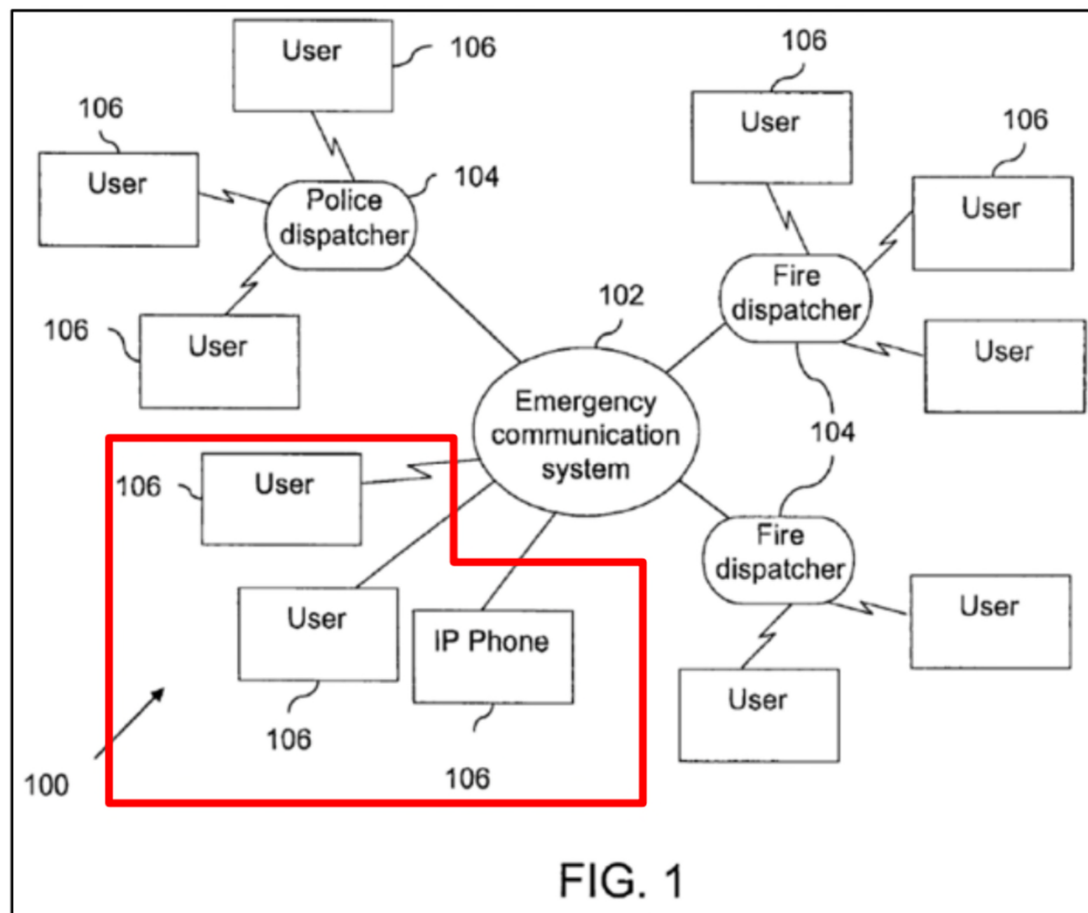
Ex[1033], 39:16-40:4.

Reply at 9-10.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

Patent Owner's arguments regarding alleged problems solved lack merit

- Figure 1 shows individual users communicating on dedicated channels, contradicting PO's argument that the claim requires two multi-party communication channels:



Reply at 10.

Ex[1001], FIG. 1 (Petitioner's annotation).

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

Patent Owner's arguments regarding alleged problems solved lack merit

- Patent Owner accuses Petitioner of relying on a “heightened standard” requiring the problem and solution to be explicit in the claims.
- It is **settled law** that limitations from the specification **are not to be read into the claims**.
 - “[P]articular limitations or embodiments appearing in the specification will not be read into the claims.” *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 867 (Fed. Cir. 1985).
 - “The patentee is entitled to the full scope of his claims, and we will not limit him to his preferred embodiment or import a limitation from the specification into the claims.” *Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009).
- The '802 Patent makes clear that the **claims are not limited to the described embodiments**:

Although the invention has been discussed with respect to its specific embodiments, these embodiments are merely illustrative and not restrictive, of the invention. For example,

Ex[1001], 6:66:7:1.

The foregoing description of illustrated embodiments of the invention, including what is described in the abstract, is not intended to be exhaustive or to limit the invention to the precise forms disclosed herein. While specific embodiments

Ex[1001], 9:13-16.

Sur-Reply at 3; Reply at 7-10.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

PO's suggestions that Mr. Williams "backtracked" lack merit.

- A dispatcher can satisfy either the first or second entity based on the claim's broad recitation:

- | |
|---|
| <p>1[a] receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity;</p> <p>1[b] receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time;</p> |
|---|

Ex[1001], Claim 1.

- The order of steps construction supports Mr. Williams' opinion that first and second entities can vary depending on the embodiment :

Order of steps	The steps of the claim must be performed in the following order:
'802 Patent: Claim 1	(1) the receiving steps [1A] and [1B] may be performed in any order;

Ex[2004], 15.

Reply at 12.

Ground 1 (Ohel) – Claim 1, Elements 1[a]-1[b]

Ohel renders the claims obvious under Patent Owner's theory

- PO **does not dispute** the Petition's position and Mr. Williams' testimony that it would have been obvious to use channels dedicated to different entities in Ohel's system.
- The '802 Patent admits that doing so was known:

2. Description of the Background Art

Emergency communication systems are used by emergency service providers such as the fire department, the police force, and hospitals. Each emergency communication system supports a plurality of communication channels, wherein each channel may be dedicated to a group/locality/unit. For example, the fire department can allocate one

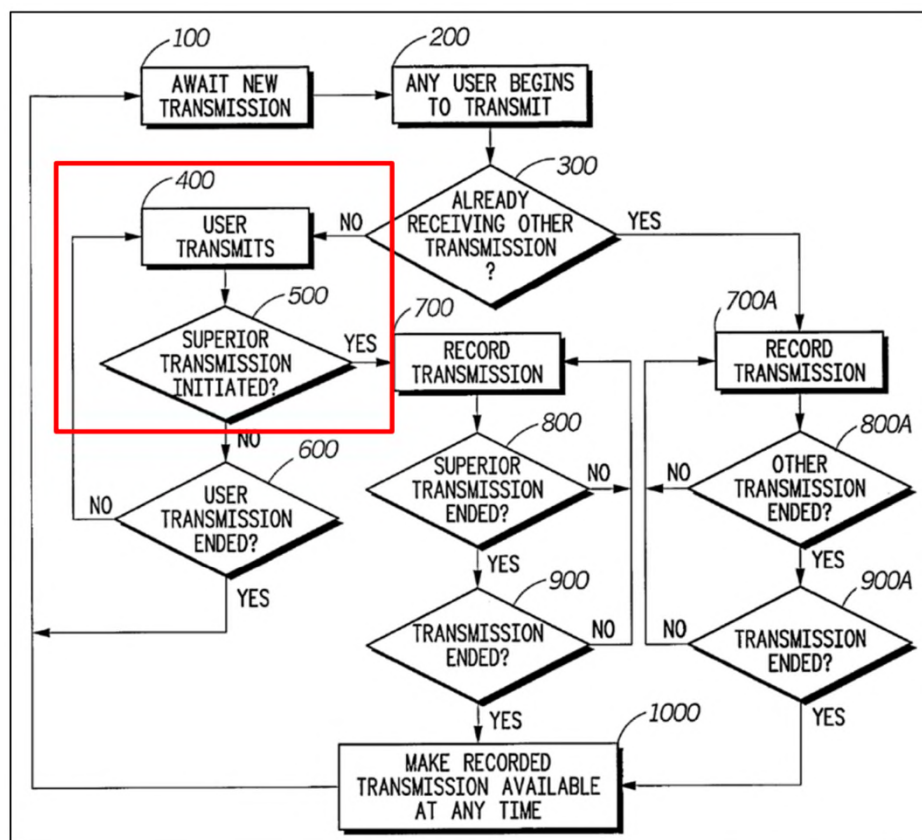
Ex[1001], 1:12-18.

- A missing claim limitation may be supplied by “the general knowledge of a skilled artisan.”
 - *Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1337-38 (Fed. Cir. 2020).

Pet. at 18-19; Ex[1002] ¶¶125-127; Reply at 12; Ex[1001], 1:12-18.

Ground 1 (Ohel) – Claim 1, Element 1[c]

1[c] determining one or more priorities for the first message received on the first dedicated channel from the first entity and the second message received on the second dedicated channel from the second entity based on at least one pre-defined parameter;



Ex[1004] (Ohel) FIG. 1 (annotated).

user's manual command. This possibility is not illustrated in **FIG. 1**, but can simply be sub-steps of the decision of step **500**. Specifically, an inquiry would, first, be conducted to determine if any intermediate transmission was initiated after the user's transmission began. If the answer to the inquiry were yes, then another determination would be made to see if the interrupting user is a superior user who would preempt the user's continued transmission. If the interrupting user is a superior user, then the user's transmission will be recorded as set forth above. However, if the interrupting user is not a superior user, then the interrupting user's message would be recorded for playback by the user or another.

Ex[1004] (Ohel) [0050].

Ground 1 (Ohel) – Claim 1, Element 1[c]

1[c] determining one or more priorities for the first message received on the first dedicated channel from the first entity and the second message received on the second dedicated channel from the second entity based on at least one pre-defined parameter;

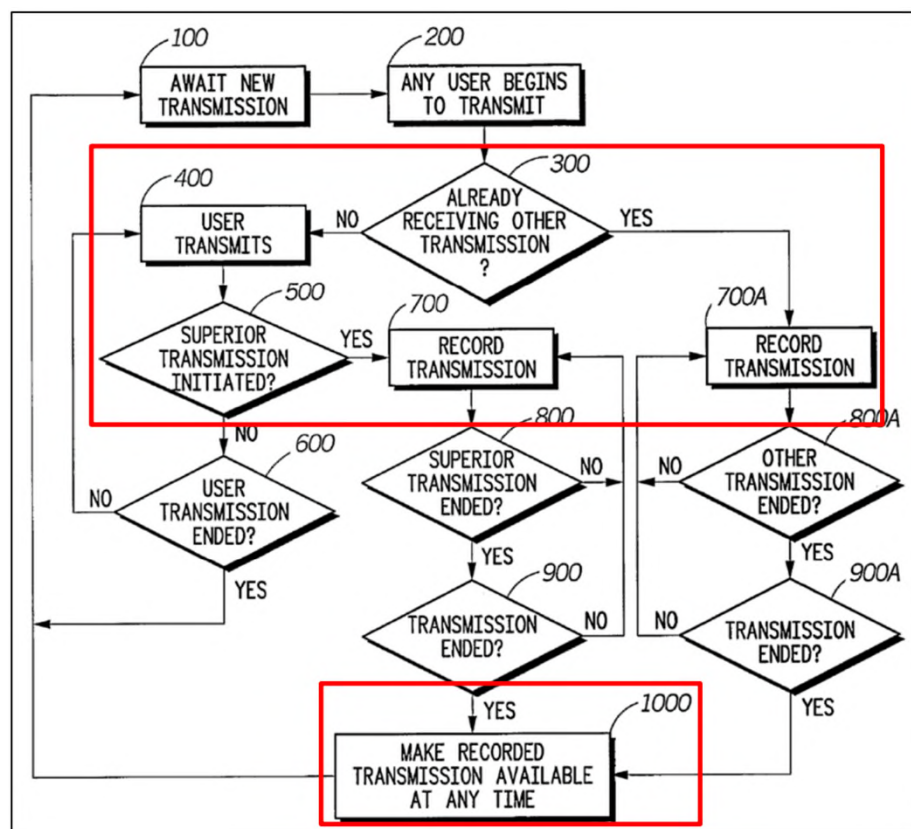
- Ohel’s “superior user” priority status may be **pre-defined** based on the transceiver type or channel dedicated to dispatch communications, or by an emergency indication.

[0070] In a first of the scenarios, if the predefined protocol has been defined to force the officer to immediately listen to the dispatcher, then, all communication over the user’s CDMA transceiver 5 would be preempted by the user’s APCO transceiver 7. (Alternatively, the dispatcher can have an emergency indication within the transmission that forces the officer to listen regardless of the officer’s decision to listen at that time.) According to the invention, however, no

Ex[1004] (Ohel) [0070].

Ground 1 (Ohel) – Claim 1, Element 1[d]

1[d] determining which message out of the first message and the second message should be stored and subsequently played based on the second message overlapping with the first message in time and one or more priorities assigned to the first and the second message;



Pet. at 25-26.

Ex[1004] (Ohel) FIG. 1.

500. Specifically, an inquiry would, first, be conducted to determine if any intermediate transmission was initiated after the user's transmission began. If the answer to the inquiry were yes, then another determination would be made to see if the interrupting user is a superior user who would preempt the user's continued transmission. If the interrupting user is a superior user, then the user's transmission will be recorded as set forth above. However, if the interrupting user is not a superior user, then the interrupting user's message would be recorded for playback by the user or another.

Ex[1004] (Ohel) [0050].

Ground 1 (Ohel) – Claim 1, Element 1[e]

1[e] playing the message having a higher priority between the first and the second message;

- When a lower priority transmission is interrupted, the higher priority transmission (e.g., superior user transmission) is played instead of currently transmitting user(s):

[0047] It is possible for the user's transmission to be interrupted, for example, by a superior user, such as a dispatcher, who has the ability to suppress any existing transmission between users and, therefore, to transmit over or instead of the currently transmitting user(s). During the

Ex[1004] (Ohel) [0047].

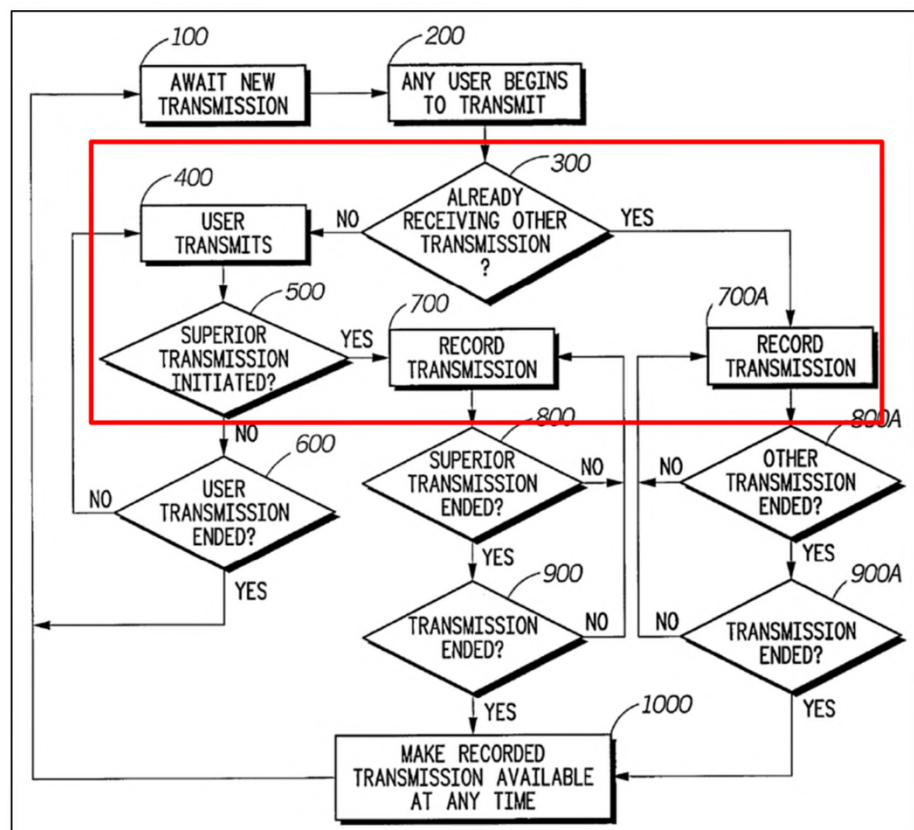
- Alternatively, a lower priority interrupting user's message is recorded while the current user's transmission is played:

[0050] There exists an alternative to the superior user's interruption. Specifically, an interruption by another user (who is not a superior user) can occur during a user's transmission. In such a case, it is not the user's transmission that will be interrupted and recorded (if recording is not automatic). Instead, the other user who is transmitting the interrupting transmission will be recorded and the recording will be made available to the user at a later time, whether immediately after the user stops transmitting or upon the user's manual command. This possibility is not illustrated in

Ex[1004] (Ohel) [0050].

Ground 1 (Ohel) – Claim 1, Element 1[f]

1[f] storing at least one message having a lower priority between the first and the second message based on the determination; and



Ex[1004] (Ohel) FIG. 1.

500. Specifically, an inquiry would, first, be conducted to determine if any intermediate transmission was initiated after the user's transmission began. If the answer to the inquiry were yes, then another determination would be made to see if the interrupting user is a superior user who would preempt the user's continued transmission. If the interrupting user is a superior user, then the user's transmission will be recorded as set forth above. However, if the interrupting user is not a superior user, then the interrupting user's message would be recorded for playback by the user or another.

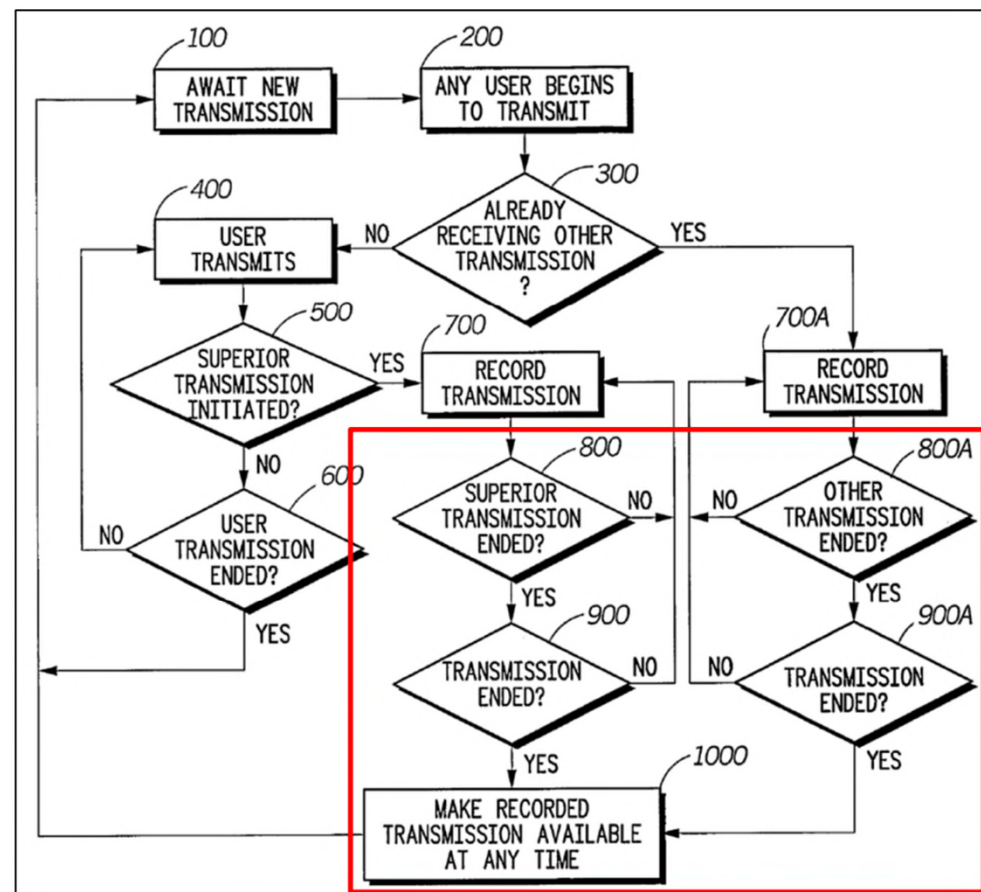
Ex[1004] (Ohel) [0050].

Ground 1 (Ohel) – Claim 1, Element 1[g]

1[g] playing the stored message subsequent to completing playing of the message having higher priority.

[0017] In accordance with yet an added mode of the invention, at least one of the recorded transmissions is played back after the new wireless transmission and/or after the user's transmission has ended. Playback can begin from a starting point of a recorded transmission and/or from a user-selected point of time within a recorded transmission.

Ex[1004] (Ohel) [0017].



Ex[1004] (Ohel) FIG. 1.

Ground 1 (Ohel) – Claim 2, Preamble 2[pre], Element 2[a]

2[pre] The method of claim 1, wherein determining which message out of the first message and the second message should be stored and subsequently played comprises:

2[a] calculating the priorities of the received messages; and

- Ohel discloses:

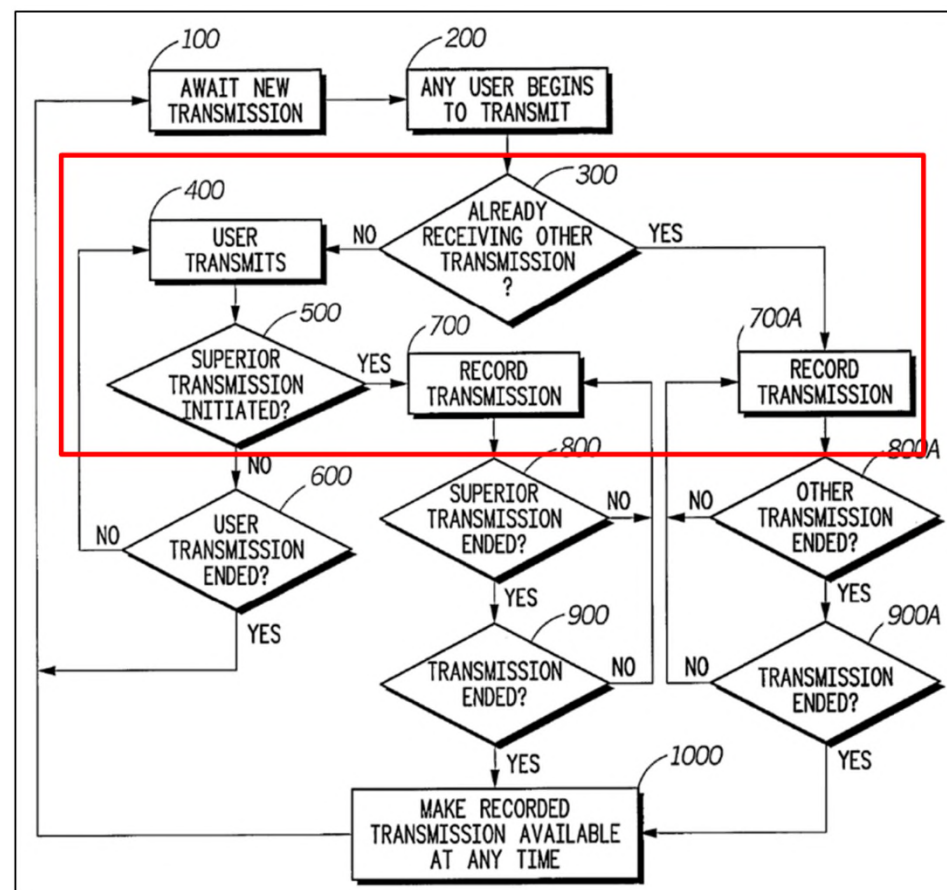
500. Specifically, an inquiry would, first, be conducted to determine if any intermediate transmission was initiated after the user's transmission began. If the answer to the inquiry were yes, then another determination would be made to see if the interrupting user is a superior user who would preempt the user's continued transmission. If the interrupt-

Ex[1004] (Ohel) [0050].

- The '802 Patent only discloses “calculating” by stating:

516 and a comparison module **518**. Priority calculator **516** calculates the priority of each of the received radio messages. Comparison module **518** compares the priorities of

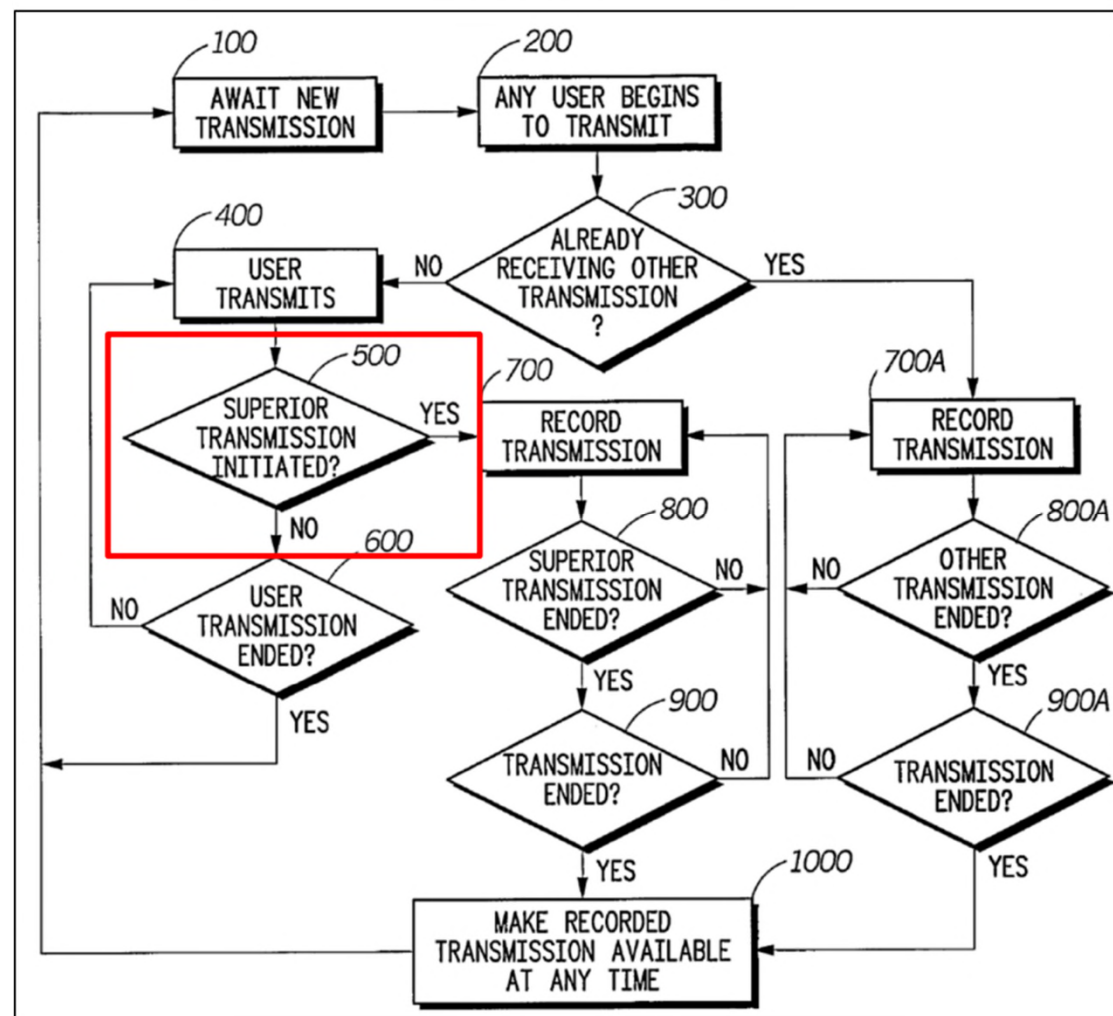
Ex[1001], 6:15-17.



Ex[1004] (Ohel) FIG. 1.

Ground 1 (Ohel) – Claim 2, Element 2[b]

2[b] comparing the priorities of the received messages.



Pet. at 31-32.

Ex[1004] (Ohel) FIG. 1.

Ground 1 (Ohel) – Claim 3

3 The method of claim 1, wherein the predefined parameter comprises a bandwidth requirement of the received messages.

- Ohel uses, at least, the type of transceiver the message is received on to determine priority.
- In Ohel, wireless transmissions can be digital data, including code, audio signal, an image, and a video stream.
- A POSITA would have understood that the different communication standards of the transceivers (e.g., CDMA, APCO, etc.) and the different types of data ***all have different bandwidth requirements***.
- The '802 Patent's ***only*** disclosure of a bandwidth requirement is its inclusion in a list of possible parameters.

Pet. at 32-34; Ex[1004] (Ohel) [0007], [0008], [0016], [0070], FIG. 2; Ex[1002], ¶¶164-167.

Ground 1 (Ohel) – Claim 4

4 The method of claim 1, wherein the predefined parameter comprises a type of the received messages.

- Ohel discloses using, at least, ***the type of received message*** to determine priority (e.g., prioritize “APCO transceiver” messages over CDMA).

During the conversation, the police dispatcher begins to transmit one or more messages to the officer over the APCO transceiver 7. At this point in time, two example scenarios exist.

[0070] In a first of the scenarios, if the predefined protocol has been defined to force the officer to immediately listen to the dispatcher, then, all communication over the user's CDMA transceiver 5 would be preempted by the user's APCO transceiver 7. (Alternatively, the dispatcher can have

Ex[1004] (Ohel) [0069]-[0070].

- Message types may also be indicated by a user (e.g., prioritizing a superior user message) or emergency indication.

[0047] It is possible for the user's transmission to be interrupted, for example, by a superior user, such as a dispatcher, who has the ability to suppress any existing transmission between users and, therefore, to transmit over or instead of the currently transmitting user(s). During the

Ex[1004] (Ohel) [0047].

APCO transceiver 7. (Alternatively, the dispatcher can have an emergency indication within the transmission that forces the officer to listen regardless of the officer's decision to listen at that time.) According to the invention, however, no

Ex[1004] (Ohel) [0070].

Pet. at 34-35; Ex[1004] (Ohel) [0047], [0069]-[0070]; Ex[1002] ¶¶168-171.

Ground 1 (Ohel) – Claim 5

- | | |
|----------|---|
| 5 | The method of claim 4, wherein the type of received messages being one of a group comprising audio, video, text, and image. |
|----------|---|

Patent Owner's district court interpretation

- In the district court, Patent Owner and Dr. Akl argue that “claim 5 ***requires that the type of received messages be audio, video, text, or image.***”
- Dr. Akl opined that receiving messages of at least one of the types specified (e.g., audio messages) satisfies claim 5.
- “A patent may not, like a ‘nose of wax,’ be twisted one way to avoid anticipation and another to find infringement.” *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001)) (citations omitted).

Ground 1 (Ohel) – Claim 5

- 5** The method of claim 4, wherein the type of received messages being one of a group comprising audio, video, text, and image.

- Ohel's messages can include “**voice, code, pictures, and video.**”

[0042] With the present invention, a user has the ability to preserve all electronically communicated data, including, but not limited to, **voice, code, pictures, and video**, that

Ex[1004] (Ohel) [0042].

- Ohel discloses **prioritizing APCO transceiver messages** over CDMA.

[0070] In a first of the scenarios, if the predefined protocol has been defined to force the officer to immediately listen to the dispatcher, **then, all communication over the user's CDMA transceiver 5 would be preempted by the user's APCO transceiver 7.** (Alternatively, the dispatcher can have

Ex[1004] (Ohel) [0070].

- A POSITA would have understood APCO to be an **audio-based** standard.

[0070]. APCO is a public safety radio standard. *Id.*, [0007]. A POSITA would have understood that APCO to be an audio-based standard. Thus, a POSITA would have understood prioritization of messages based on use of the APCO transceiver to be prioritizing received messages based on being audio-type messages.

Ex[1002] (Williams) ¶173.

Pet. at 35; Reply at 13-14; Ex[1002] ¶¶172-174.

Ground 1 (Ohel) – Claim 6

6 The method of claim 1, wherein determining the priority comprises assigning priorities to the first message and the second message based on inputs from a user.

- Ohel renders this claim obvious in at least two ways.
- **First**, Ohel's determination of priority based on the presence or absence of an emergency indication is "based on inputs from a user" (e.g., the dispatcher).
- **Second**, a POSITA would have understood that, in the context of Ohel's computer-implemented system, the "***predefined protocol***" used to assign priorities would be "based on inputs from a user."

[0070] In a first of the scenarios, if the predefined protocol has been defined to force the officer to immediately listen to the dispatcher, then, all communication over the user's CDMA transceiver 5 would be preempted by the user's APCO transceiver 7. (Alternatively, the dispatcher can have an emergency indication within the transmission that forces the officer to listen regardless of the officer's decision to listen at that time.) According to the invention, however, no

Pet. at 35-36; Ex[1002], ¶¶175-178.

Ex[1004] (Ohel) [0070].

Ground 1 (Ohel) – Claim 7

7 The method of claim 1, further comprising informing an operator the time of receipt of a message while playing the first message and the second message.

- Ohel's system can record a time stamp at any time indicating the point in time during the user's transmission when the interruption (e.g., superior user's transmission) began.

any kind of code. The communications unit applying the method according to the invention can be programmed to start recording at any time or to record a time stamp at any time. This means that the unit can record upon receipt of any

Ex[1004] (Ohel) [0045].

a later point in time. In an alternative embodiment of the invention, the method can always be recording the user's message and setting a flag at the point in time when a superior user's transmission is detected, the flag indicating a point of time during the user's transmission at which the superior user's transmission started interrupting the user's transmission. This flag can also be referred to as a time-

Ex[1004] (Ohel) [0048].

Pet. at 36-38; Ex[1004] (Ohel) [0045], [0048], [0055], [0066], FIG. 2; Ex[1002] ¶¶179-183.

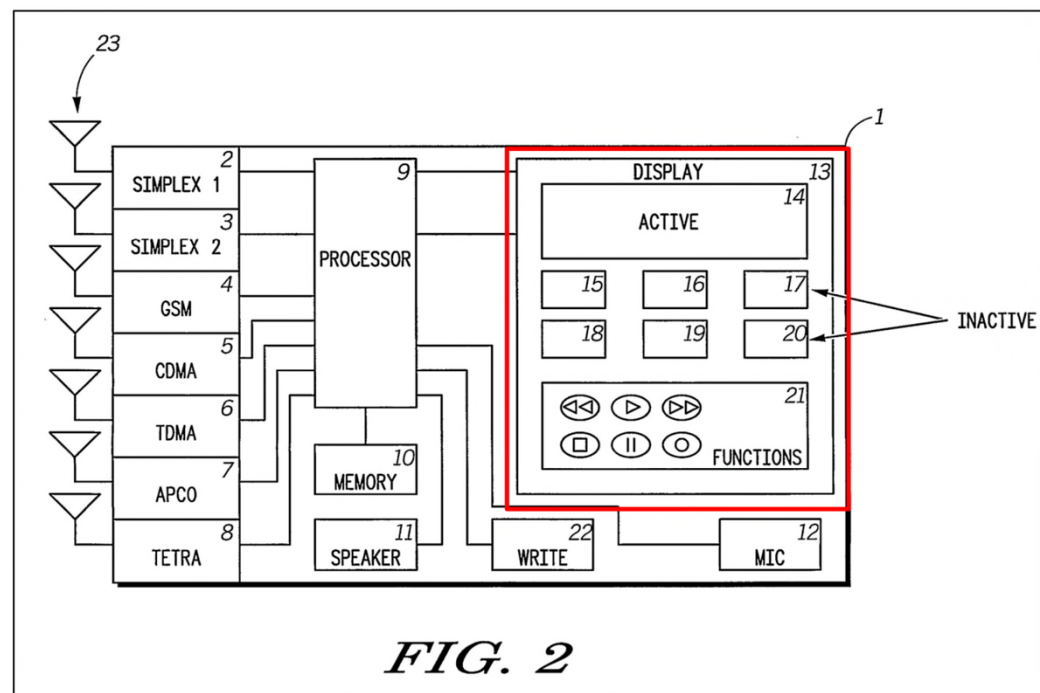
Ground 1 (Ohel) – Claim 7

7 The method of claim 1, further comprising informing an operator the time of receipt of a message while playing the first message and the second message.

- It would have been obvious to inform the officer using Ohel's communications unit (i.e., the "operator" of Ohel's communications unit) of the time of receipt of a message while playing the first and second messages via Ohel's display (e.g., using a time stamp).

player/recorder. For example, if audio information is being played with regard to the active display 14, then the following functions would be useful: play, stop, rewind, fast-forward, pause, record, and go to a specified time stamp.

Ex[1004] (Ohel) [0066].



Ground 1 (Ohel) – Claim 7

- 7** The method of claim 1, further comprising informing an operator the time of receipt of a message while playing the first message and the second message.

Claim 7 does not require informing a dispatcher of the time of receipt

- Patent Owner argues “Ohel does not teach claim 7 because *the dispatcher* does not receive a time of receipt as claimed.”
- Claim 7 *does not recite a dispatcher* and Patent Owner has not shown that the claimed “operator” is limited to a dispatcher.
- A POSITA would not have understood the operator in claim 7 to be limited to a dispatcher:

Q. And so the operator of Claim 7 is the dispatcher of Ohel; is that right?

MR. STAVINOHA: Objection. Form.

A. It can be. It can also be the police officer.

Reply at 14-15; POR at 25.

Ex[2005] (Williams Dep.), 96:7-11.

Ground 1 (Ohel) – Claim 7

- 7** The method of claim 1, further comprising informing an operator the time of receipt of a message while playing the first message and the second message.

Claim 7 is obvious even under Patent Owner's interpretation

- Mr. Williams explained why it would have been obvious to inform a dispatcher of the time of receipt of a message:

Why would an operator or a dispatcher of Ohel need to be told when it interrupted an officer's other transmission?

MR. STAVINOHAN: Objection. Form.

A. I haven't done specifically that analysis, but it would seem to be a reasonable thing to do in terms of particularly a dispatcher having a lot of things going on and wanting to know or be reminded when they did something. It doesn't seem -- it doesn't seem unreasonable.

Ex[2005] 100:11-20.

Q. And so my question again is: Where in these paragraphs is your evidence that this display informs an operator of the time of receipt of a message?

A. It's -- it's -- it's -- it's an obviousness argument as I state in page -- in Paragraph 182. Time stamp being, from a POSITA standpoint, a central piece of information or metadata associated with reporting messages as well as playing them back.

Ex[2005] 99:23-100:1.

Reply at 14-15.

Ground 1 (Ohel) – Claim 8

8 The method of claim 1, wherein a message includes voice over internet protocol communications.

- Ohel discloses that “wireless transmission[s]” can include voice and be used to communicate with other individual or entities via cell phone:

[0042] With the present invention, a user has the ability to preserve all electronically communicated data, including, but not limited to, voice, code, pictures, and video, that

Ex[1004] (Ohel) [0042].

[0068] A user is a police officer. The officer can communicate with other individuals or entities via cell phone using any of the three cell phone transceivers 4, 5, or 6, for

Ex[1004] (Ohel) [0068].

- It had long been known in the art to implement a mobile/wireless phone via voice over IP, as evidenced by prior art such as Stumer:

[0013] The present invention is an IP Telephony Emergency Connections (ITEC) system and method that determines the precise origin of an emergency call and routes the call to the proper Public Service Answering Point (PSAP). A source-based routing mechanism is provided in an IP telephony type network, such as a Voice over IP (VoIP) or IP over Local Area Network/Asynchronous Transfer Mode (LAN/ATM). Emergency calls are routed to the correct

Ex[1014] (Stumer) [0013].

Ground 1 (Ohel) – Claim 9

9 The method of claim 1, wherein a message includes mobile phone communications.

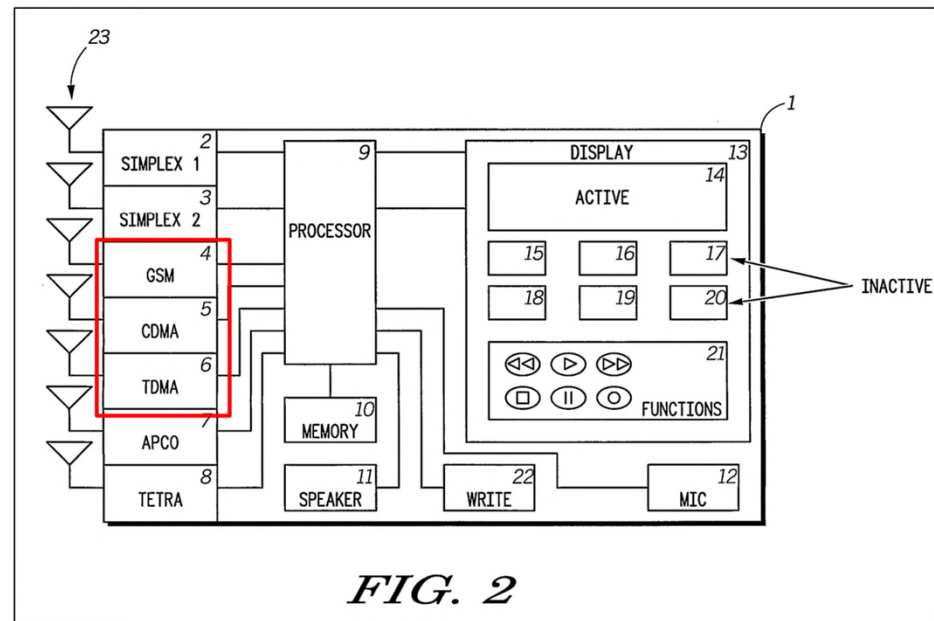
- Ohel's communications unit enables communication over **cell phone transceivers**, which renders obvious receiving a message including mobile phone communications.

[0068] A user is a police officer. The officer can communicate with other individuals or entities via cell phone using any of the three cell phone transceivers 4, 5, or 6, for

Ex[1004] (Ohel) [0068].

[0069] In an example of such communication, it is assumed that the officer is presently talking to another individual by cell phone over the CDMA transceiver 5.

Ex[1004] (Ohel) [0069].



Ex[1004] (Ohel) FIG. 2.

Ground 1 (Ohel) – Claim 10

10 The method of claim 1, wherein a message includes radio communication.

- Ohel's communications unit has simplex transceivers as well as APCO and Tetra transceivers which are examples of **radio communication**.

[0007] Various communications networks exist throughout the world, and these networks are standardized, but are not all compatible. For example, in the United States, public safety entities communicate through radio using the Association of Public Safety Communications Officials standard, also referred to as the APCO standard. Public safety entities of the European Union, for example, in comparison, communicate using the Terrestrial Trunked Radio standard, also referred to as the TETRA standard.

Ex[1004] (Ohel) [0007].

example. Communication with the police dispatcher can take place, for example, over one of the public safety transceivers 7, 8 or by radio through one of the simplex transceiver units 2, 3.

Ex[1004] (Ohel) [0068].

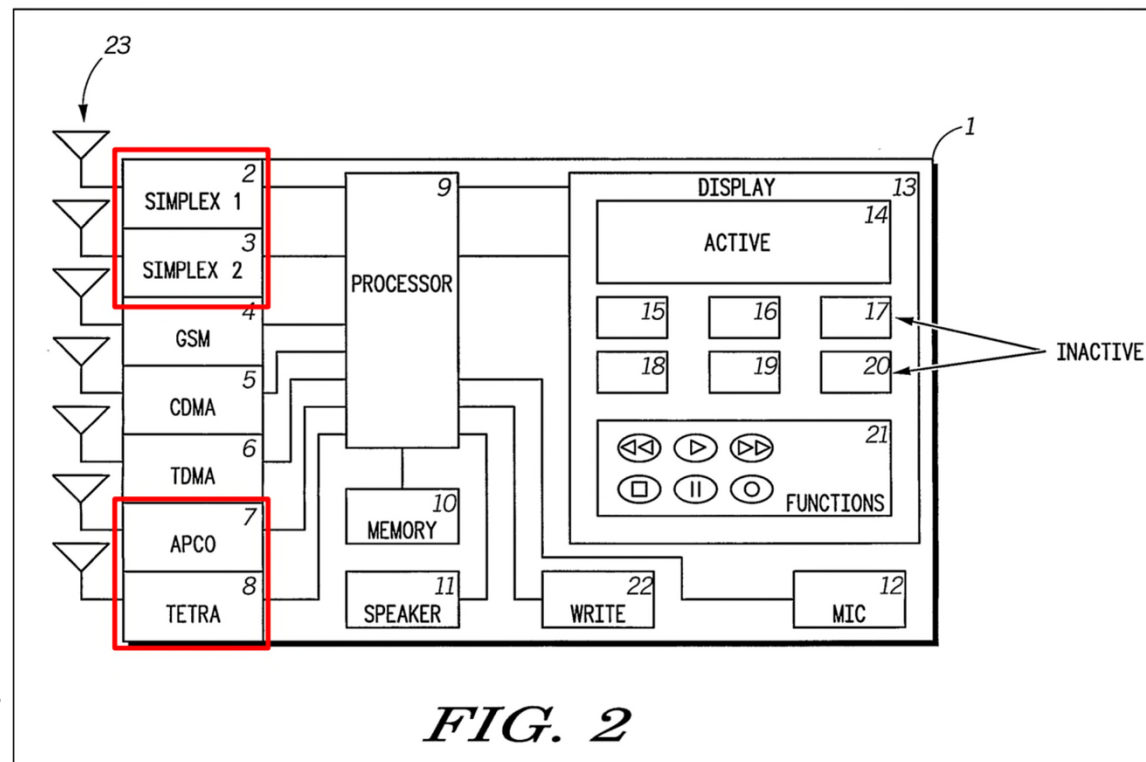


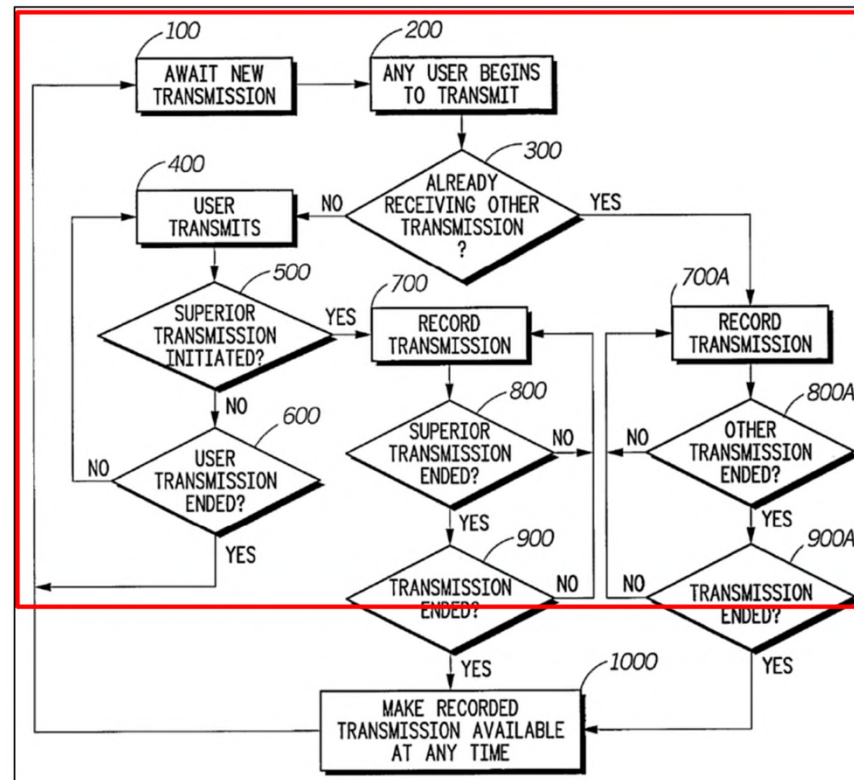
FIG. 2

Ex[1004] (Ohel) Fig. 2.

Ground 1 (Ohel) – Claim 20

20 The method of claim 1, wherein playing the message comprises playing the message having a higher priority between the first and second message without storing the message having the higher priority if no other message is being played.

- As depicted in steps 100-600, Ohel discloses that if no higher priority transmission interrupts the first message, the transmission is played but not recorded:



Ground 1 (Ohel) – Claim 21

21 The method of claim 1, wherein determining the priority comprises determining the priority based on the dedicated channel the first message and/or the second message is received on.

- Ohel determines priority, at least, based on the specific transceiver the message is received on, such as “the user’s APCO transceiver.”

During the conversation, the police dispatcher begins to transmit one or more messages to the officer over the APCO transceiver 7. At this point in time, two example scenarios exist.

[0070] In a first of the scenarios, if the predefined protocol has been defined to force the officer to immediately listen to the dispatcher, then, all communication over the user’s CDMA transceiver 5 would be preempted by the user’s APCO transceiver 7. (Alternatively, the dispatcher can have

Ex[1004] (Ohel) [0069]-[0070].

- Thus, incoming communication on the APCO transceiver would be given priority over ongoing communications on the CDMA transceiver.

Ground 1 (Ohel) – Other Challenged Claims

- Independent claims 11, 13, 14, 17, 18, and 19 are similar to claim 1.
 - Dependent claim 12 is nearly identical to claim 7.
 - Dependent claims 15-16 are nearly identical to claims 2 and 7.
- Patent Owner relies on its arguments for claim 1 for independent claims 11, 13, 14, 17, 18, and 19.
 - Patent Owner does not contest Petitioner's mapping of the corresponding structure in Ohel for the means-plus-function elements in claims 13 and 14.
- Patent Owner presents separate argument for claim 11 that it contends also applies to claims 13 and 14.
 - Patent Owner's arguments for claim 11 (and claims 13 and 14) lack merit.

Ground 1 (Ohel) – Claim 11, Element 11[f]

11[f] storing the message having lower priority in a queue on the basis of the determination and the prioritization;

- Ohel's unit has “the ability to record any number of simultaneous transmissions” and make them available to users for playback any time.

21. In each possible example, the unit 1 according to the invention provides the user with the ability to record any number of simultaneous transmissions to the user without loss of information from any of the potential sources.

Ex[1004] (Ohel) [0072].

[0052] When a transmission is recorded, the transmission can be made available to users for playback (see step 1000) any time after recording begins.

Ex[1004] (Ohel) [0055].

- The parties' experts agree ***storing messages in a queue was well-known in the art:***

number of simultaneous transmissions would be stored. A POSITA would further have understood that a queue is one well known, practical way to store multiple messages in a single memory device.

Ex[1002] (Williams) ¶195.

device such as the dynamic memory device.” Petition, 41-42. While a queue is indeed one well-known way to store data, that does not make a queue suitable for all

Pet. at 25-27, 41-42 (citing Ex[1002] ¶¶193-195); Reply at 16-17.

Ex[2007] (Akl) ¶76.

Ground 1 (Ohel) – Claim 11, Element 11[f]

11[f] storing the message having lower priority in a queue on the basis of the determination and the prioritization;

Patent Owner's argument is inconsistent with the claim scope

- Patent Owner argues that a POSITA would not have used a queue with Ohel's system because ***Ohel's user determines which stored information is played.***
- According to Patent Owner, in the '802 Patent "stored messages are ***automatically played based on their order in a queue*** at the time of playback."
- Claim 11 (and claims 13-14) merely require receiving two messages: the higher priority message is played and the lower priority message is stored and subsequently played.
- The claims ***do not require*** automatic playback or assigning priority to multiple stored messages "to determine the priority ***between*** the stored messages to establish the queue" as Patent Owner contends.

Ground 1 (Ohel) – Claim 11, Element 11[f]

11[f] storing the message having lower priority in a queue on the basis of the determination and the prioritization;

Patent Owner's argument is inconsistent with district court position

- Patent Owner' argument is *inconsistent with Dr. Akl's opinion in the litigation*.
- Dr. Akl opined that this limitation is met by *functionality that permits a user to select a message for playing* from a list.

Ground 1 (Ohel) – Claim 11, Element 11[f]

11[f] storing the message having lower priority in a queue on the basis of the determination and the prioritization;

A queue is compatible with user selection

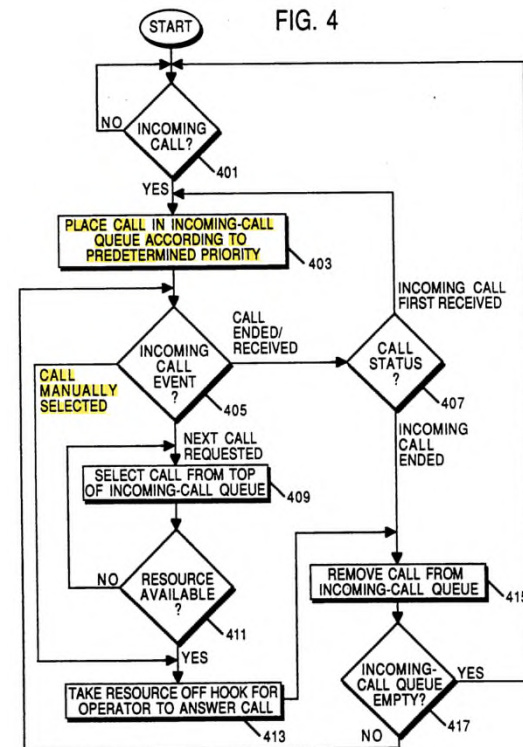
- The technique of storing in a queue while allowing user selection from the queue was known at least as early as 1991, as evidenced by the prior art identified in Mr. Williams' declaration.

Selection of the next incoming call is shown in a flowchart in FIG. 4. If at step 401 a new call is incoming (one that is not yet in the incoming-call queue 207), the call is placed in the incoming-call queue 207 according to a predetermined priority at step 403. This priority may be as simple as chronological order, where the first

Ex[1017] 3:60-65.

source is sought by continuing with step 409. If the incoming call event at step 405 is a call that is manually selected by the operator, the process continues with step 413. If the incoming call event at step 405 is a call

Ex[1017] 4:25-26.



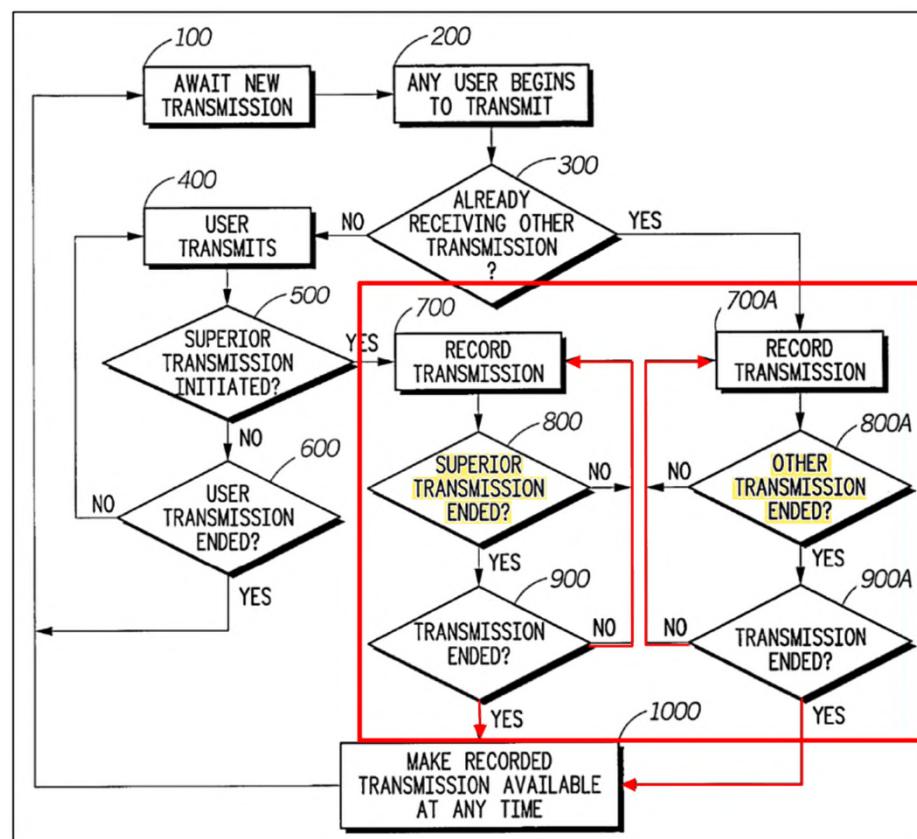
Ex[1017] FIG. 4.

Reply at 18; Pet. at 41-42 (citing Ex[1002] ¶¶193-195); Ex[1002], ¶93.

Ground 1 (Ohel) – Claim 11, Element 11[g]

11[g] checking periodically the status of the message being played; and

- Patent Owner does not dispute that Ohel teaches checking periodically the status of the message being played:



Pet. at 42; Ex[1004] (Ohel) FIG. 1; Ex[1002], ¶196.

Ground 1 (Ohel) – Claim 11, Element 11[h]

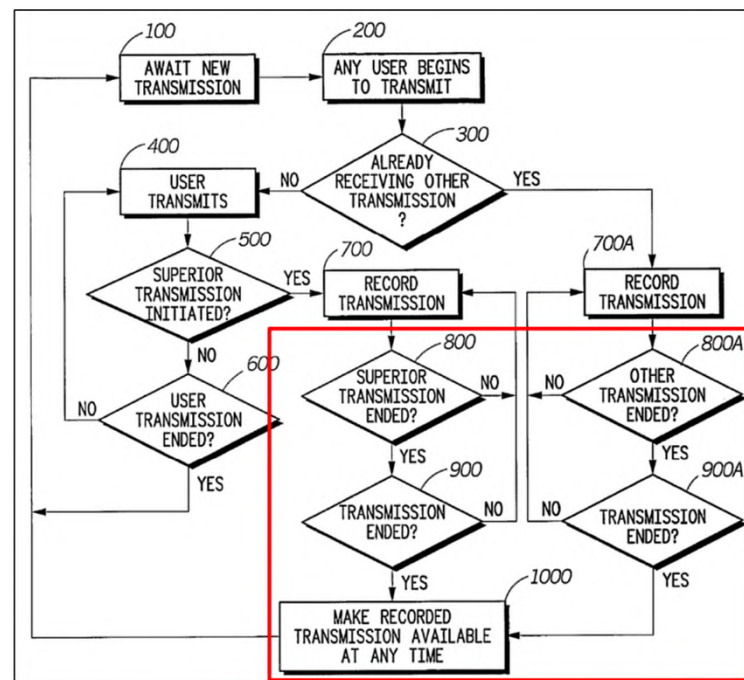
11[h] playing the stored message having the highest priority.

- Ohel teaches playing the stored message having the highest priority for the same reasons as limitation 1[g]:

1[g] playing the stored message subsequent to completing playing of the message having higher priority.

[0017] In accordance with yet an added mode of the invention, at least one of the recorded transmissions is played back after the new wireless transmission and/or after the user's transmission has ended. Playback can begin from a starting point of a recorded transmission and/or from a user-selected point of time within a recorded transmission.

Ex[1004] (Ohel) [0017].



Ex[1004] (Ohel) FIG. 1.

Ground 1 (Ohel) – Claim 11, Element 11[h]

11[h] playing the stored message having the highest priority.

Petition's analysis of claim 1 adequately addresses element 11[h]

- No material difference between limitations 1[g] and 11[h] – both require “playing the stored message.”
- Because the claims only recite that one message (the lower priority message) is stored and subsequently played, ***that stored message is “the stored message having the highest priority.”***

overlap in time with radio message A. While radio message B is being played, radio message C is received. After computation and comparison of the priorities of B and C, it is found that the priority of radio message B is higher. Hence, radio message C is stored in the queue. At this point of time, radio message C is the only radio message in the queue. As soon as radio message B is completed, radio message C is played. While radio message C is being played,

Ex[1001] 5:37-44.

Reply at 16; Petition at 2, 27-28; Ex[1002], ¶¶152-154, 193-197.

Ground 1 (Ohel) – Claim 13

13[a] means for receiving a plurality of messages on the plurality of channels, the plurality of messages received including a first message received from a first dedicated channel dedicated to receiving messages from a first entity and a second message received from a second dedicated channel dedicated to receiving messages from a second entity;	See limitations 1[a]-1[b]. Structure → Transceiver units 2-8
13[b] means for playing a received messages having the highest priority, the plurality of received messages being prioritized based on at least one predefined parameter;	See limitations 1[e], 1[g]. Structure → “Speaker or multiple speaker system 11” Ex[1004], [0035], [0064].
13[d] means for prioritizing the received plurality of messages including the first message from the first dedicated channel and the second message from the second dedicated channel based on the predefined parameter; 13[e] means for determining which messages out of the received messages should be stored and subsequently played based on messages overlapping in time and one or more priorities assigned to the first and the second message;	See limitations 1[c]-1[d]. Structure → A “processor” that determines “to record the user's transmission for playback” based on if the “unit detects a superior user's transmission during the transmission of the user's message.” Ex[1004], [0025], [0048].
13[f] means for sending the messages for playing based on the associate priority; and	See limitation 1[e]. Structure → A “processor” structure “can be programmed to play back recorded transmission data stored in the memory.” Ex[1004], [0030].
13[g] means for storing the messages other than the one sent 20 for playing in a queue based upon the associated priority.	See limitation 1[f]; 11[f]. Structure → A “memory 10.” Ex[1004], [0015], [0064].

Pet. at 43-45; Ex[1002], ¶¶62-63, 199-207, 208.

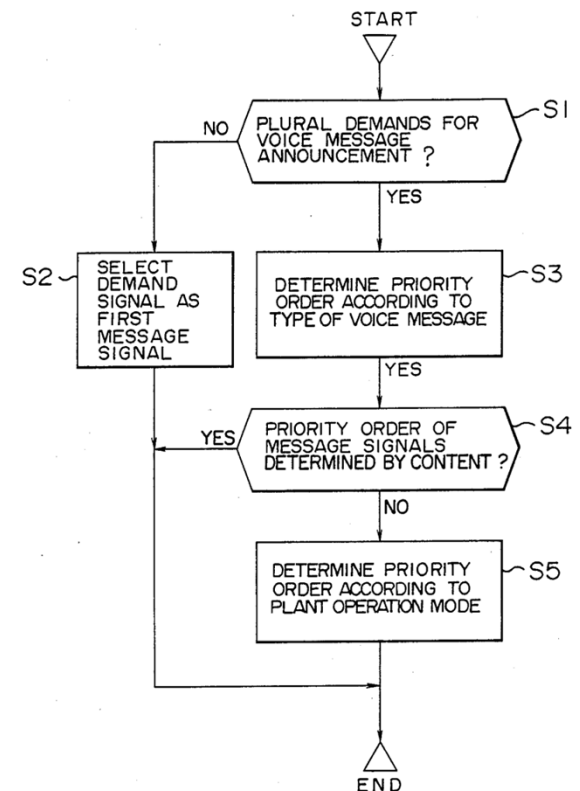
Ground 2 – Claims 1-7 and 11-21 are obvious over Nigawara

Overview – Asserted References – Nigawara

- U.S. Patent No. 4,914,705 (“Nigawara”) (Ex[1007]) is entitled “**Voice Message Announcing Method and System for Plant.**”
- Nigawara describes a method and system for announcing operating conditions of a plant by voice message.

announcing order selection unit 3. When a plurality of demands for announcement of voice messages exist simultaneously, the message announcing order selection unit 3 determines the priority order of announcement of the voice messages according to the contents of the messages and the relative importance of various pieces of information described below, and the voice messages are announced from speakers 4 according to the priority order. Plant operation mode information signals 7 are

Ex[1007] 3:33-41.



Ex[1007] FIG. 3.

Ground 2 (Nigawara) – Claim 1, Element 1[Pre]

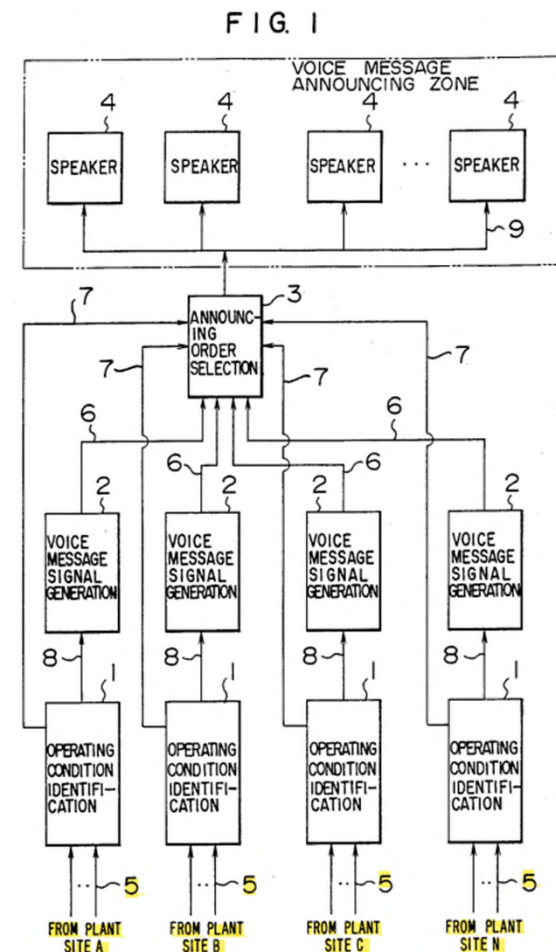
1[Pre] A method of managing communication in a communication system, the communication system receiving messages from a plurality of channels, the method comprising:

According to the present invention which attains the above object, the priority order of announcement of voice message signals generated from a plurality of independent voice message announcing devices is determined according to their importance, and the messages are serially announced according to the determined priority order.

Ex[1007] (Nigawara) 1:49-55.

1. A voice message announcing method for a plurality of plant sites, said method comprising the steps of:

Ex[1007] (Nigawara) 7:35-36 (cl. 1).



Ex[1007] (Nigawara) FIG. 1.

Ground 2 (Nigawara) – Claim 1, Elements 1[a]-1[b]

- 1[a]** receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity;
- 1[b]** receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time;

Referring to FIG. 1, the thermal power plant includes plant sites A, B, C, . . . , N, and the operating conditions of each of these plant sites are announced by voice messages. The objects operated may be machinery or equipments instead of the plants. Information signals 5 indicative of operating conditions of plant site A in-

Ex[1007] (Nigawara) 2:27-32.

in the furnace of the boiler of plant site A. Such information signals 5 are applied to a plant operating condition identification unit 1 identifying the operating con-

Ex[1007] (Nigawara) 2:27-32.

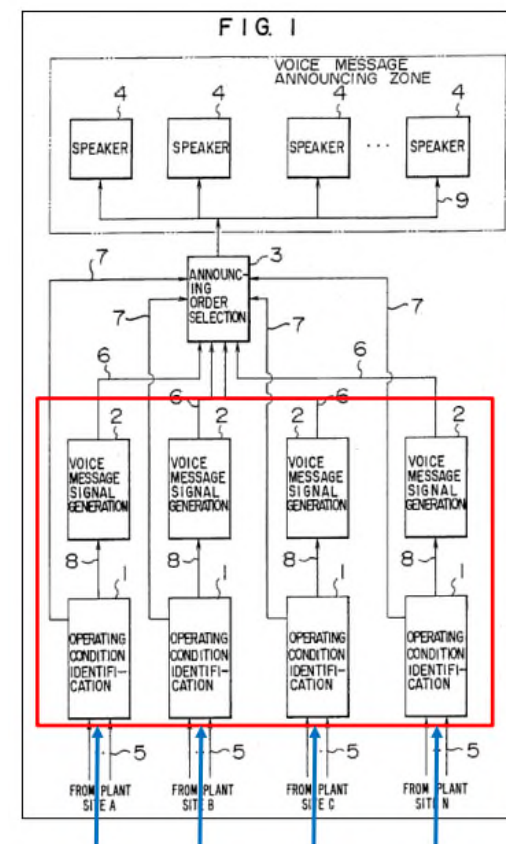
ing condition identification unit 1, a voice message announcement instruction signal 8 is applied to a voice message signal generating unit 2 from the plant operat-

Ex[1007] (Nigawara) 2:59-66.

tape or the like. The units 1 and 2 are also provided for each of the remaining plant sites B, C, . . . , N.

Pet. at 56-61; Ex[1002], ¶¶237-244.

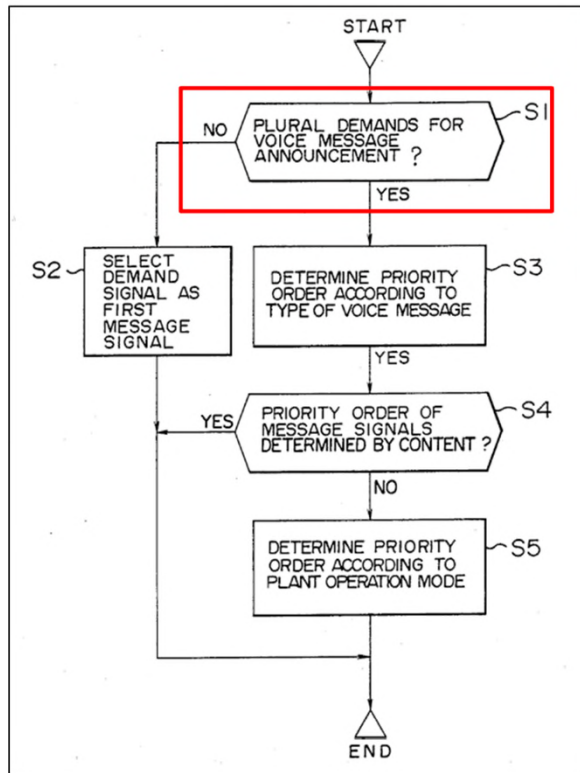
Ex[1007] (Nigawara) 3:28-29.



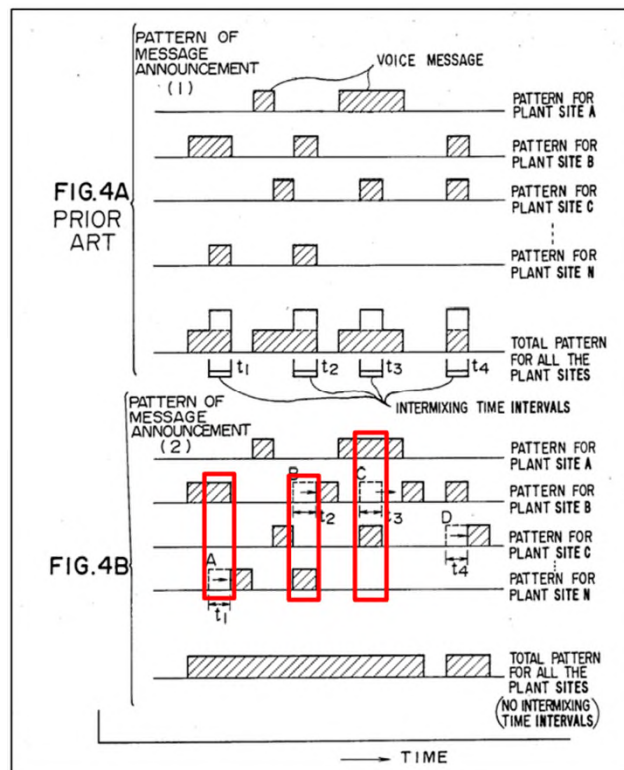
Ex[1007] (Nigawara) FIG. 1 (annotated).

Ground 2 (Nigawara) – Claim 1, Elements 1[a]-1[b]

- 1[a]** receiving a first message on a first dedicated channel from amongst the plurality of channels at the communication system, the plurality of channels being dedicated to different entities, the first dedicated channel being dedicated to receiving messages from a first entity;
- 1[b]** receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity from amongst the plurality of channels at the communication system, the second message overlapping with the first message in time;



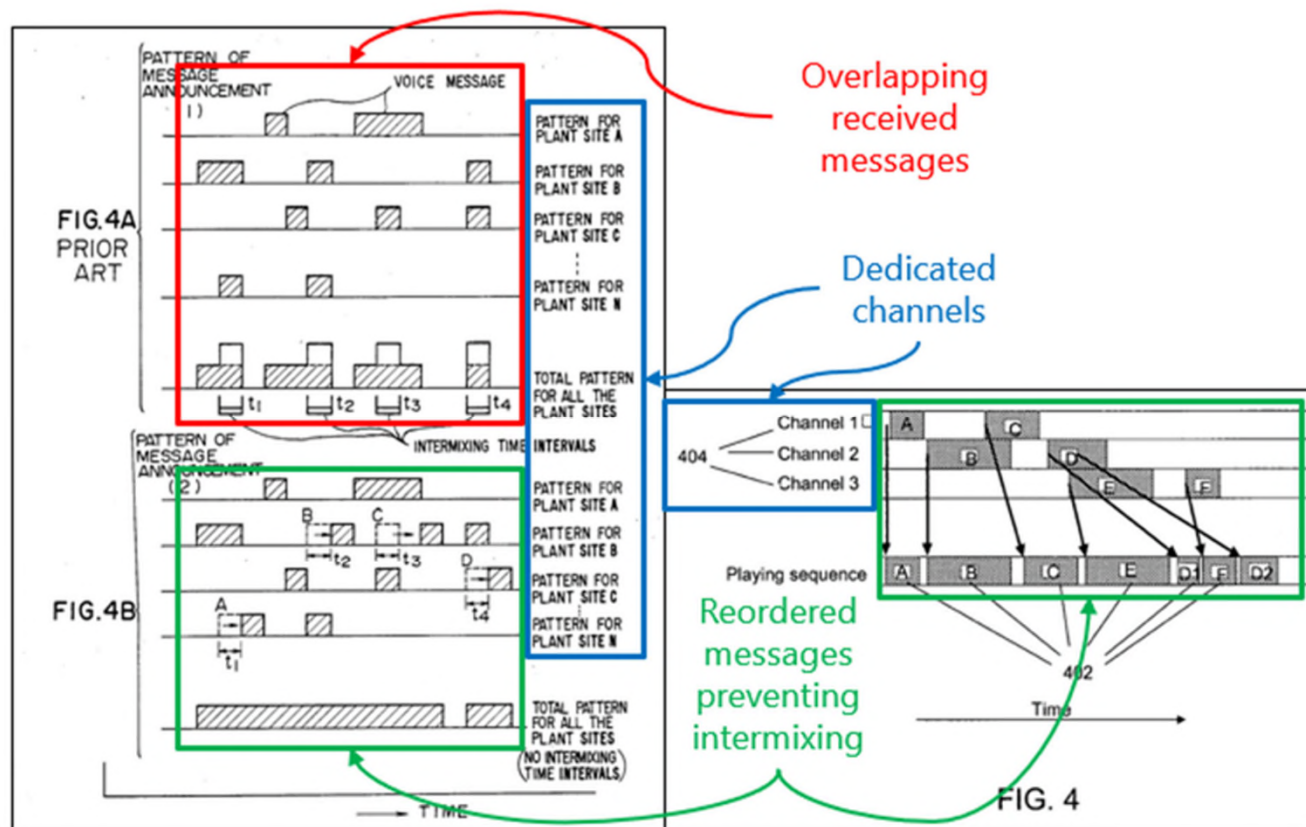
Ex[1007] (Nigawara) FIG. 3.



Ex[1007] (Nigawara) FIGS. 4A-4B.

Ground 2 (Nigawara) – Claim 1, Elements 1[a]-1[b]

- Nigawara “solve[s] the problem of intermixture of announced messages” using priority—in the same way as depicted in FIG. 4 of the '802 Patent.



Ex[1007] (Nigawara) FIGs. 4A & 4B

Ex[1001], FIG. 4

Ground 2 (Nigawara) – Claim 1, Elements 1[a]-1[b]

Nigawara discloses the claimed first and second entities

- Nigawara's plant sites are entities under Patent Owner's interpretation, which includes "groups, localities, and units[.]"
- Patent Owner admits that Nigawara's plant sites are "**sites within**" the plant (i.e., localities).

lo-cal-i-ty (lō kal/i tē), *n.*, *pl. -ties*. **1.** a place, spot, or district, with or without reference to things or persons in it or to occurrences there: *They moved to another locality.* **2.** the state or fact of being local or having a loca-

EX[1032], 3.

- Nigawara (and Dr. Akl) describe the plant sites as **units** of the plant:

Practically, it is required to provide an independent voice message announcing device for each of individual suitably-divided units of the plant. When these voice

Ex[1007] (Nigawara) 1:27-29.

intermixed. Ex. 1007, 1:34-49. The reason this problem occurred in the pre-existing system is that within different units or plant sites, within the plant, there was no

Ex[2007] (Akl) ¶83.

Reply at 19-20; POR at 16, 48.

Ground 2 (Nigawara) – Claim 1, Elements 1[a]-1[b]

Nigawara renders the '802 Patent's *claimed* solution obvious

- PO's arguments based on alleged problem's the '802 Patent solves are based on *unclaimed* features.
- Claim 1 ***does not require an operator (or dispatcher)*** and does not require an operator sitting between two different entities.
- Nigawara and the '802 Patent both ***address the problem of overlapping messages*** becoming garbled if played simultaneously:

suitably-divided units of the plant. When these voice message announcing devices operate independently of one another, voice messages pertaining to different operating conditions are announced simultaneously due to the absence of operational harmony among these devices. Consequently, a problem has arisen in which the announced voice messages mix with one another to an extent that the individual voice messages cannot be distinguished from one another by the operators.

Ex[1007] (Nigawara) 1:29-38.

Alternatively, the operator hears overlapping messages. However, in this case, there is a possibility of interference in the overlapping messages, resulting in garbled communication, which may not be of any use. In such a situation, no message being communicated can be used or retrieved.

Ex[1001] ('802 Patent) 1:32-36.

Reply at 20; POR at 39-42.

Ground 2 (Nigawara) – Claim 1, Elements 1[a]-1[b]

The Petition consistently identifies the first and second messages.

- The Petition identifies Nigawara’s “information signals 5” as the received messages. The operating conditions indicated by the information signals are announced by voice messages:

Referring to FIG. 1, the thermal power plant includes plant sites A, B, C, . . . , N, and the operating conditions of each of these plant sites are announced by voice messages. The objects operated may be machinery or equipments instead of the plants. Information signals 5 indicative of operating conditions of plant site A include process signals representing the pressure, temper-

Ex[1007] (Nigawara) 2:26-32.

- Dr. Akl acknowledges the announcement of operating conditions:

45. In an illustrative example, a plant operating condition identification unit (1) identifies that an announcement of an operating condition related voice message is required. *Id.*, 2:59–2:63; Fig. 1. A voice message signal generating unit (2) then

Ex[2007], ¶45.

- Nothing in the '802 patent’s open-ended “comprising” claims precludes additional processing of messages between the time the messages are received and the rest of the claimed steps are performed.

Reply at 24; Petition at 56-61; POR at 48.

Ground 2 (Nigawara) – Claim 1, Element 1[c]

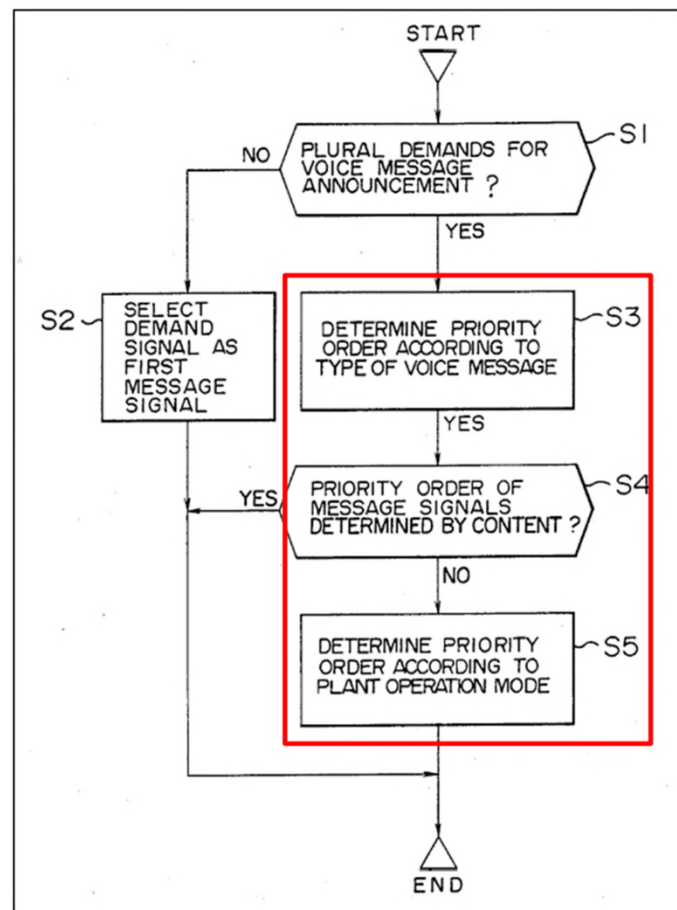
1[c] determining one or more priorities for the first message received on the first dedicated channel from the first entity and the second message received on the second dedicated channel from the second entity based on at least one pre-defined parameter;

announcing order selection unit 3. When a plurality of demands for announcement of voice messages exist simultaneously, the message announcing order selection unit 3 determines the priority order of announcement of the voice messages according to the contents of the messages and the relative importance of various pieces of information described below, and the voice messages

Ex[1007] (Nigawara) 3:33-39.

ing speaker 4 which announces the voice message. On the other hand, when plural, for example two, voice message signals 6 are simultaneously applied, the priority order and the type of voice message signals 6 shown in Table 1 are referenced in step S3 to classify them into a first message signal and a second message signal according to the predetermined priority order. When

Ex[1007] (Nigawara) 6:36-42.



Ex[1007] (Nigawara) FIG. 3.

Ground 2 (Nigawara) – Claim 1, Element 1[c]

1[c] determining one or more priorities for the first message received on the first dedicated channel from the first entity and the second message received on the second dedicated channel from the second entity based on at least one pre-defined parameter;

TABLE 1

Example of determination of priority order according to contents of voice messages (type of message output signals 6)	
Priority order	Contents of Message
1st	Voice message announcing serious trouble in main machinery and equipments
2nd	Voice message announcing medium trouble in large auxiliary machinery and equipment
3rd	Voice message announcing a change in operating conditions of main machinery and equipment
4th	Voice message teaching actuation of automatically controlled machinery and equipment
5th	Voice message announcing slight trouble in valves and small auxiliary machinery and equipment
6th	Voice message announcing a change in operating conditions of auxiliary machinery and equipment
7th	Voice message announcing guidance for actuation of automatically controlled machinery and equipment

Ex[1007] (Nigawara) Table 1 (5:1-23).

TABLE 2

Example of determination of priority order according to plant operation modes provided by plant operation mode signals 7 (secondary determination)	
Priority order	Operation mode
1st	Starting stage (after parallel-in)
2nd	Starting stage (before parallel-in)
3rd	Stopping stage (before parallel-off)
4th	Stopping stage (after parallel-off)
5th	Steady operation (changing load)
6th	Steady operation (fixed load)
7th	Not in operation

Ex[1007] (Nigawara) Table 2 (6:1-15).

Pet. at 62-63; Ex[1002], ¶¶245-249.

Ground 2 (Nigawara) – Claim 1, Element 1[d]

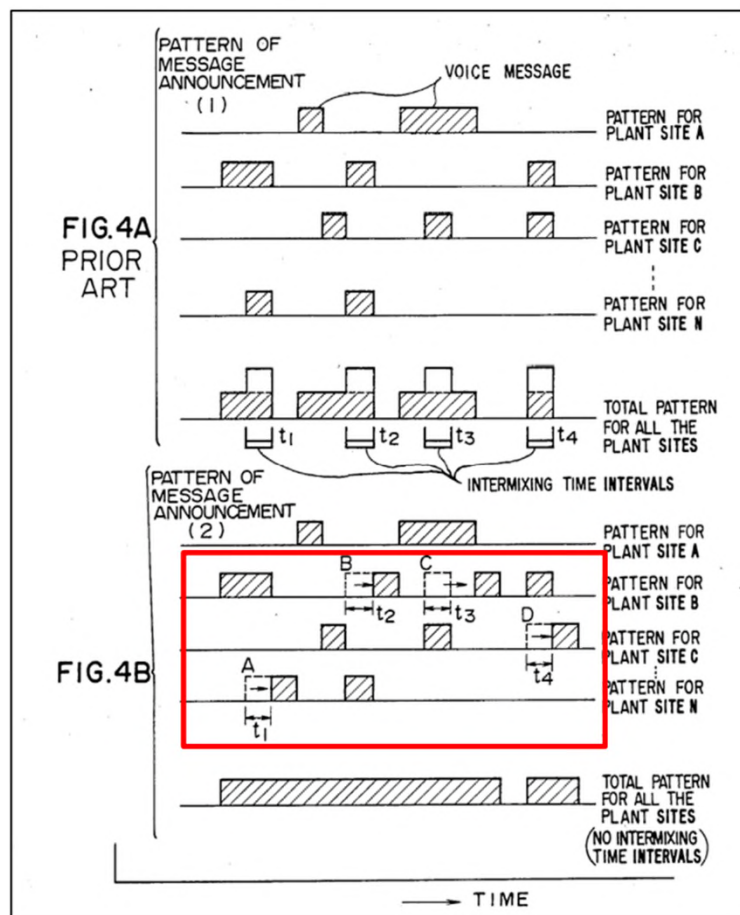
1[d] determining which message out of the first message and the second message should be stored and subsequently played based on the second message overlapping with the first message in time and one or more priorities assigned to the first and the second message;

In contrast, FIG. 4B shows the pattern of voice message announcement in each of plant sites A, B, C, . . . , N when using the present invention. It will be seen that in time intervals t_1 , t_2 , t_3 and t_4 , where announced messages overlap each other, those voice message signals having priority lower than the others are announced with a suitable delay according to the priority order, so as to solve the problem of intermixture of announced messages.

Ex[1007] (Nigawara) 7:20-28.

FIG. 1. Voice message output signals 6 from the voice message signal generating units 2 of the individual plants are stored in a voice message signal memory 10. The voice message signals 6 are also applied, together with the plant operation mode information signals 7, to a message announcing order determination unit 11.

Ex[1007] (Nigawara) 3:68-4:5.



Ex[1007] (Nigawara) FIGs. 4A-4B.

Ground 2 (Nigawara) – Claim 1, Element 1[d]

1[d] determining which message out of the first message and the second message should be stored and subsequently played based on the second message overlapping with the first message in time and one or more priorities assigned to the first and the second message;

announced messages.” *Id.*, 7:23-28. A POSITA would have understood from Nigawara’s disclosure that lower priority messages announced with a suitable delay (i.e., lower priority messages) would be stored in voice signal memory 10 for the duration of that delay.

Ex[1002] (Williams) ¶251.

Ground 2 (Nigawara) – Claim 1, Element 1[d]

Nigawara meets the order of steps construction.

- When Nigawara’s system encounters overlapping demands for message announcement, Nigawara’s disclosure of determining to announce a lower priority message with a suitable delay (*i.e.*, ***to continue storing the lower priority message in memory while the higher priority message is announced***) teaches element 1[d].
- Consistent with the order of steps construction, this determination occurs **after** determining the priorities and **before** playing the highest priority message and continuing to store the lower priority message.

(3) the “determining which message” step [1D] must be performed **after** the “determining one or more priorities” step [1C];
(4) the “determining which message” step [1D] must be performed **before** the “playing the message having a higher priority” step [1E] and the “storing at least one message” step [1F]; and

Ex[2004], 16.

- The claims **do not preclude** storing all messages until they are played out in priority order.

Reply at 21-22; Pet. at 64-65.

Ground 2 (Nigawara) – Claim 1, Element 1[d]

Nigawara meets the order of steps construction.

- The Board already recognized that the *claim language does not preclude storing a message until its priority is assigned*:

another message. The claim language also does not appear to otherwise specify that the message is not to be stored until its priority is assigned.

Patent Owner does not explain why the claim language should be read so narrowly. Prelim. Resp. 18–19; Prelim. Sur-reply 4–5.

Decision at 11.

Reply at 21.

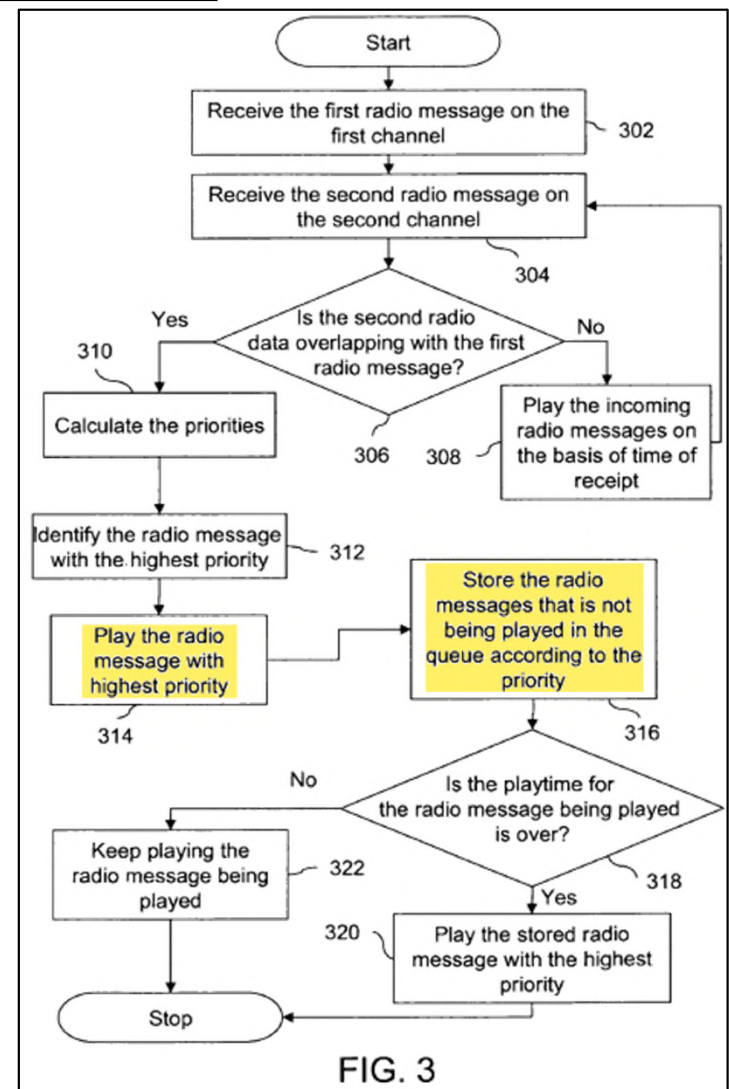
Ground 2 (Nigawara) – Claim 1, Element 1[d]

Nigawara meets the order of steps construction.

- The '802 confirms that the steps involving determining priority of the messages and determining which message should be stored and subsequently played ***can be performed on messages stored in memory***, including where the “higher” priority message is stored.

However, in case a new radio message is received on any of the plurality of channels, while the radio message with the highest priority is being played, steps 302 to 316 are performed. According to these steps, new radio message is

Ex[1001], 5:10-13 (describing FIG. 3).



Ex[1001], FIG. 3.

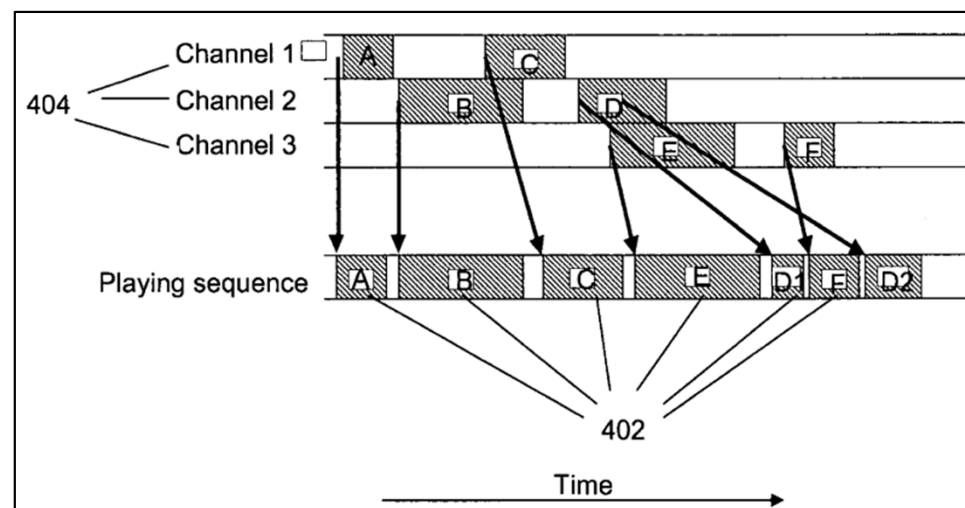
Ground 2 (Nigawara) – Claim 1, Element 1[d]

Nigawara meets the order of steps construction.

- The '802 Patent teaches the same thing as Nigawara – describing a scenario where both the “higher” and “lower” priority messages are stored while they are played back in priority order:

queue. As soon as radio message B is completed, radio message C is played. While radio message C is being played, radio messages D and E are received. Radio messages D and E are lower in priority than radio message C, so they are stored in the queue, based on the priority. In accordance with an embodiment of the invention, the priority of radio message E is higher than that of radio message D, and hence, is stored accordingly in the queue. As soon as radio message C is completed, stored radio message E is played, since it is highest in priority among the stored radio messages. Radio message D is still in the queue. As soon as radio message E is completed, stored radio message D is played. However,

Ex[1001], 5:43-54 (discussing FIG. 4).



Ex[1001], FIG. 4.

Ground 2 (Nigawara) – Claim 1, Element 1[d]

Nigawara meets the order of steps construction.

- The prosecution history does not suggest that the claims preclude temporary storage of messages.

message. Rather, messages are always stored in Cheng and Cheng does not disclose or suggest making the determination based on an overlap in time. The messages are first stored in the FIFO and then stored in buffers 36n based on a priority desired. Because the users in Cheng hang up and are called back, it would not have been obvious to make the above determination because Cheng may not expect overlap. Even if overlap did exist (Cheng does not disclose this however), the above determination is not made in Cheng because the messages are always stored and then moved to a priority buffer. Thus, the combination of Cheng and Uchida may store messages or pages but this storing is not performed based on any determination that the messages or pages overlap in time or the priority of the messages or pages.

Ex[1003], 62.

Ground 2 (Nigawara) – Claim 1, Element 1[d]

Nigawara meets the order of steps construction.

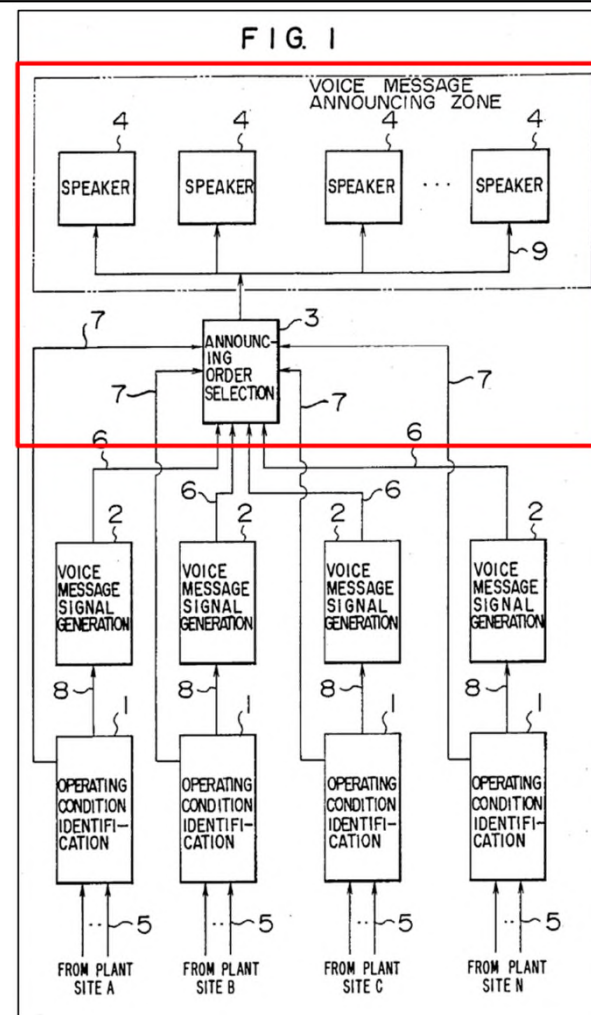
- Patent Owner's and Dr. Akl's attempt to use storing messages to distinguish Nigawara lacks credibility.
- In his infringement report, Dr. Akl opines that a system in which ***all received messages are stored and then presented to the user*** in a sorted list meets limitation 1[d].
- According to Dr. Akl, the user of the accused system can select which messages to view first “and will be prompted to store the lower priority messages[.]”

Ground 2 (Nigawara) – Claim 1, Element 1[e]

1[e] playing the message having a higher priority between the first and the second message;

announcing order selection unit 3. When a plurality of demands for announcement of voice messages exist simultaneously, the message announcing order selection unit 3 determines the priority order of announcement of the voice messages according to the contents of the messages and the relative importance of various pieces of information described below, and the voice messages are announced from speakers 4 according to the priority order. Plant operation mode information signals 7 are

Ex[1007] (Nigawara) 3:33-41.



Ex[1007] (Nigawara) FIG.1.

Ground 2 (Nigawara) – Claim 1, Element 1[f]

1[f] storing at least one message having a lower priority between the first and the second message based on the determination; and

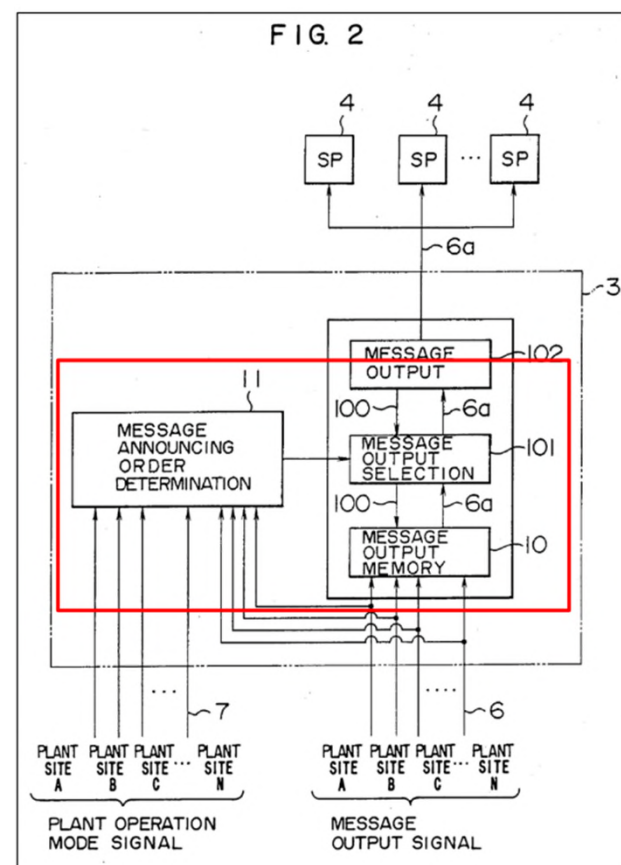
- A POSITA would have understood that delayed lower priority messages would be stored in voice signal memory 10 for the duration of the delay.

FIG. 1. Voice message output signals 6 from the voice message signal generating units 2 of the individual plants are stored in a voice message signal memory 10. The voice message signals 6 are also applied, together with the plant operation mode information signals 7, to a message announcing order determination unit 11.

Ex[1007] (Nigawara) 3:68-4:5.

N when using the present invention. It will be seen that in time intervals t_1 , t_2 , t_3 and t_4 , where announced messages overlap each other, those voice message signals having priority lower than the others are announced with a suitable delay according to the priority order, so as to solve the problem of intermixture of announced messages.

Ex[1007] (Nigawara) 7:22-28.



Ex[1007] (Nigawara) FIG.2.

Ground 2 (Nigawara) – Claim 1, Element 1[g]

1[g] playing the stored message subsequent to completing playing of the message having higher priority.

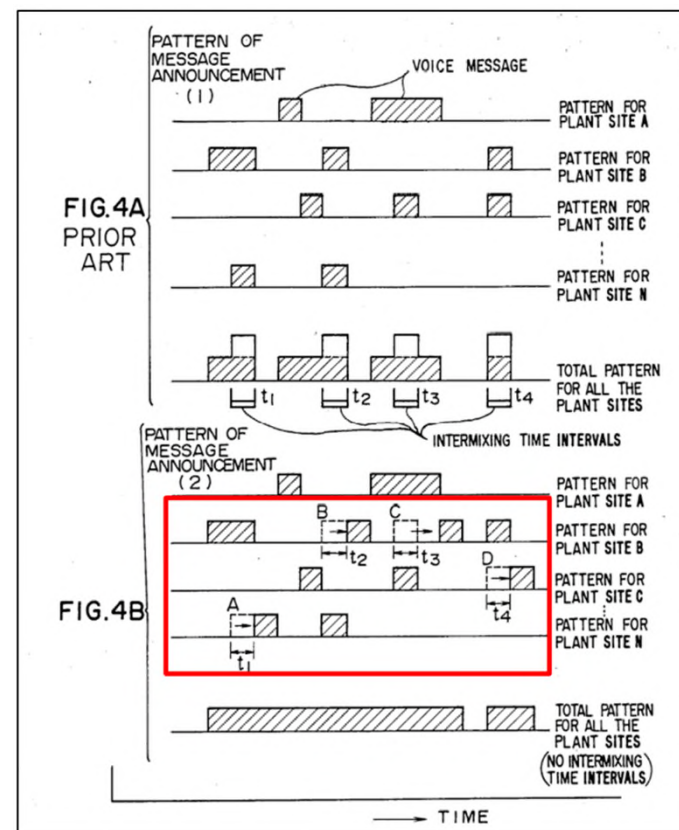
- Lower priority messages are stored and announced **subsequent to** completing playing (e.g., announcing) the higher priority message.

FIG. 1. Voice message output signals 6 from the voice message signal generating units 2 of the individual plants are stored in a voice message signal memory 10. The voice message signals 6 are also applied, together with the plant operation mode information signals 7, to a message announcing order determination unit 11.

Ex[1007] (Nigawara) 3:68-4:5.

N when using the present invention. It will be seen that in time intervals t_1 , t_2 , t_3 and t_4 , where announced messages overlap each other, those voice message signals having priority lower than the others are announced with a suitable delay according to the priority order, so as to solve the problem of intermixture of announced messages.

Ex[1007] (Nigawara) 7:22-28.



Ex[1007] (Nigawara) FIGs.4A-4B.

Ground 2 (Nigawara) – Claim 2, 2[pre]-2[a]

- 2[pre]** The method of claim 1, wherein determining which message out of the first message and the second message should be stored and subsequently played comprises:
- 2[a]** calculating the priorities of the received messages; and

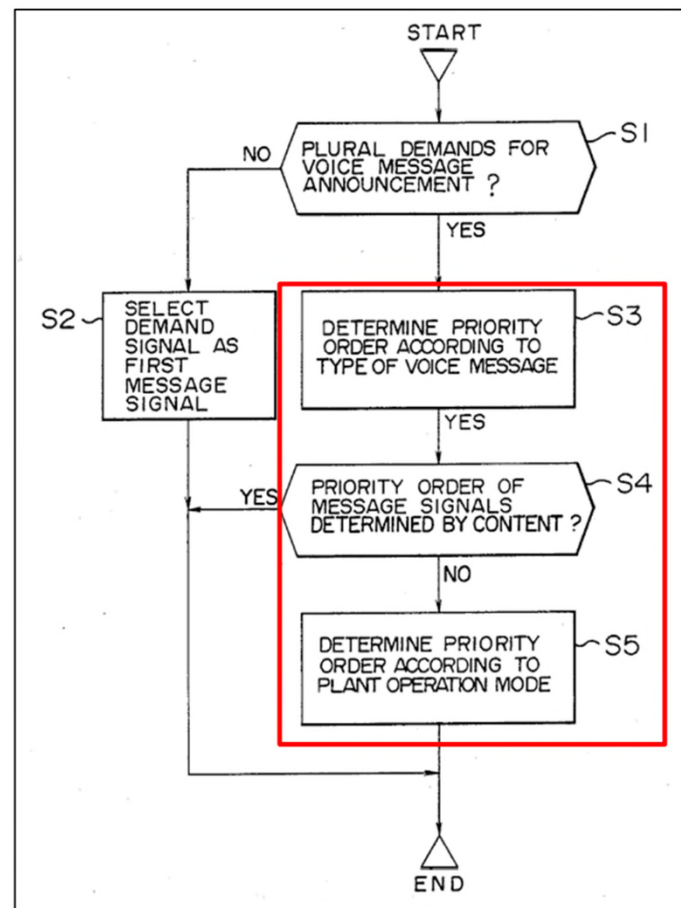
- Nigawara determines priority based on multiple factors:

announcing order selection unit 3. When a plurality of demands for announcement of voice messages exist simultaneously, the message announcing order selection unit 3 determines the priority order of announcement of the voice messages according to the contents of the messages and the relative importance of various pieces of information described below, and the voice messages are announced from speakers 4 according to the priority order. Plant operation mode information signals 7 are

Ex[1007] (Nigawara) 3:33-41.

267. Based on the consideration of message content, relative importance, and plant operation mode as described in Nigawara, a POSITA would have understood that Nigawara's message announcing order selection unit 3 process involves calculating the priorities of the received messages in order to determine the priority order of message announcements.

Ex[1002] (Williams) ¶267.



Ex[1007] (Nigawara) FIG. 3.

Pet. at 71-73; Ex[1002], ¶¶263-268.

Ground 2 (Nigawara) – Claim 2, Element 2[b]

2[b] comparing the priorities of the received messages.

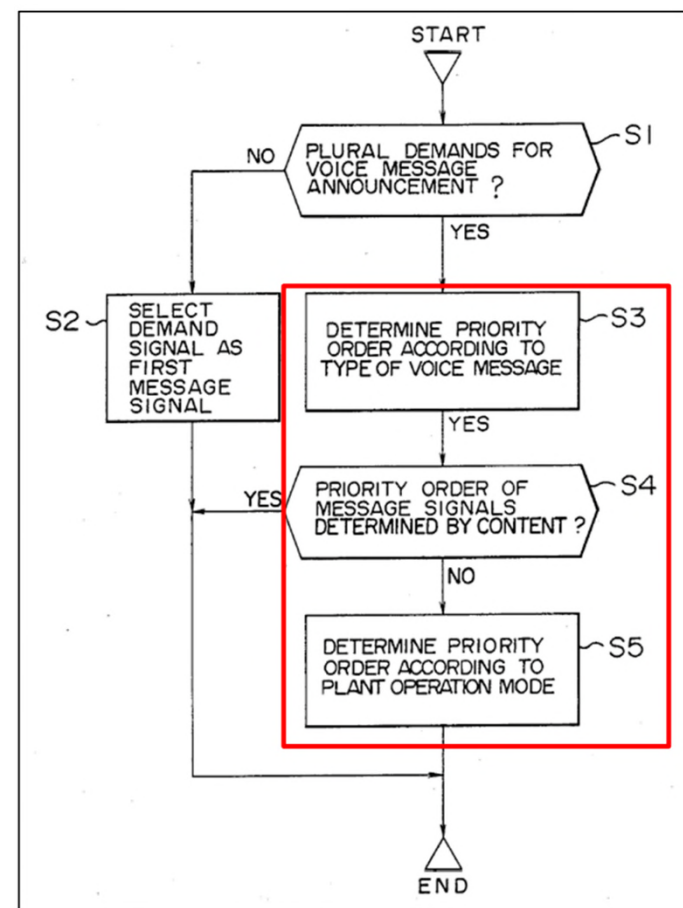
- Nigawara's disclosure of classifying voice message signals into first and second message signals, and announcing according to a priority order, ***requires comparing priorities*** of the received messages.

ing speaker 4 which announces the voice message. On the other hand, when plural, for example two, voice message signals 6 are simultaneously applied, the priority order and the type of voice message signals 6 shown in Table 1 are referenced in step S3 to classify them into a first message signal and a second message signal according to the predetermined priority order. When

Ex[1007] (Nigawara) 6:36-42.

of information described below, and the voice messages are announced from speakers 4 according to the priority order. Plant operation mode information signals 7 are

Ex[1007] (Nigawara) 3:39-41.



Ex[1007] (Nigawara) FIG. 3.

Ground 2 (Nigawara) – Claim 3

3 The method of claim 1, wherein the predefined parameter comprises a bandwidth requirement of the received messages.

- The '802 Patent's **only** disclosure of a bandwidth requirement is in a list of possible pre-defined parameters.
- According to Patent Owner's infringement contentions, this parameter:

3. The method of claim 1, wherein the predefined parameter comprises a bandwidth requirement of the received messages.	The predefined parameter comprises a bandwidth requirement of the received messages. For example, the messages can include a bandwidth requirement. This can be used, for example, to calculate resource requirements and optimize the system resources.
--	---

Ex[1011], p.10.

- A POSITA would understand Nigawara's need for prioritization describes a bandwidth constraint—e.g., the number of messages that can be simultaneously announced and comprehended.

announcing order selection unit 3. When a plurality of demands for announcement of voice messages exist simultaneously, the message announcing order selection unit 3 determines the priority order of announcement of the voice messages according to the contents of the

Ex[1007] (Nigawara) 3:33-37.

It will be seen from the above description that voice message signals are necessarily announced in the order determined according to their relative importance, so that really important information required for the operators can be immediately announced without the possibility of operators' mishearing because of intermixture of announced messages.

Ex[1007] (Nigawara) 7:3-9.

Pet. at 74-75; Ex[1002], ¶¶273-276.

Ground 2 (Nigawara) – Claim 4

- 4** The method of claim 1, wherein the predefined parameter comprises a type of the received messages.

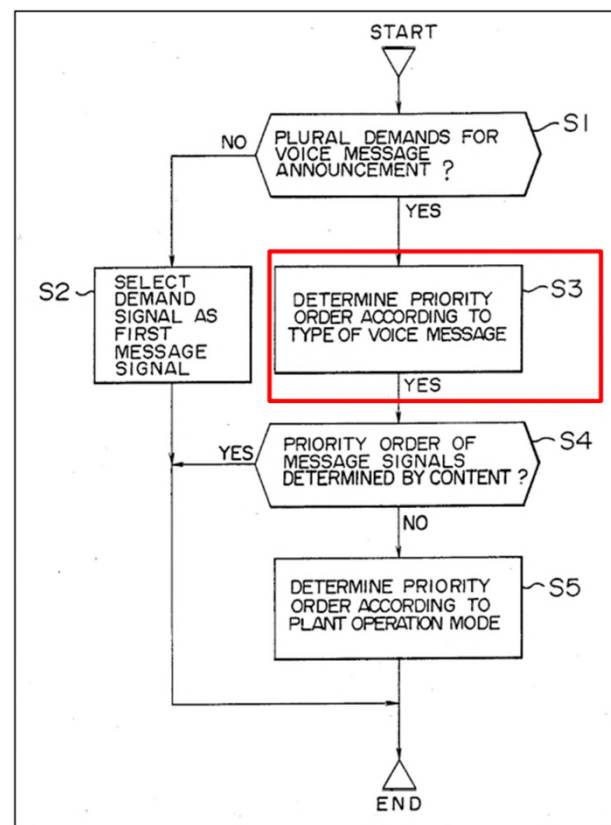
- Nigawara discloses determining one or more priorities for the first and second messages based on a type of the received messages.

ing speaker 4 which announces the voice message. On the other hand, when plural, for example two, voice message signals 6 are simultaneously applied, the priority order and the type of voice message signals 6 shown in Table 1 are referenced in step S3 to classify them into a first message signal and a second message signal according to the predetermined priority order. When

Ex[1007] (Nigawara) 6:36-42.

TABLE 1	
Example of determination of priority order according to contents of voice messages (type of message output signals 6)	
Priority order	Contents of Message
1st	Voice message announcing serious trouble in main machinery and equipments

Ex[1007] (Nigawara) Table 1.



Ex[1007] (Nigawara) FIG. 3.

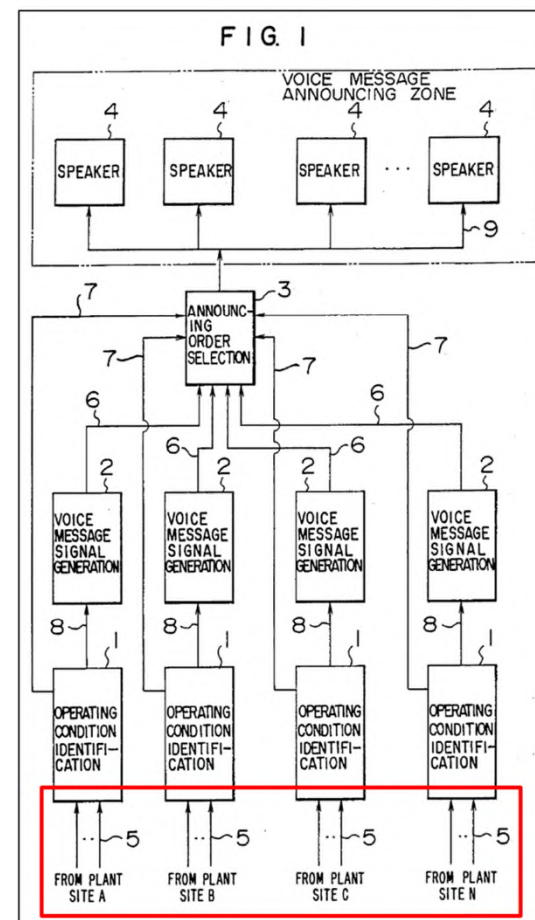
Ground 2 (Nigawara) – Claim 5

- 5** The method of claim 4, wherein the type of received messages being one of a group comprising audio, video, text, and image.

- Nigawara teaches that the received “information signals 5” include “a voice message” (audio) “and a video signal.”

equipments instead of the plants. Information signals 5 indicative of operating conditions of plant site A include process signals representing the pressure, temperature, flow rate, etc. of various fluids (such as water, steam and oil) flowing through plant site A, a voice message signal such as an announcement “water data is normal” announced by the operator who is observing the operating conditions of the plant site A, a machinery rotation noise signal generated from the plant site A, and a video signal representing the state of combustion in the furnace of the boiler of plant site A. Such infor-

Ex[1007] (Nigawara) 2:31-41.



Ex[1007] (Nigawara) FIG. 1.

Ground 2 (Nigawara) – Claim 5

- 5** The method of claim 4, wherein the type of received messages being one of a group comprising audio, video, text, and image.

Nigawara teaches claim 5 under Patent Owner’s IPR interpretation

- Nigawara prioritizes based on whether the message is a “voice message” and other criteria, which renders obvious prioritizing message “based on” the type of message being an audio message.

ing speaker 4 which announces the voice message. On the other hand, when plural, for example two, voice message signals 6 are simultaneously applied, the priority order and the type of voice message signals 6 shown in Table 1 are referenced in step S3 to classify them into a first message signal and a second message signal according to the predetermined priority order. When

Ex[1007] (Nigawara) 6:36-42.

TABLE 1	
Example of determination of priority order according to contents of voice messages (type of message output signals 6)	
Priority order	Contents of Message
1st	Voice message announcing serious trouble in main machinery and equipments
2nd	Voice message announcing medium trouble in large auxiliary machinery and equipment
3rd	Voice message announcing a change in operating conditions of main machinery and equipment
4th	Voice message teaching actuation of automatically controlled machinery and equipment
5th	Voice message announcing slight trouble in valves and small auxiliary machinery and equipment
6th	Voice message announcing a change in operating conditions of auxiliary machinery and equipment
7th	Voice message announcing guidance for actuation of automatically controlled machinery and equipment

Reply at 25-26.

Ex[1007] (Nigawara) Table 1.

Ground 2 (Nigawara) – Claim 6

- 6** The method of claim 1, wherein determining the priority comprises assigning priorities to the first message and the second message based on inputs from a user.

- Nigawara discloses prioritizing based on “a voice message signal . . . announced by the operator”:

announcing order selection unit 3. When a plurality of demands for announcement of voice messages exist simultaneously, the message announcing order selection unit 3 determines the priority order of announcement of the voice messages according to the contents of the messages and the relative importance of various pieces of information described below, and the voice messages

Ex[1007] (Nigawara) 3:33-38.

equipments instead of the plants. Information signals 5 indicative of operating conditions of plant site A include process signals representing the pressure, temperature, flow rate, etc. of various fluids (such as water, steam and oil) flowing through plant site A, a voice message signal such as an announcement “water data is normal” announced by the operator who is observing the operating conditions of the plant site A, a machinery

Ex[1007] (Nigawara) 2:31-38.

- A POSITA would have understood this to be “user input” as claimed:

conditions of the plant site.” *Id.*, 2:36-38. A POSITA would recognize that inputs would include, for example, keystrokes, live or recorded voice messages, or handwriting.

Ex[1002], ¶285.

Pet. at 78; Ex[1002], ¶¶284-286.

Ground 2 (Nigawara) – Claim 7

7 The method of claim 1, further comprising informing an operator the time of receipt of a message while playing the first message and the second message.

- Nigawara discloses announcing messages “with a suitable delay according to the priority order, so as to solve the problem of intermixture of announced messages.”
- It would have been obvious to a POSITA to include time of receipt information with each voice announcement:

announcement. It was well known that time stamps could and should be included with messages. Ex[1005], Appendix E, §11.31. This would provide a unique identifier or index mechanism for storing messages, as well as ensuring that operators would be alerted to how long a lower priority announcement may have been delayed, and historical analysis and context determination for aligning events with messages. For example, if a lower priority alert such as “a voice message

Ex[1002], ¶1288.

Pet. at 78-79; Ex[1002], ¶¶287-289.

Ground 2 (Nigawara) – Claim 7

- 7** The method of claim 1, further comprising informing an operator the time of receipt of a message while playing the first message and the second message.

The Board should reject Patent Owner's argument for claim 7

- Patent Owner's argument is based on a narrow interpretation of "operator" to exclude users.
- The '802 Patent uses "operator" and "user" interchangeably:

played; and (iv) an alert module to inform a user regarding the time of receipt of a radio message, while playing the radio message.

Ex[1001], 2:57-58.

optical storage device. Alert module 512 generates alerts to inform the operator about the time of receipt of a radio message while playing radio message. The alerts can be in

Ex[1001], 6:31-33.

- Patent Owner **concedes Nigawara's operators are users** and does not dispute that it would have been obvious to inform them of the time of receipt of a message.

'802 Patent. Rather, if anything, Nigawara's operators would be users of the '802 Patent because they would be the listeners of the announced messages over (under the Petitioner's read) the alleged dedicated channels (asserted units 1 and 2).

POR at 52.

Reply at 26-27.

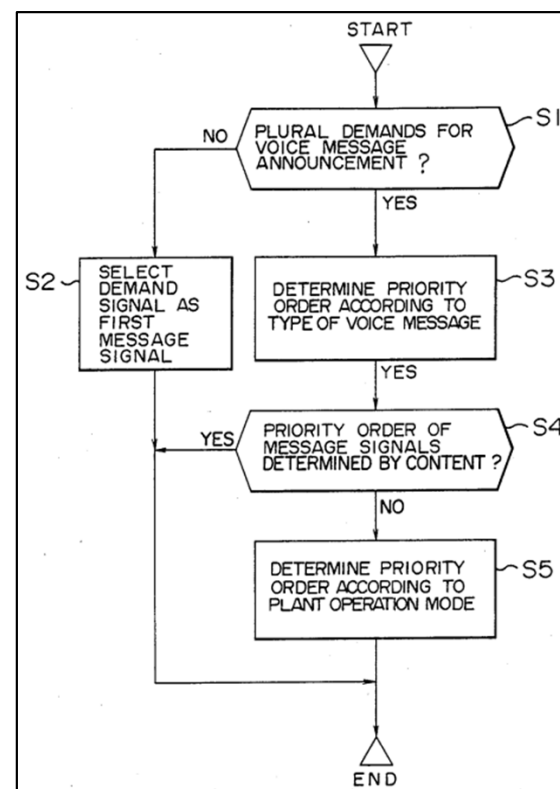
Ground 2 (Nigawara) – Claim 20

20 The method of claim 1, wherein playing the message comprises playing the message having a higher priority between the first and second message without storing the message having the higher priority if no other message is being played.

- When two overlapping messages do not have the same priority, the higher priority messages is announced (*played*) first, without delay (*storage*).

ing speaker 4 which announces the voice message. On the other hand, when plural, for example two, voice message signals 6 are simultaneously applied, the priority order and the type of voice message signals 6 shown in Table 1 are referenced in step S3 to classify them into a first message signal and a second message signal according to the predetermined priority order. When these two voice message signals 6 do not have same priority as determined in step S4, and the result is "NO", the first and second message signals are announced in that order. On the other hand, when these

Ex[1007] (Nigawara) 6:36-46.



Ex[1007] (Nigawara) FIG. 3.

Ground 2 (Nigawara) – Claim 21

21 The method of claim 1, wherein determining the priority comprises determining the priority based on the dedicated channel the first message and/or the second message is received on.

- Nigawara's information signals 5 are messages received on channels ***dedicated to each plant site A-N***.
- When overlapping signals have the same priority based on message type, the plant operation mode information signals are utilized:

nounced in that order. On the other hand, when these voice message signals 6 have the same priority, the plant operation mode information signals 7 are utilized to determine the priority order in step S5 according to the rule shown in Table 2. After determination of the prior-

Ex[1007] (Nigawara) 6:46-50.

TABLE 2

Example of determination of priority order according to plant operation modes provided by plant operation mode signals 7 (secondary determination)	
Priority order	Operation mode
1st	Starting stage (after parallel-in)
2nd	Starting stage (before parallel-in)
3rd	Stopping stage (before parallel-off)
4th	Stopping stage (after parallel-off)
5th	Steady operation (changing load)
6th	Steady operation (fixed load)
7th	Not in operation

Ex[1007] (Nigawara) Table 2.

- Because each channel is dedicated to a plant site, it would have been obvious to a POSITA that determining priority based on the operation mode of the plant ***would include determining priority based on the plant (dedicated channel) itself***.

Pet. at 91-92; Ex[1002], ¶¶320-321.

Ground 2 (Nigawara) – Other Challenged Claims

- Independent claims 11, 13, 14, 17, 18, and 19 are similar to claim 1.
 - Dependent claim 12 is nearly identical to claim 7.
 - Dependent claims 15-16 are nearly identical to claims 2 and 7.
- Patent Owner relies on its arguments for claim 1 for independent claims 11, 13, 14, 17, 18, and 19.
 - Patent Owner does not contest Petitioner's mapping of the corresponding structure in Nigawara for the means-plus-function elements in claims 13 and 14.
- Patent Owner presents separate argument for claim 11 that it contends also applies to claims 13 and 14.
 - Patent Owner's arguments for claim 11 (and claims 13 and 14) lack merit.

Ground 2 (Nigawara) – Claim 11, Element 11[f]

11[f] storing the message having lower priority in a queue on the basis of the determination and the prioritization;

- Nigawara stores lower priority messages in voice message signal memory 10 for a suitable delay.
- Storing messages for playback in priority order discloses, or at least renders obvious, storing the message having lower priority *in a queue*.
- Both experts agree that *storing messages in a queue was well-known*:

number of simultaneous transmissions would be stored. A POSITA would further have understood that a queue is one well known, practical way to store multiple messages in a single memory device.

Ex[1002] (Williams) ¶195.

device such as the dynamic memory device.” Petition, 41-42. While a queue is indeed one well-known way to store data, that does not make a queue suitable for all

Ex[2007] (Akl) ¶76.

Pet. at 79-80; Ex[1002], ¶¶290-293.

Ground 2 (Nigawara) – Claim 11, Element 11[f]

11[f] storing the message having lower priority in a queue on the basis of the determination and the prioritization;

It would have been obvious to store Nigawara's messages in a queue.

- PO's suggestion that Nigawara cannot use a queue because messages are stored before priority is determined fails for analogous reasons to those discussed for claim 1 and the order of steps.
 - *E.g.*, Nigawara teaches continuing storing the lower priority message in memory while the higher priority message is announced, as also taught by the '802 patent.
- PO's fundamental differences argument also fails, as these alleged differences are **unclaimed**.
 - The claims **do not require** storing messages "in a specific order" or preclude "an incoming signal to identify the highest priority message."
 - Reassessing priority is **not a fundamental difference** between Nigawara and the '802 Patent:

11[g] checking periodically the status of the message being played; and

11[h] playing the stored message having the highest priority.

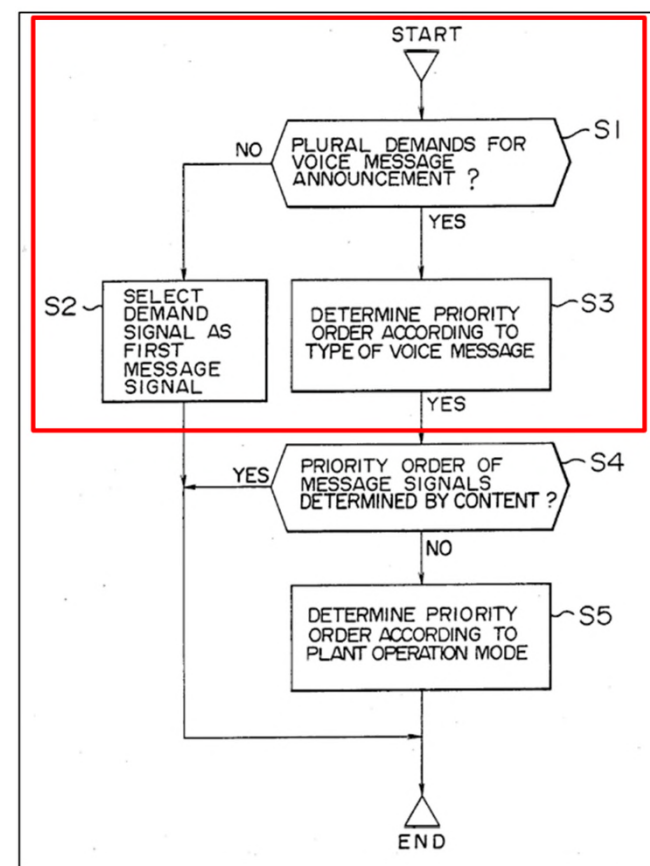
Ground 2 (Nigawara) – Claim 11, Element 11[g]

11[g] checking periodically the status of the message being played; and

- Nigawara discloses periodically checking the status of the message being played:

speaker 4. At the end of announcement of the first message signal, the message announcing order determination unit 11 may have received one or more voice message signals 6, and the priority order is determined again according to the flow shown in FIG. 3. Therefore,

Ex[1007] (Nigawara) 6:54-58.



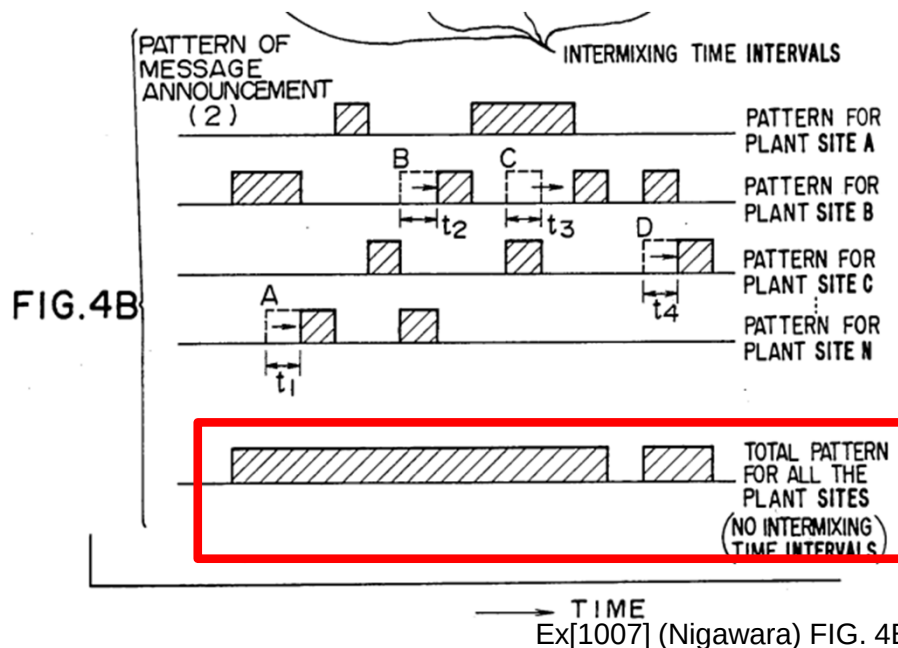
Ex[1007] (Nigawara) FIG. 3.

Ground 2 (Nigawara) – Claim 11, Element 11[g]

11[g] checking periodically the status of the message being played; and

Patent Owner misreads Nigawara

- Patent Owner interprets Nigawara's description of a priority assessment "at the end of announcement" **narrowly** to mean "after" rather than during the end of the currently playing announcement.
- During prioritized playback, Nigawara's messages are **continuously played back in order**, with no apparent gap between messages:



Reply at 28.

Ex[1007] (Nigawara) FIG. 4B.

Ground 2 (Nigawara) – Claim 11, Element 11[g]

11[g] checking periodically the status of the message being played; and

Patent Owner misreads Nigawara

- Patent Owner's interpretation is inconsistent with Nigawara's disclosure that its ongoing priority determination involves ***a determination of the status of a message being played***:

output unit 102. Such operation is repeated. When, while a voice message signal transmitted from the message output unit 102 is being announced from the speaker 4, an emergency voice message signal having a higher priority is received by the message output unit 102, the announcement of the former signal may be interrupted, and the latter signal or emergency signal may be announced. Such interrupt processing is also

Ex[1007] (Nigawara) 4:30-38.

Ground 2 (Nigawara) – Claim 11, Element 11[h]

11[h] playing the stored message having the highest priority.

- Nigawara teaches playing the stored message having the highest priority for the same reasons as limitation 1[g]:

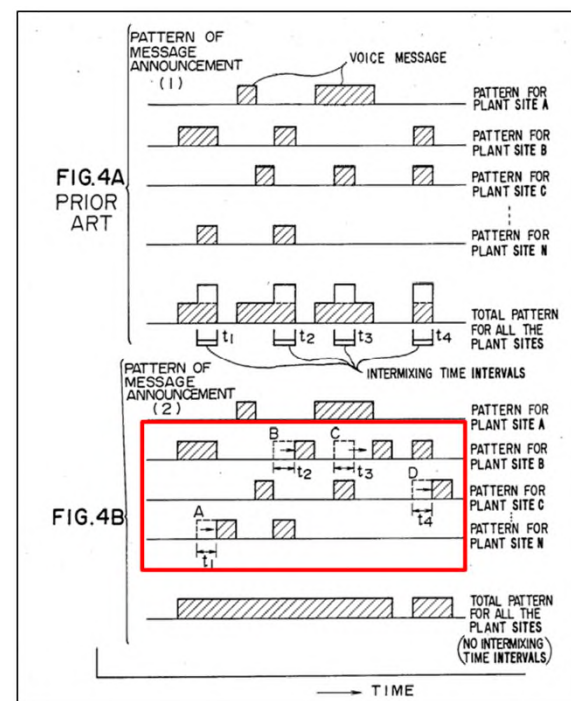
1[g] playing the stored message subsequent to completing playing of the message having higher priority.

FIG. 1. Voice message output signals 6 from the voice message signal generating units 2 of the individual plants are stored in a voice message signal memory 10. The voice message signals 6 are also applied, together with the plant operation mode information signals 7, to a message announcing order determination unit 11.

Ex[1007] (Nigawara) 3:68-4:5.

N when using the present invention. It will be seen that in time intervals t_1 , t_2 , t_3 and t_4 , where announced messages overlap each other, those voice message signals having priority lower than the others are announced with a suitable delay according to the priority order, so as to solve the problem of intermixture of announced messages.

Ex[1007] (Nigawara) 7:22-28.



Ex[1007] (Nigawara) FIGs.4A-4B.

Ground 2 (Nigawara) – Claim 13

13[a] means for receiving a plurality of messages on the plurality of channels, the plurality of messages received including a first message received from a first dedicated channel dedicated to receiving messages from a first entity and a second message received from a second dedicated channel dedicated to receiving messages from a second entity;	See limitations 1[a]-1[b]. Structure → plural independent voice message announcing devices. Ex[1007], 1:56-62, 2:27-32, 3:28-29.
13[b] means for playing a received messages having the highest priority, the plurality of received messages being prioritized based on at least one predefined parameter;	See limitations 1[e], 1[g]. Structure → “speakers 4” Ex[1007], 3:33-41.
13[d] means for prioritizing the received plurality of messages including the first message from the first dedicated channel and the second message from the second dedicated channel based on the predefined parameter; 13[e] means for determining which messages out of the received messages should be stored and subsequently played based on messages overlapping in time and one or more priorities assigned to the first and the second message;	See limitations 1[c]-1[d]. Structure → “message announcing order selection unit 3.” Ex[1007], 3:33-39.
13[f] means for sending the messages for playing based on the associate priority; and	See limitation 1[e]. Structure → A “message output unit 102” Ex[1007], 4:16-24.
13[g] means for storing the messages other than the one sent 20 for playing in a queue based upon the associated priority.	See limitation 1[f]; 11[f]. Structure → A “voice message signal memory 10.” Ex[1007], 3:68-4:21.

Pet. at 82-83; Ex[1002], ¶¶62-63, 295-303.

PO's Attempt to Undermine Mr. Williams' Credibility Is Unavailing

- PO relies on cherry-picked excerpts from Mr. Williams' deposition involving hypotheticals ***outside the scope of his direct testimony***.
- Mr. Williams provided ***detailed analysis*** comparing the claims to the prior art, and his opinions support finding the claims obvious.
- The Board has ***repeatedly rejected*** Dr. Akl's testimony:
 - See, e.g., *FanDuel, Inc. v. Interactive Games LLC*, IPR2017-01532, Paper 32, 19 (P.T.A.B. Dec. 10, 2018) (finding "Dr. Akl's ***speculation***" inconsistent with prior art);
 - *FanDuel, Inc. v. CG Tech. Development, LLC*, IPR2017-00902, Paper 45, 38-39 (P.T.A.B. Oct. 4, 2018); *Juniper Networks, Inc. v. Smart Path Connections, LLC*, IPR2022-00240, Paper 41, 77 (P.T.A.B. May 19, 2023) (Dr. Akl's "testimony is ***conclusory***").

**Ground 3 – Claims 3 and 8-10 are obvious
over Nigawara in view of Doolin**

Overview – Asserted References – Doolin

- U.S. Patent Publication No. 2006/0176169 (“Doolin”) (Ex[1008])
- Doolin describes a remote monitoring system in which a processing system receives data from sensors that are assigned priority values “***based on bandwidth***, sensor communication capabilities, or other factors associated with the sensors.”

[0041] Sensors 30-40 on the sensor nodes 18-28 can be prioritized so that if there is a lack of resources (e.g., limited bandwidth), the sensor readings with higher priority can be communicated first. Data of sensor types with lower priority can be buffered and transmitted when there is free bandwidth at a later time, or discarded and not sent at all. If a node starts

Ex[1008] (Doolin) [0041].

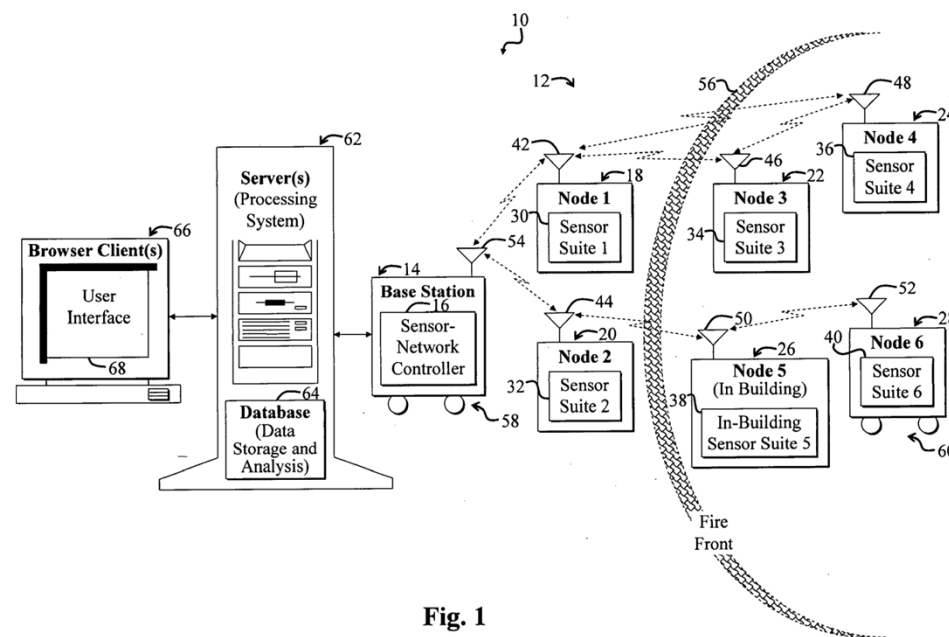


Fig. 1

Ex[1008] (Doolin) FIG. 1.

Pet. at 12-15; Ex[1008] (Doolin) [0009], [0041], [0060], FIG. 1; Ex[1002], ¶¶113-115.

Ground 3 (Nigawara in view of Doolin) – Analogous Art

- Doolin is directed to transmitting “selectively prioritized” communications “based on bandwidth” or other factors.

[0009] The sensed data may be selectively prioritized based on bandwidth, sensor communication capabilities, or other factors associated with the sensors. Power to each of the spatially dispersed sensors may be selectively adjusted according to one or more priority values associated with each of the spatially dispersed sensors.

Ex[1008] (Doolin) [0009].

- Similarly, the '802 Patent discloses that “the message audio portions can be prioritized and played back on the basis of the priority” determined based on various requirements.

For example, if incoming radio messages overlap in time the message audio portions can be prioritized and played back on the basis of the priority and the time of receipt. In case

Ex[1001] 1:50-52.

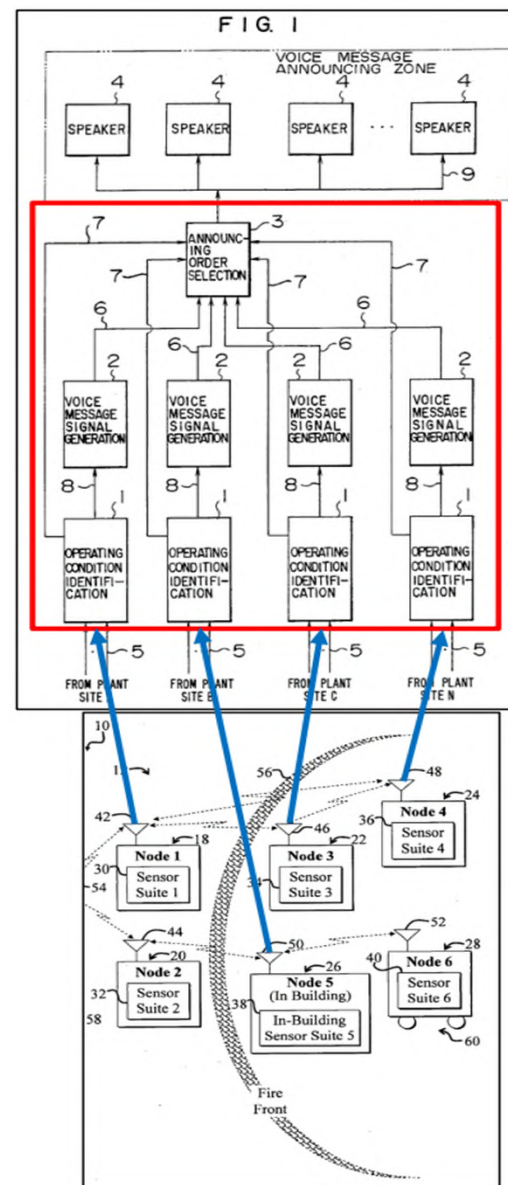
lated by using at least one pre-defined parameter. The pre-defined parameter can be, for example, the type of radio messages, the size of the radio messages, the bandwidth requirement, the channel from which radio messages are received, or any possible combination thereof. At step 312,

Ex[1001] 4:59-62.

Ground 3 (Nigawara in view of Doolin) – Motivation

A POSITA Would Have Combined Nigawara and Doolin

- Nigawara **does not provide details** as to how multiple overlapping data signals from multiple sources are sent to and received by the centralized system
- A POSITA would have **looked to Doolin for techniques for implementing transmission** of remote sensor data of various types to a central server.
- Motivations to implement Doolin's sensor data transmission system into Nigawara include:
 - Incorporate wireless signal transmissions in Nigawara's system
 - This would **enable additional functionality, flexibility, and efficient installation** and would have been a predictable combination of known elements reasonably expected to succeed.
- *Intel Corp. v. Pact XPP Schweiz AG*, 61 F.4th 1373, 1380 (Fed. Cir. 2023) (“[I]f there’s a known technique to address a known problem using ‘prior art elements according to their established functions,’ then there is a motivation to combine.”).



Ex[1007], FIG.1;
Ex[1008], FIG.1
(excerpted)

Ground 3 (Nigawara in view of Doolin) – Claim 3

3 The method of claim 1, wherein the predefined parameter comprises a bandwidth requirement of the received messages.

- Doolin teaches prioritizing based on bandwidth.

[0041] Sensors 30-40 on the sensor nodes 18-28 can be prioritized so that if there is a lack of resources (e.g., limited bandwidth), the sensor readings with higher priority can be communicated first. Data of sensor types with lower priority

Ex[1008] (Doolin) [0041].

- A POSITA would have been motivated to include this prioritization factor in Nigawara's system because "a lack of resources (e.g., limited bandwidth)," is a problem that frequently plagues data transmissions, particularly in systems that use multiple data types like Nigawara and Doolin.

Ground 3 (Nigawara in view of Doolin) – Claim 8

8 The method of claim 1, wherein a message includes voice over internet protocol communications.

- Nigawara receives multiple types of messages (e.g., “a voice message signal”), but ***does not disclose how messages are sent and received*** by the system
- Doolin teaches communication “with ***any suitable types*** of network devices and network topology,” including ***Internet Protocol (IP)***:

purposes of illustration. In general, features of embodiments of the invention can work with any suitable types of network devices and network topology, protocol, communication links, etc. For example, communications among the sensor nodes 12 and the base station 14 can be by radio frequency, infrared, laser, hardwired or other arrangement. Protocols such as session initiation protocol (SIP), Internet protocol (IP), hypertext transfer protocol (HTTP), etc., can be used.

Ex[1008] (Doolin) [0042].

- A POSITA would have found it obvious to connect Nigawara’s plant sites to the announcing order selection unit with any of the communication links disclosed by Doolin, and to transmit data using the internet protocol, or VoIP, considering Nigawara’s use of ***voice messages***.

Ground 3 (Nigawara in view of Doolin) – Claim 9

9 The method of claim 1, wherein a message includes mobile phone communications.

- Nigawara’s system receives multiple types of messages but does not disclose how those messages are sent and received by the system.
- Doolin discloses transmission using long range communication such as “**cell phone**” which renders obvious using mobile phone communications:

located remotely from the base station. Each relay may store and aggregate sensor data to forward to a base station using long range communication such as radio or cell phone.

Ex[1008] (Doolin) [0026].

etc. In some cases, it may be necessary or convenient to pre-install sensors, sensor networks and supporting network infrastructure such as base stations for satellite or cell communication. Deployment can be systematic, such as by

Ex[1008] (Doolin) [0039].

Pet. at 96; Ex[1002], ¶¶334-336.

Ground 3 (Nigawara in view of Doolin) – Claim 10

10 The method of claim 1, wherein a message includes radio communication.

- Nigawara does not disclose how messages are sent and received by the system.
- Doolin discloses sending and receiving messages over a variety of mechanisms ***including radio frequency***.

of the present invention. In addition, the antennas 42-54 may represent **Radio Frequency (RF) transceivers**, laser transceivers, or other types of wireless communications mechanisms.

Ex[1008] (Doolin) [0017].

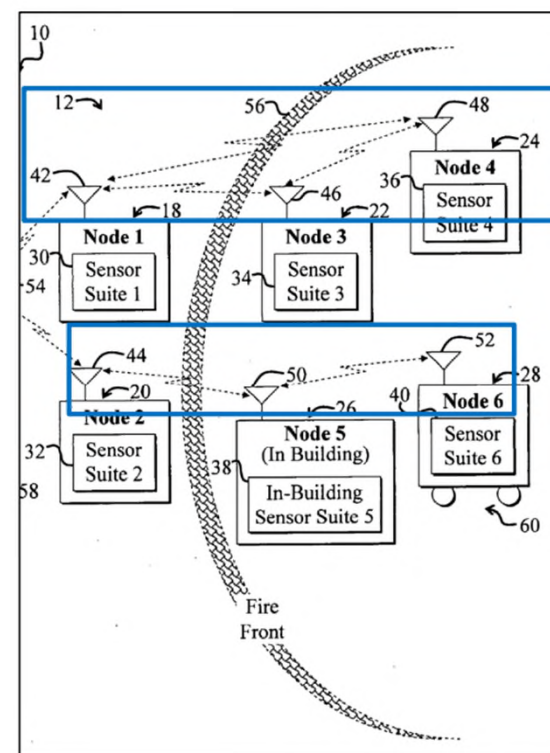
located remotely from the base station. Each relay may store and aggregate sensor data to forward to a base station using **long range communication such as radio or cell phone**.

Ex[1008] (Doolin) [0026].

and correlating data, filtering data, monitoring nodes, etc. In the present specific embodiment, **a primary function of the base station 14 is to act as a central radio-frequency receiver/transmitter and relay to server 62 which, in turn, provides data from the nodes 12 to the client 66. The client 66 can**

Ex[1008] (Doolin) [0040].

Pet. at 96-97; Ex[1002], ¶¶337-339.



Ex[1008] (Doolin) FIG. 1 (excerpted).