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Paper 34
Entered: March 6, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTOROLA SOLUTIONS, INC.,
Petitioner,

v.

STA GROUP LLC,
Patent Owner.

IPR2023-01292
Patent 7,324,802 B2

Before MICHAEL J. FITZPATRICK, DAVID C. McKONE, and KEVIN C. TROCK, *Administrative Patent Judges*.

McKONE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Motorola Solutions, Inc., ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting *inter partes* review of claims 1–21 of U.S. Patent No. 7,324,802 B2 (Ex. 1001, "the '802 patent"). STA Group LLC ("Patent Owner") filed a Preliminary Response to the Petition. Paper 7. Petitioner filed a Preliminary Reply to the Preliminary Response (Paper 9), and Patent Owner filed a Preliminary Sur-reply to the Preliminary Reply (Paper 10). The Board instituted an *inter partes* review of the challenged claims pursuant to 35 U.S.C. § 314. Paper 11 ("Inst. Dec.").

After institution, Patent Owner filed a Patent Owner Response (Paper 18, "PO Resp."). Petitioner filed a Reply (Paper 22, "Reply"), and Patent Owner filed a Sur-reply (Paper 27, "Sur-reply"). The parties then presented oral arguments via a (video) Hearing (December 11, 2024), and the Board entered a Hearing transcript into the record (Paper 33, "Tr.").

For the reasons set forth in this Final Written Decision pursuant to 35 U.S.C. § 318(a), we determine that Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–4, 6–10, and 17–21 are unpatentable, but has not demonstrated that claims 5 and 11–16 are unpatentable.

II. BACKGROUND

A. Related Proceedings

The parties identify *STA Group LLC v. Motorola Solutions, Inc.*, Case No. 2:22-cv-00381-JRG (E.D. Tex. filed Sept. 30, 2022) as related to this proceeding. Pet. ix; Paper 4, 1.

B. The '802 Patent

The '802 patent relates to managing communications in a wireless emergency communication system. Ex. 1001, 1:8–11. Emergency communication systems are used by emergency service providers such as fire departments, police forces, and hospitals. *Id.* at 1:13–15. According to the '802 patent,

> [e]ach 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.

Id. at 1:15–27.

Figure 1 is reproduced below:

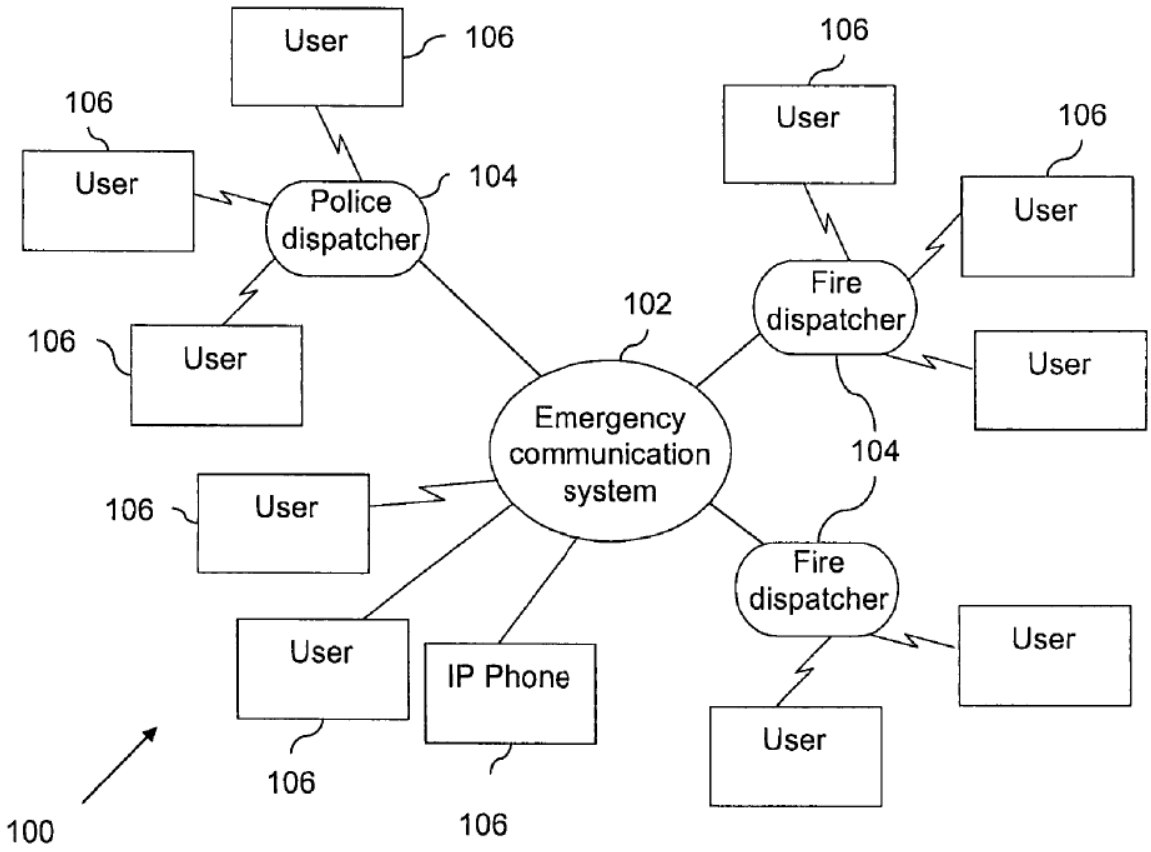


FIG. 1

Figure 1 is a block diagram of an emergency communication environment. *Id.* at 3:19–21, 3:52–54. Emergency communication system 102 receives messages on a plurality of communication channels from dispatchers 104, who handle the communication for emergency teams and respond to emergency messages received from users 106. *Id.* at 3:55–63. Emergency communication system 102 receives a plurality of simultaneous messages from separate users 106, resulting in messages overlapping in time. *Id.* at 4:6–9. Emergency communication system 102 plays a single highest priority radio message at one time and stores the remaining radio messages in a queue, based on their priorities, and subsequently plays the stored messages. *Id.* at 4:16–25.

Figure 3 is reproduced below:

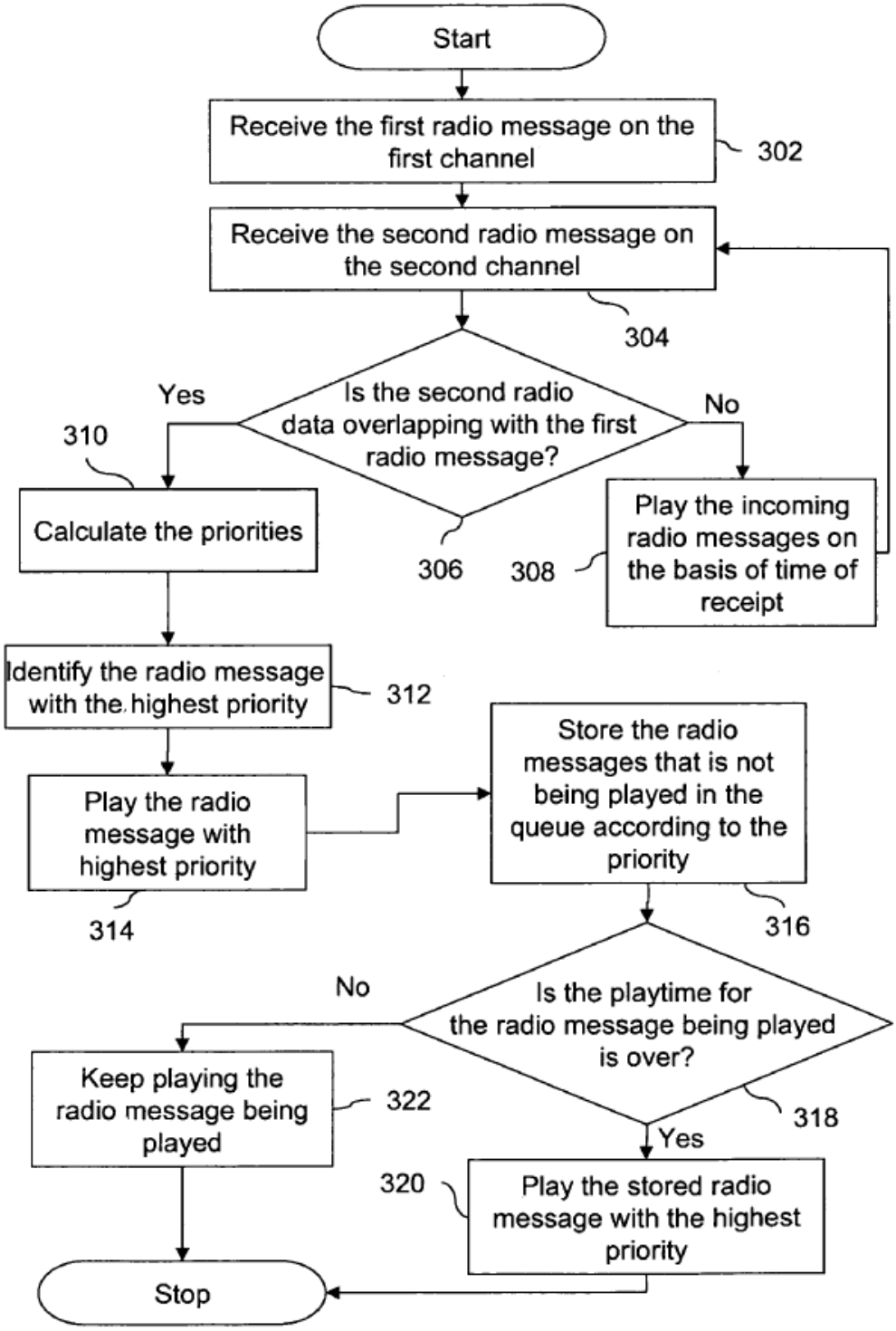


FIG. 3

Figure 3 is a flowchart of a method for managing communication in an emergency communication system. *Id.* at 3:26–29, 4:40–43.

Emergency communication system 102 receives a first radio message on a first channel (step 302) and at least a second radio message on a channel other than the first channel (step 304). *Id.* at 4:43–47. Emergency communication system 102 checks whether the second radio message overlaps with the first in time (step 306) and, if not, each of the received radio messages is played based on their times of receipt (step 308). *Id.* at 4:47–52. If the system identifies overlap (step 306), the system calculates a priority for each incoming radio message (e.g., based on the types of the radio messages, the sizes of the radio messages, the bandwidth requirement, or the channels from which radio messages are received) (step 310) and identifies the radio message with the highest priority (step 312). *Id.* at 4:54–64. The highest priority message is played (step 314), and the remaining radio messages are stored in a queue (step 316). *Id.* at 4:64–66. Once the highest priority message is done playing, the stored radio message with the next highest priority is played (steps 318, 320). *Id.* at 5:1–6.

While the message with the highest priority is being played, if a new message is received that is higher priority than the message being played, the new message will be played and the currently playing message will be stored until the new message completes playing. *Id.* at 5:10–15.

Claim 1, reproduced below (bracketed numbering added to track that used by Petitioner (Pet. xi–xii)) is illustrative of the subject matter at issue:

> 1. A method of managing communication in a communication system, the communication system receiving messages from a plurality of channels, the method comprising:

[1a] 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;

[1b] 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;

[1c] 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;

[1d] 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;

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

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

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

C. Evidence

Petitioner relies on the references listed below.

Reference		Date	Exhibit No.
Ohel	US 2004/0117859 A1	June 17, 2004	1004
Nigawara	US 4,914,705	Apr. 3, 1990	1007
Doolin	US 2006/0176169 A1	Aug. 10, 2006	1008

Petitioner also relies on the Declaration of David Hilliard Williams (Ex. 1002).

Patent Owner relies on the Declaration of Robert Akl, D.Sc. (Ex. 2007).

D. The Instituted Grounds of Unpatentability

We instituted a trial under the following grounds:

Claims Challenged	35 U.S.C. §	Reference(s)
1–21	103(a)[1]	Ohel
1–7, 11–21	103(a)	Nigawara
3, 8–10	103(a)	Nigawara, Doolin

[1] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103. Because the '802 patent was filed before March 16, 2013, for purposes of this Decision, we apply the pre-AIA version of § 103.

III. ANALYSIS

A. Level of Skill in the Art

Petitioner, relying on the testimony of Mr. Williams, contends that a person of ordinary skill in the art "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." Pet. 3 (citing Ex. 1002 ¶¶ 55–58). Patent Owner does not dispute Petitioner's proposal. PO Resp. 9. Petitioner's proposal is consistent with the technology described in the Specification and the cited prior art. On the complete record, we adopt this level of skill.

B. Claim Construction

We construe claims "using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." 37 C.F.R. § 42.100(b); *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

1. "entity"

Claim 1 recites "the first dedicated channel being dedicated to receiving messages from a first *entity*" and "a second dedicated channel being dedicated to receiving messages from a second *entity*." The parties do not offer express constructions of "entity." *See* Pet. 3 ("except as set forth below, the Board need not construe any term to find the Challenged Claims

invalid"); PO Resp. 8 (arguing that the challenged claims should be given their ordinary and customary meaning).

However, in mapping Ohel to claim 1, Petitioner contends that individual police officers and the police dispatcher communicating over channels using communications units are examples of entities. Pet. 16–22. In mapping Nigawara to claim 1, Petitioner contends that plant sites within a plant (e.g., a power plant) are entities. *Id.* at 58.

In opposing Petitioner's mapping of Ohel to claim 1, Patent Owner contends that "Ohel's dispatcher falls outside of the plain and ordinary meaning of an entity." PO Resp. 14. Patent Owner argues that Ohel's users "are a part of an entity," but appears to contend that an entity must include multiple users and have an identity apart from those users. *Id.* at 14; *see also id.* at 16 ("In other words, the school or the shopping mall can be entities, as can groups, localities, and units, each with a dedicated channel. Entities, in turn, include users of the system, as the Petition itself argues." (citing Ex. 1001, 7:18–20)); Tr. 30:10–11 ("Because it says entities including users which means it cannot simply be one user." (referring to Ex. 1001, 7:18–20)). As to Nigawara, Patent Owner argues that "Plant Site A and Plant Site B are not single entities but rather sites within a single entity (i.e., the power plant)." *Id.* at 39 (citing Ex. 2007 ¶¶ 89, 94).

In our Institution Decision, we concluded, on the preliminary record, that "'entity' is broad enough to encompass a user (such as a police officer) and a dispatcher." Inst. Dec. 15. Although not disputed at the preliminary stage of the proceeding, we found on that record that Nigawara's plant sites were entities. *Id.* at 29. We now evaluate the meaning of "entity" on the complete record.

Starting with the language of the claims, Patent Owner argues that claim differentiation shows that Ohel's dispatchers are not entities, referring to claims 6 and 7. PO Resp. 14–15. "In the most specific sense, 'claim differentiation' refers to the presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim." *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir. 2006). The Federal Circuit

> observes that two considerations generally govern this claim construction tool when applied to two independent claims: (1) claim differentiation takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous; and (2) claim differentiation "can not broaden claims beyond their correct scope."

Id. at 1381 (quoting *Fantasy Sports Props. v. Sportsline.com*, 287 F.3d 1108, 1115–16 (Fed. Cir. 2002)).

Claim 6 recites "[t]he 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." Patent Owner argues that, because priority is assigned based on inputs from a user, this claim language "demonstrates that the users are part of an entity." PO Resp. 14. Petitioner responds that "[n]othing in the claims, however, associates the 'user' in claim 6 with either 'entity' in claim 1, nor does the claim language require or suggest in any way that the user be 'part of an entity,' as opposed to some other user." Reply 4. In the Sur-reply, Patent Owner clarifies that "despite separately reciting an entity and a user, Patent Owner ***did not*** construe these terms as mutually exclusive; rather, Patent Owner explains that a user is a part of an 'entity.'" Sur-reply 9. We agree with Petitioner. Claim 6 does

not say whether a user is part of, an example of, or separate from, an entity. Nor does claim 6 otherwise purport to narrow or limit "entity." Thus, we see nothing in the patentee's use of "entity" in claim 1 and "user" in claim 6 that would suggest that an entity cannot be a single user, must include multiple users, or cannot include a dispatcher.

Claim 7 recites "[t]he 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." Patent Owner argues that "[t]hrough the well-established doctrine of claim differentiation, the entity of claim 1 must be distinct from the operator of claim 7." PO Resp. 15. However, Patent Owner concedes that "Claim 7 . . . adds a limitation rather than narrowing an already-existing limitation of claim 1." *Id.* at 14. Thus, it is not clear why Patent Owner believes that the use of "operator" in claim 7 narrows the meaning of "entity" in claim 1. The language of claim 7 does not purport to affect the meaning of "entity" in claim 1. Rather, we agree with Petitioner that "nothing in the claims associates the 'operator' in claim 7 with either 'entity' in claim 1." Reply 4. We see nothing in the plain language of claim 7 that would suggest that "entity" in claim 1 must either include or exclude "an operator."

In the Sur-reply, Patent Owner argues that it "never concluded that an entity and operator are 'mutually exclusive' based on claim differentiation alone." Sur-reply 9. Rather, "[t]he specification . . . confirms that the operator is not a part of the entity." *Id.*; *see also* PO Resp. 15 ("The '802 Patent specification confirms that dispatchers are an example of the claimed operator." (citing Ex. 1001, 1:25–27, 3:59–62)).

We now turn to whether the specification supports Patent Owner's narrower understanding of "entity." Federal Circuit "case law has recognized that 'the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess.' When the patentee acts as its own lexicographer, that definition governs." *Cont'l Cirs. LLC v. Intel Corp.*, 915 F.3d 788, 796 (Fed. Cir. 2019) (quoting *Phillips*, 415 F.3d at 1315). The Federal Circuit has "also found instances where 'the specification may reveal an intentional disclaimer, or disavowal, of claim scope,'" but has made clear that "[t]o disavow claim scope, the specification must contain 'expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.'" *Id.* at 796–97 (quoting *Phillips*, 415 F.3d at 1316; *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1306 (Fed. Cir. 2011)).

As to the specification, Patent Owner (PO Resp. 15–16) relies on the following disclosure:

> 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.

Ex. 1001, 1:15–25. From this description, Patent Owner concludes that "the school or the shopping mall can be entities, as can groups, localities, and units, each with a dedicated channel," and that "[e]ntities, in turn, include users of the system," but that "dispatchers are decidedly not users or entities." PO Resp. 15–16 (citing Ex. 1001, 1:15–25, 7:18–20, Ex. 2005,

21:4–6, 58:5–6). According to Patent Owner, dispatchers are not entities because dispatchers are the operators who handle communications for emergency teams and respond to emergency messages from users. *Id.* (citing Ex. 1001,[2] 1:25–27, 3:59–62; Ex. 2005, 18:4–8, 41:15–20). We see nothing in the description advanced by Patent Owner that would redefine "entity" as a group/locality/unit, require multiple users, or exclude a dispatcher or single user. This disclosure clearly describes non-limiting examples.

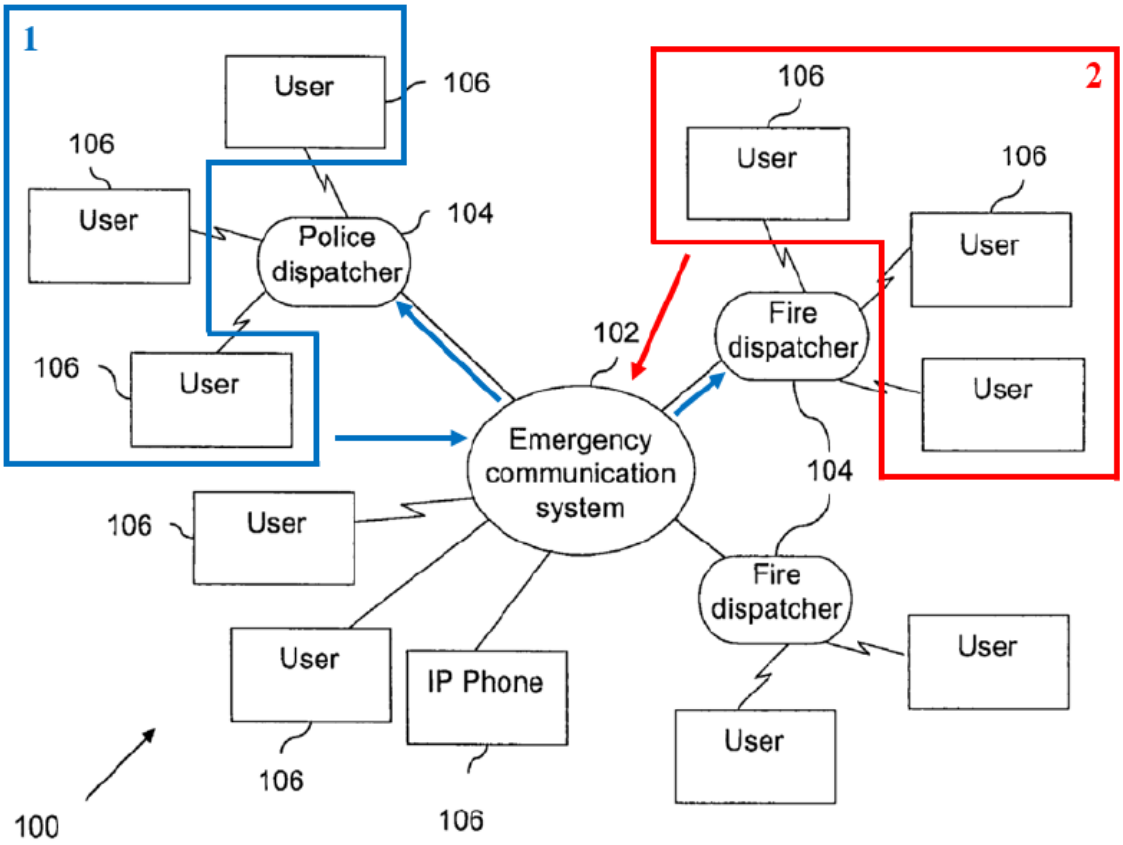
Moreover, as Petitioner observers (Reply 2), the specification states that "[t]he invention can operate between any two processes or entities including users, devices, functional systems, or combinations of hardware and software." Ex. 1001, 7:18–20. Thus, contrary to Patent Owner's position, the specification expressly states that "users" can be entities. As to this passage, in the Sur-reply, Patent Owner argues that "[t]he cited disclosure affirms that the invention operates between entities, ***which includes*** users," but nevertheless concludes that a skilled artisan "would not have understood the specification as 'stat[ing] that 'users' can be entities, as can 'a group/locality/unit.'" Sur-reply 7–8 (quoting Reply 2). Here, Patent Owner appears to contradict itself. At the hearing, for the first time, Patent Owner argued that this passage from the specification constitutes a disavowal of claim scope "[b]ecause it says entities including users means it cannot simply be one user." Tr. 31:10–12. To the extent this argument is not forfeited, it is an unpersuasive reading of the specification. We read "entities including users" to mean a user is an example of an entity.

[2] Patent Owner cites to Exhibit 2005, but it is clear from the context that Patent Owner intended to cite to Exhibit 1001.

As can be seen in the '802 patent's Figure 1, reproduced above, dispatchers 104 and individual users 106 exchange messages with emergency communication system 102. Consistent with Petitioner's position, this example expressly shows the communication system receiving messages from dispatchers and individual users. This strongly suggests that the first and second entities from which the claimed communication system receives messages can be dispatchers and individual users.

As to this example, Patent Owner admits that "[a] police dispatcher is associated with the first entity and a fire dispatcher is associated with the second entity." PO Resp. 17. Patent Owner further admits that a dispatcher "is connected to the emergency communication system 102 to 'handle the communication for the emergency teams.'" Sur-reply 8 (quoting Ex. 1001, 3:59–62[3]). Nevertheless, Patent Owner argues that a dispatcher "is ***not*** part of the entity." *Id.* Patent Owner (PO Resp. 18; Sur-reply 5) provides an annotated version of Figure 1 to illustrate its exclusion of dispatchers from entities:

[3] Patent Owner cites to Nigawara, at 3:54–4:5, which does not include the quoted language. The '802 patent, at 3:59–62, appears to correspond to the quoted language.

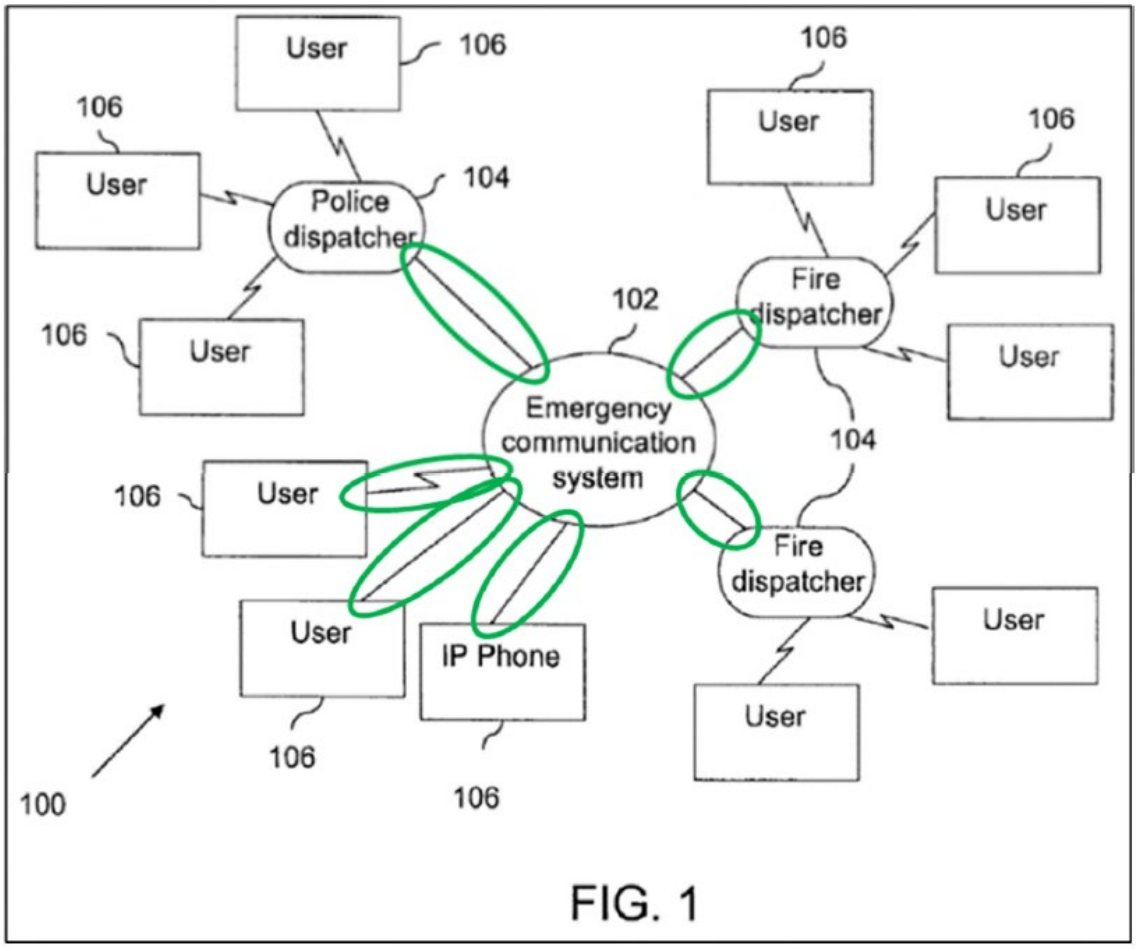


The above figure is an annotated version of Figure 1, with users 106 corresponding to police outlined in blue and users 106 corresponding to fire outlined in red, with the outlines in both cases excluding dispatchers 104.

Patent Owner argues that system 102 receives a message over the first channel from the police force entity (not police dispatcher 104) via a blue arrow from the blue box that bypasses police dispatcher 104. PO Resp. 18. Patent Owner makes a similar argument for the fire department, drawing a red arrow bypassing fire dispatcher 104 to represent a message from a fire department entity to system 102 that does not include the dispatcher. *Id.* According to Patent Owner, "the communication system determines that the message from the police force is higher in priority than the message from the fire department," and, thus, "the communication system sends the message

from the police force to both dispatchers while storing the red message to be subsequently played." *Id.* at 18–29.

Patent Owner's modifications to Figure 1 are inconsistent with the examples in the specification. For example, we agree with Petitioner (Reply 2–3) that the specification describes and depicts emergency communication system 102 receiving communications from dispatchers 104 and individual users 106. Reply 2–3 (citing Ex. 1001, 3:54–63, Fig. 1). This is shown in Petitioner's annotated Figure 1, reproduced below:



In the figure above, Petitioner has annotated the '802 patent's Figure 1 to circle in green communications between emergency communication system 102 and dispatchers 104 and users 106. Reply 3.

Consistent with these annotations, the specification states:

> 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 connection of emergency communication system 102 with plurality of users 106 can be a wired or wireless connection and may not be bounded by any geographical constraints.

Ex. 1001, 3:54–66. Since the communications received over channels in the preferred embodiment are from individual users and dispatchers, and claim 1 recites receiving messages from entities over dedicated channels, the specification strongly implies that individual users and dispatchers are examples of (and included within) entities.

The specification provides no basis for Patent Owner's theory that an entity is limited to a group of users, such as users 106, that excludes a dispatcher, and that the entities communicate with communication system 102 by bypassing dispatchers 104 or using them as go-betweens. Rather, communication system 102 receives messages from dispatchers 104 and individual users 106. Ex. 1001, 3:54–63, Fig. 1. Thus, in the example of Figure 1, the messages "from a first entity" and "from a second entity" are messages from dispatchers 104 and individual users 106. As we observed in the Institution Decision (Inst. Dec. 14), Patent Owner's position, that dispatchers and individual users cannot be entities, would exclude the preferred embodiment. "Such an interpretation [excluding the preferred

embodiment] is rarely, if ever, correct and would require highly persuasive evidentiary support, which is wholly absent in this case." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

Patent Owner argues that the problem solved by Ohel is "fundamentally different" from the problem solved by the '802 patent. PO Resp. 16–23. Although this is presented as a distinction between the '802 patent and Ohel, it is argument in support of how Patent Owner asks us to understand the term "entity," i.e., as excluding dispatchers and individual users. Specifically, Patent Owner contends that the inventions of the '802 patent "solve an issue located at the operator sitting between at least two different entities—the operator simultaneously receives messages from different channels dedicated to different entities, creating confusion absent the claimed invention." *Id.* at 17. Dr. Akl characterizes this as "confusion for the dispatcher or operator when hearing garbled speaking caused by overlapping messages received on different multi-party communication channels from the users 106 in the entities or causes loss of messages when one or more of the multi-party communication channel(s) are muted." Ex. 2007 ¶ 57 (citing Ex. 1001, 1:25–36, 6:53–56); *see also* PO Resp. 17–19 (citing Ex. 1001, 1:22–36, 3:52–4:5, 4:14–26, Fig. 1; Ex. 2007 ¶¶ 47, 48, 56–58, 61); Sur-reply 3–4 (citing Ex. 1001, 1:25–31, 1:46–49, 6:53–56). In contrast, Patent Owner argues, Ohel solves the problem of dispatcher "overtalk," an "issue that affects individual ***officers*** on a ***single*** multi-party communication channel within a ***single entity*** (i.e., the police force)." PO Resp. 19–20 (citing Ex. 1004 ¶¶ 4, 5, 70; Ex. 2007 ¶¶ 48–55); Sur-reply 6–7 (citing Ex. 2007 ¶ 56).

Patent Owner's citations do not purport to limit the '802 patent's invention to solving the problem of a dispatcher receiving multiple messages and having to mute (and not hear) some of them. Rather, as explained above, the '802 patent describes an emergency communication system receiving messages from multiple entities, such as dispatchers and individual users. Ex. 1001, 3:52–4:5, Fig. 1. Moreover, as Petitioner observes (Reply 9–10), the claims do not reflect a distinction between systems that address overtalk for officers and those that address garbled or muted messages for dispatchers.

We have considered the parties' citations to the specification and find examples that support Petitioner's view that the term "entity" is broad enough to encompass dispatchers and individual users. *See e.g.*, Ex. 1001, 3:52–4:5, 7:18–20, Fig. 1). However, we find no disclosure that redefines "entity" or excludes dispatchers and individual users from the category of "entity." Patent Owner's best examples (e.g., Ex. 1001, 1:15–21, 3:59–62) are no more than non-limiting examples.

On the complete record, we conclude that "entity" is broad enough to include dispatchers and individual users.

2. Remaining Terms

On the complete record, we do not find it necessary to provide express claim constructions of any other claim terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that "we need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

C. Obviousness over Ohel

Petitioner contends that claims 1–21 would have been obvious over Ohel. Pet. 1. For the reasons explained below, Petitioner has shown that claims 1–4, 6–10, and 17–21 would have been obvious over Ohel, but has not shown that claims 5 and 11–16 would have been obvious over Ohel.

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." We resolve the question of obviousness on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations.[4] *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

1. Scope and Content of the Prior Art—Overview of Ohel

Ohel describes "[a] multiple channel data recorder and a method for recording data on multiple wireless communications channels." Ex. 1004, code (57), ¶ 4. According to Ohel, prior art multi-party communications typically occurred over a single communications channel (e.g., using walkie-talkies), such that, when a first party talks to a second party, all other parties on that communication channel are muted until the first party finishes. *Id.* ¶ 4. In Ohel's solution,

[4] The complete record does not include allegations or evidence of objective indicia of nonobviousness.

> 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.

Id. ¶ 42.

Figure 2, reproduced below, illustrates an example of a device that would be used to communicate in Ohel's system:

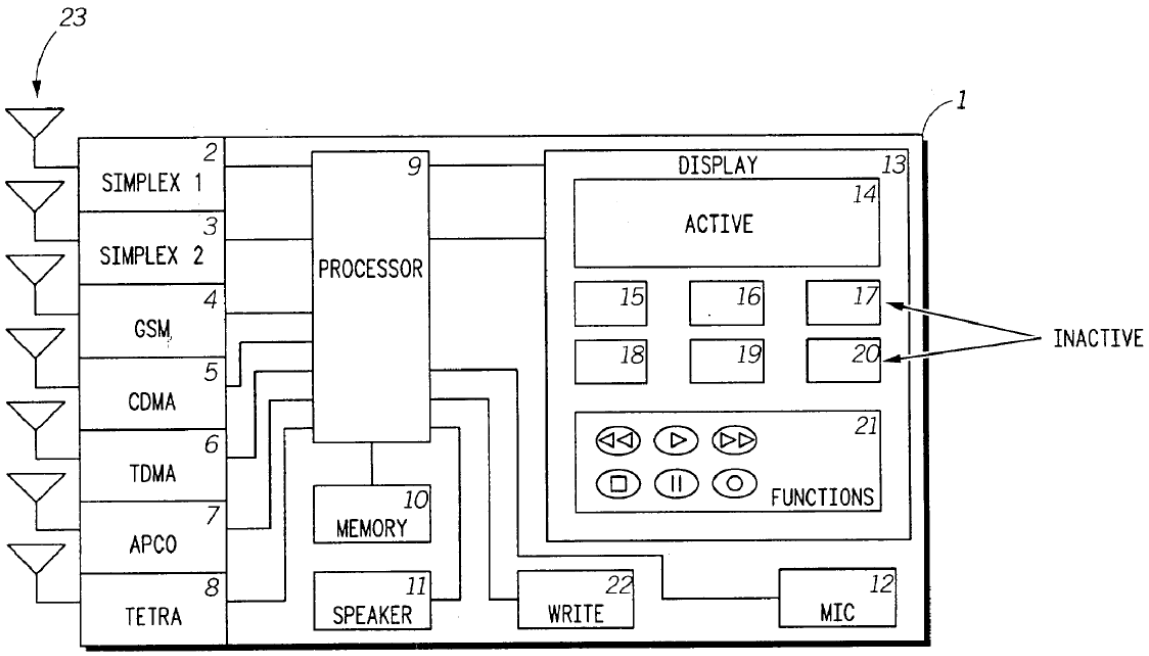


FIG. 2

Figure 2 is a block circuit diagram of a communications unit. *Id.* ¶ 41.

Communications unit 1 includes several different transceiver units (2–8) for communication over separate channels and/or networks: "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." *Id.* ¶ 60. Other transceiver units (e.g., 4–6) can include

cell phone-type units communicating on networks such as GSM, CDMA, and TDMA. *Id.* ¶ 61. In one example,

> 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 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.

Id. ¶ 68.

Figure 1 of Ohel is reproduced below:

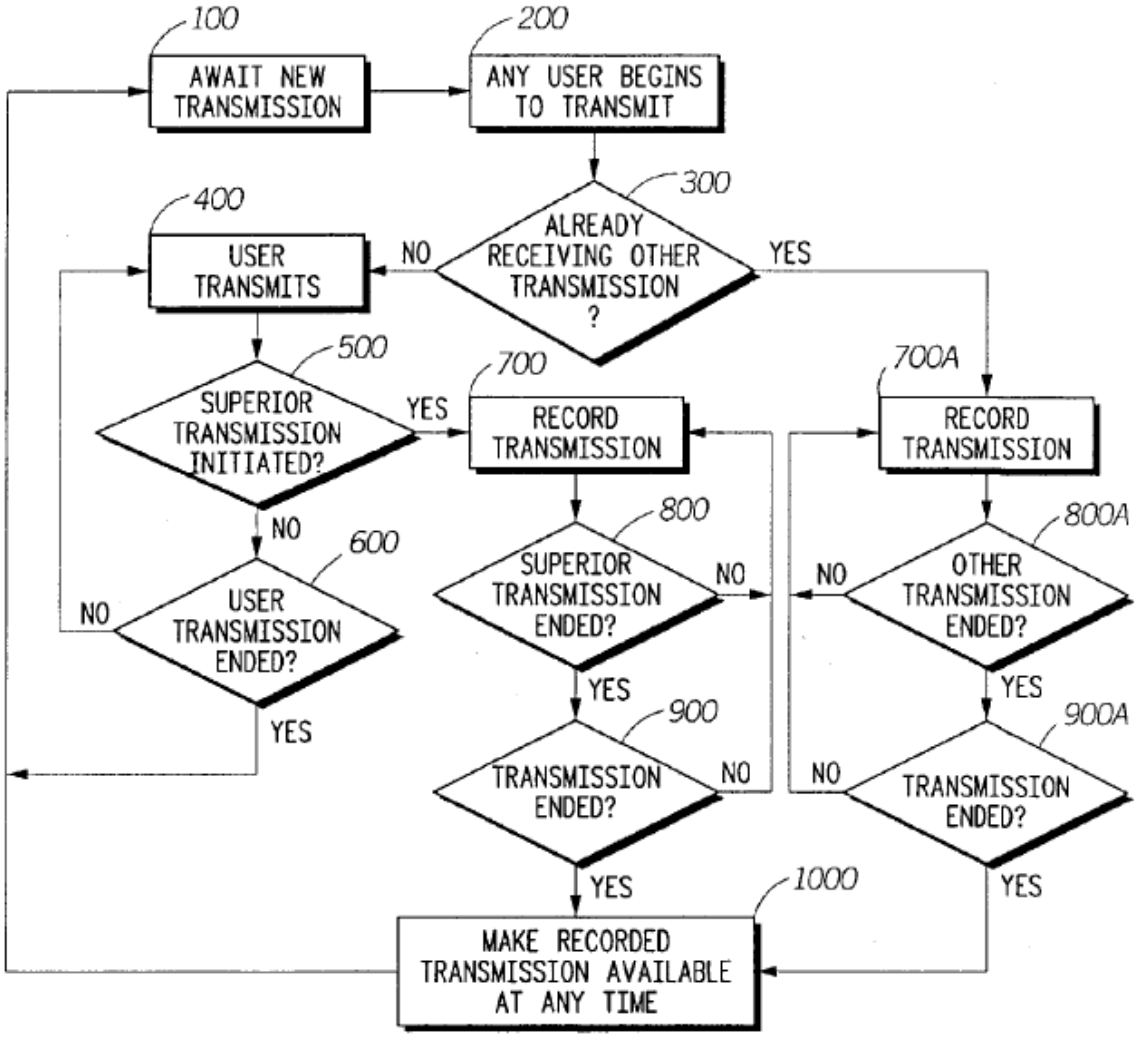


FIG. 1

Figure 1 is a flow chart of a method of communication among users. *Id.* ¶¶ 42–43. A transmitting user decides to transmit a message (e.g., electronic voice communication) using a transceiver unit (step 200), the transceiver unit determines whether the receiver already is receiving a transmission from a different user (step 300) and, if not, the transceiver unit begins transmitting the user's message over a communication link (step 400). *Id.* ¶¶ 45–47. If the receiver already is receiving a transmission,

then the user's transceiver unit records the transmission without transmitting it (step 700A) and the recorded message can be made available for playback at any time (step 1000). *Id.* ¶¶ 51–52.

While the user is transmitting the message (step 400), if a superior user, such as a dispatcher, transmits a message (step 500), the user's transmission can be interrupted, and the user's unit begins recording the user's message (step 700), such that the recipient can receive and listen to the message at a later time. *Id.* ¶¶ 47–48. When the superior transmission ends (step 800), the user's unit continues recording the user's message until that message ends (step 900), and, assuming no other user is transmitting, the user's transmission can be made available immediately to the recipient (step 1000). *Id.* ¶ 49. The recording can be performed at the transmitting user's unit or, alternatively, at any or all other users' devices. *Id.*

If the interrupting message is not from a superior user, the message from 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. *Id.* ¶ 50.

2. Differences Between Ohel and the Challenged Claims; Reasons to Modify

a. Claims 1–3, 6, 8–10, and 18–21

Petitioner contends that Ohel's disclosure of "a method for recording data on multiple wireless communications channels" teaches a "method of managing communication in a communication system, the communication system receiving messages from a plurality of channels," as recited in claim 1. Pet. 16 (quoting Ex. 1004, code (57); citing Ex. 1004 ¶¶ 2, 9, 38–

42, 72; Ex. 1002 ¶¶ 122–124). We agree, and find that Ohel teaches the preamble of claim 1.

As to claim limitations [1a] and [1b], Petitioner contends that Ohel's transceiver units (shown as items 2–8 in Figure 2) correspond to different channels, and that each channel is associated with a different entity. *Id.* at 16–19, 20–22. In one example, "the first simplex unit 2 can be set to a dispatch channel . . . and the second simplex unit 3 can be set to a particular channel of another specific user for direct, two-way communication." Ex. 1004 ¶ 60. In this example, Petitioner maps simplex unit 2 to a "first dedicated channel being dedicated to receiving messages from a first entity" and simplex unit 3 to a "second dedicated channel being dedicated to receiving messages from a second entity," as recited in claim 1. Pet. 16–18 (citing Ex. 1004 ¶¶ 35, 59–64, 70; Ex. 1002 ¶¶ 125–127), 20–21 (citing Ex. 1004 ¶¶ 47, 60; Ex. 1002 ¶¶ 133–134). Petitioner contends that a skilled artisan would have understood that transceivers 2–8 would operate in a similar fashion. *Id.* at 20 (citing Ex. 1004 ¶¶ 63–66, 72; Ex. 1002 ¶¶ 130–131), 22 (citing Ex. 1002 ¶¶ 135–136).

Petitioner contends that Ohel teaches receiving messages on first and second dedicated channels. *Id.* at 19, 21–22. In particular, Ohel describes an example in which an "officer is presently talking to another individual by cell phone over the CDMA transceiver 5," and "[d]uring the conversation, the police dispatcher begins to transmit one or more messages to the officer over the [Association of Public Safety Communications Officials ("APCO")] transceiver 7." Ex. 1004 ¶ 69. In this scenario, "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." *Id.* ¶ 70.

Patent Owner does not dispute that Ohel describes receiving first and second messages on first and second dedicated channels from amongst a plurality of channels. We find that it does (e.g., an officer receiving a first message on a CDMA channel and a second message on an APCO channel). Ex. 1004 ¶ 69.

However, Patent Owner contends that Ohel does not teach "the first dedicated channel being dedicated to receiving messages from a first entity" and "a second dedicated channel being dedicated to receiving messages from a second entity." PO Resp. 13–14. It is Patent Owner's position that a skilled artisan "would have understood that a dispatcher ***does not*** fall within the plain and ordinary meaning of the claimed entity." *Id.* at 10. Instead, Patent Owner argues, "[s]ince the dispatcher does not fall within the meaning of an 'entity' of the '802 Patent, the Petition fails to establish ***two different entities*** as claimed. At best, Ohel discloses a ***single entity*** comprised of individual police officers communicating on a single multi-party communication channel." *Id.* at 22. Thus, Patent Owner concludes, the police officers and police dispatcher of Ohel, identified by Petitioner as two example entities, are not multiple separate entities. *Id.* at 22–23.

As explained in Section II.B.1, above, we construe "entity" to be broad enough to encompass users (such as police officers) and dispatchers. Ohel describes an example in which the first simplex unit of a user's transceiver can be set to a dispatch channel and the second simplex unit can be set to a particular channel of another user. Ex. 1004 ¶ 60. Ohel describes another example in which a police officer is talking to another individual by

cell phone over a CDMA channel and, during the conversation, a dispatcher transmits a message to the officer over the APCO channel. *Id.* ¶ 69. On the complete record, we find that Ohel teaches "receiving a first message on a first dedicated channel . . . , the first dedicated channel being dedicated to receiving messages from a first entity," and "receiving a second message on a second dedicated channel being dedicated to receiving messages from a second entity," as recited in claim limitations [1a] and [1b]. Patent Owner's arguments, which are not commensurate in scope with our claim construction of "entity," are not persuasive.

As to claim limitation [1c], "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," Petitioner points to Ohel's description of inquiring to determine whether an interrupting user (e.g., a dispatcher) is a superior user who would preempt a first user's (e.g., another individual's) continued transmission and recording of the lower-priority transmission for later playback. Pet. 23–24 (citing Ex. 1004 ¶¶ 43–52, 70–72, Fig. 1 (steps 400, 500); Ex. 1002 ¶¶ 141–142). We agree with Petitioner and find that Ohel teaches claim limitation [1c].

As to claim limitation [1d], "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," Petitioner points to Ohel's description of a user's transmission being interrupted by a message from a superior user, recording the user's message, and making the recording available for playback at a later time.

Id. at 25–26 (citing Ex. 1004 ¶¶ 35, 36, 47, 48, 50, 55, 70–72, Fig. 1 (steps 300, 400, 500, 700, 700A, 1000); Ex. 1002 ¶¶ 143–145). We agree with Petitioner and find that Ohel teaches claim limitation [1d].

As to claim limitation [1e], "playing the message having a higher priority between the first and the second message," Petitioner points to Ohel's disclosure of transmitting/playing the superior user's (e.g., the dispatcher's) transmission instead of the currently transmitting user's transmission. *Id.* at 26 (citing Ex. 1004 ¶¶ 47, 50, 70–72; Ex. 1002 ¶¶ 146–148). We agree with Petitioner and find that Ohel teaches claim limitation [1e].

As to claim limitation [1f], "storing at least one message having a lower priority between the first and the second message based on the determination," Petitioner points to Ohel's description of storing a user's message when the user's transmission is interrupted by a superior user. *Id.* at 26–27 (citing Ex. 1004 ¶¶ 36, 47, 49, 55, 70–72, Fig. 1 (steps 300, 400, 500, 700, 700A); Ex. 1002 ¶¶ 149–151). We agree with Petitioner and find that Ohel teaches claim limitation [1f].

As to claim limitation [1g], "playing the stored message subsequent to completing playing of the message having higher priority," Petitioner points to Ohel's description of playing back the user's message after the superior user's transmission has ended. *Id.* at 27–28 (citing Ex. 1004 ¶¶ 17, 18, 35, 36, 47, 49, 50, 70–72, Fig. 1 (steps 800, 800A, 900, 900A, 1000); Ex. 1002 ¶¶ 152–154). We agree with Petitioner and find that Ohel teaches claim limitation [1g].

Patent Owner does not challenge Petitioner's allegations as to claim limitations [1c]–[1g].

In sum, on the complete record, we find that Ohel teaches each limitation of claim 1.

We have analyzed Petitioner's argument and evidence as to claims 2, 3, 6, 8–10, 20, and 21, which depend from claim 1, and find that Ohel teaches each limitation of claims 2, 3, 6, 8–10, 20 and 21. Pet. 29–34, 35–36, 38–41, 50–52 (citing Ex. 1004 ¶¶ 7, 8, 16, 35, 36, 42, 48, 50, 51, 55, 68–72, Figs. 1, 2; Ex. 1002 ¶¶ 157–167, 175–178, 184–192, 221–227; Ex. 1014 ¶¶ 13, 36).

Claim 18 is an apparatus with a process that executes instructions stored on a machine-readable medium, the instructions tracking the steps of claim 1. Claim 19 is directed to a machine-readable medium with instructions that track the steps of claim 1. Petitioner cites to Ohel's processor 9 as teaching a processor (corresponding to claim limitations [18a] and [19pre]) and Ohel's memory 10 as teaching a computer-readable medium that stores instructions (corresponding to limitations [18b] and [19a]). Pet. 47–50 (citing Ex. 1004 ¶¶ 64, 65, 72, Fig. 2; Ex. 1002 ¶¶ 218–220). Petitioner incorporates its analysis of claim 1 for the remaining limitations of claims 18 and 19. *Id.* We agree that the limitations of claims 18 and 19 correspond to those of claim 1 and, for the reasons given for claim 1, find that Ohel teaches each limitation of claims 18 and 19.

Aside from its arguments made for claim 1, Patent Owner does not contest Petitioner's allegations as to claims 2, 3, 6, 8–10, and 18–21.

b. Claims 4 and 5

As noted above, claim limitation [1c] recites "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*." For this limitation, Petitioner contends that "superior user status" is a pre-defined parameter. Pet. 22–23 (citing Ex. 1004 ¶¶ 47, 70, Fig. 1).

Claim 4 depends from claim 1 and adds "wherein the predefined parameter comprises a type of the received messages." For this claim, Petitioner contends that message types can including APCO messages, dispatcher messages, and emergency transmissions, and that these types are used to determine whether a user has superior user status. *Id.* at 34–35 (citing Ex. 1004 ¶¶ 5, 47, 70; Ex. 1002 ¶¶ 168–171). Patent Owner does not separately contest Petitioner's allegations as to claim 4. On the complete record, we find that Ohel teaches the additional limitation of claim 4.

Claim 5 depends from claim 4 and adds "wherein the type of received messages being one of a group comprising audio, video, text, and image." Petitioner argues that Ohel teaches prioritizing APCO messages, and that a skilled artisan would have understood APCO to be an audio-based standard. Pet. 35 (citing Ex. 1004 ¶ 70; Ex. 1002 ¶¶ 172–173). Petitioner contends that a skilled artisan would have understood that prioritization based on use of an APCO transceiver is prioritizing received messages based on the messages being audio-type. *Id.* (citing Ex. 1002 ¶¶ 173–174). Mr. Williams repeats these arguments in his testimony, without identifying the basis for his opinion that a skilled artisan "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 ¶ 173.
Mr. Williams testifies that a person of ordinary skill in the art "would have

understood that [sic] APCO to be an audio-based standard," and that Ohel discloses an embodiment "prioritizing 'APCO transceiver' messages over CDMA." However, Mr. Williams does not testify that the unprioritized CDMA messages would have been understood to be a different type than audio. In other words, Mr. Williams does not explain why, let alone show that, the prioritization of the APCO message in Ohel's embodiment would have been based on it being an audio-type message.

Thus, Mr. Williams' testimony is entitled to little weight.

Patent Owner responds that Ohel does not prioritize messages based on whether they are audio, video, text, etc. Rather, Patent Owner argues, Ohel prioritizes messages based on who they are from, e.g., by giving priority to messages from dispatchers. PO Resp. 25 (citing Ex. 1004 ¶ 70). Dr. Akl testifies that "[t]he parameter which dictates which message has priority over the other is whether the message is an officer's communication or a dispatcher's communication. Ohel's prioritization has nothing to do with the fact that the dispatcher's communication is an 'audio-type' message. This is evident from the fact that the officer's call is also an 'audio-type' message." Ex. 2007 ¶ 68. Unlike Mr. Williams' testimony, Dr. Akl's testimony is consistent with Ohel's disclosure and, therefore, more credible than that of Mr. Williams.

In the Reply, Petitioner argues that Patent Owner and Dr. Akl took positions in district court that are different from the positions they take now. Reply 12–14 (citing Ex. 1035 ¶¶ 210–211). The submitted excerpts of Dr. Akl's district court expert report (Ex. 1035), however, are insufficient to enable us to ascertain whether Patent Owner has taken inconsistent positions. Tr. 54:1–55:2. In any case, Patent Owner is correct that Ohel

teaches prioritizing messages based on the sender (e.g., dispatcher prioritized over officer), and does not teach or suggest prioritizing messages based on a type from "a group comprising audio, video, text, and image," as required by claim 5. Accordingly, we find that Petitioner has not shown that Ohel teaches or suggests the additional limitation of claim 5.

c. Claims 7 and 17

Claim 7 depends from claim 1 and adds "informing an operator the time of receipt of a message while playing the first message and the second message." Petitioner argues that Ohel's communications unit can be programmed to record a time stamp when a message is received and would display the time stamp to the user in a menu provided on display 13 of the communications unit. Pet. 36–38 (citing Ex. 1004 ¶¶ 45, 48, 65, 66, Fig. 2; Ex. 1002 ¶¶ 179–183). Based on Petitioner's evidence, we find that Ohel describes informing the operator of the communications unit of the time of receipt of a message.

Patent Owner argues that a user of the communications unit is not an "operator" as recited in claim 7 and, instead, only a dispatcher is an operator. PO Resp. 25–26 (citing Ex. 2007 ¶¶ 72–73; Ex. 2005, 99:18–100:20); Sur-reply 10–11; Tr. 35:19–21 ("JUDGE MCKONE: So in essence you're asking us to construe operator to mean, to be the same as dispatcher? MR. KANTAREK: Yes."). Patent Owner, however, provides no evidence or reasoning to show that an operator is limited to a dispatcher. As Petitioner argues, the '802 patent describes a dispatcher as an example of an operator, but does not redefine "operator," exclude non-dispatchers from the term, or provide any other indication that the term in claim 7 should be

limited. Reply 14–15 (citing Ex. 1001, 3:54–62). Petitioner argues that the '802 patent uses the terms "user" and "operator" interchangeably. Reply 15 (citing Ex. 1001, 2:57–59, 5:62–64, 6:31–33). We agree. *Compare* Ex. 1001, 5:62–64 ("[A] user is informed about the time of receipt of a radio message, while playing the radio message.") *with id.* at 6:31–33 ("Alert module 512 generates alerts to inform the operator about the time of receipt of a radio message while playing radio message."). Thus, the specification supports the understanding that an "operator" can be a "user." As explained above, Ohel teaches informing the user of the communications unit of the time of receipt of a message while playing the first message and the second message. Patent Owner's argument to the contrary is not persuasive.

In sum, we find that Ohel teaches the additional limitation of claim 7.

Claim 17 recites "[a] central conferencing system for managing a plurality of messages received by a communication system," with modules performing functions similar to the steps of claim 1. Claim limitation [17h] recites "an alert module for informing a user the time of receipt of a message while playing the message," which corresponds to the added step of claim 7. For the reasons given for claims 1 and 7, we find that Ohel teaches each limitation of claim 17.

d. Claims 11–16

Independent claims 11, 13, and 14 recite limitations similar to those of claim 1, but recite storing messages in a queue. *See* claim limitations [11f] ("storing the message having lower priority in a queue on the basis of the determination and the prioritization"), [13g] ("means for storing the messages other than the one sent for playing in a queue based upon the

associated priority"), [14g] ("a storage medium configured to store the messages in a queue based upon the associated priority and the determination"). The parties dispute whether Ohel teaches the recited queue.

The parties do not propose construing "queue." However, Mr. Williams testifies that "[a] queue can take various forms, but any queue is essentially multiple data elements, stored in some sort of sequence for later use, which is based in some form on that stored sequence." Ex. 1002 ¶ 291. This is consistent with the ordinary meaning of the term. *See, e.g.*, IEEE 100: THE AUTHORITATIVE DICTIONARY OF IEEE STANDARDS TERMS, 904 (7th ed. 2000) ("**queue** (**1**) (**software**) A list that is accessed in a first-in, first-out manner.") (Ex. 3001). Patent Owner appears to accept Mr. Williams' understanding of the term. PO Resp. 30.

Petitioner argues that Ohel teaches storing "any number of simultaneous transmissions" using "a dynamic memory device permitting substantially simultaneous recording and playback," and making the transmissions "available to users for playback . . . any time after recording begins." Pet. 41 (quoting Ex. 1004 ¶¶ 49, 52, 72). Mr. Williams testifies that a skilled artisan "would further have understood that a queue is one well-known, practical way to store multiple messages in a single memory device such as the dynamic memory device." Ex. 1002 ¶ 195.

Mr. Williams' testimony, at best, supports that a skilled artisan *could* have used a queue with Ohel's system. This is insufficient because it does not provide evidence of a reason why a skilled artisan would have implemented Ohel's system with a queue. *See Auris Health, Inc. v. Intuitive Surgical Operations, Inc.*, 32 F.4th 1154, 1158 (Fed. Cir. 2022) ("The

motivation-to-combine inquiry asks whether a skilled artisan 'not only could have made but would have been motivated to make the combinations . . . of prior art to arrive at the claimed invention.'" (quoting *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (emphasis omitted))).

Patent Owner responds that storing messages in a queue would not have been necessary in Ohel's system, as the user determines which stored messages to play and when, rather than automatically playing the messages based on their order in a queue at the time of playback, as in the '802 patent. PO Resp. 28–29 (citing Ex. 1004 ¶¶ 48, 50, 52, 55; Ex. 2007 ¶¶ 76–78). Dr. Akl testifies that a queue "would likely be computationally ***less efficient*** than a typical dynamic memory, when such a queue's order is updated in response to user selections of messages which were ordered differently than the data's order as stored in the queue." Ex. 2007 ¶ 77. Addressing Mr. Williams' understanding of a "queue," Patent Owner argues that Petitioner "fails to put forth any evidence of how Ohel would ***later use*** a stored sequence of Ohel's messages in any form, since once a message is stored, the ***user*** determines which stored information is played next, rather than the '802 Patent's assignment process using the claimed queue." PO Resp. 30 (citing Ex. 1002 ¶ 291).

Petitioner argues that Patent Owner's arguments are inapposite because "claims 11, 13, and 14 (to which PO contends this argument applies) do not require automatically playing stored messages based on their order in a queue at a time of playback." Reply 17. Petitioner's argument misses the point. The issue is not whether claims 11, 13, and 14 require playing back messages in their queued order. Rather, the issue is whether Ohel, which does not describe storing messages in a queue, would

nevertheless have used a queue despite its stored messages being retrieved in an order determined by the user rather than in the order in which they were received. Petitioner provides no reason, with rational underpinning, why a skilled artisan would have chosen a queue in this situation, while Patent Owner provides reasons why a skilled artisan would not have chosen a queue.

Petitioner further argues that Patent Owner "fails to identify any reason why a queue is not compatible with user selection." Reply 18. However, it is not Patent Owner's burden to disprove Petitioner's proposed modification to Ohel. Petitioner further argues that "[t]he technique of storing in a queue while allowing user selection from the queue was known at least as early as 1991." *Id.* (citing Ex. 1002 ¶ 93; Ex. 1017, 3:60–4:34, Fig. 4). Petitioner also argues that a skilled artisan "would have understood that there are multiple ways to store messages in a queue." *Id.* (citing Ex. 1002 ¶ 93; Ex. 1004 ¶¶ 45, 48, 66; Ex. 1017, 3:34–68).

These are new arguments, not raised in the Petition, advancing a new prima facie case of obviousness and relying on evidence not cited in the Petition. They are, therefore, forfeited. Even if we were to consider them, Petitioner's evidence establishes no more than that a skilled artisan could have used a queue, and does not establish that a skilled artisan would have had a reason to do so. *See Auris Health*, 32 F.4th at 1158.

In sum, Petitioner and Mr. Williams simply assert that a queue is a well-known technique of storing data, but provide no explanation or evidence why a person of ordinary skill in the art would have used a queue to store Ohel's messages, given the way in which those messages are retrieved from memory. In any case, Patent Owner does identify a reason

why a queue would be less advantageous than other memory formats (e.g., dynamic memory), namely, Ohel's messages are retrieved from the memory in an order determined by the user, not in an order determined by receipt of the messages. Ex. 2007 ¶ 77.

We recognize that "just because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes." *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012). However, Petitioner must provide "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). In considering Petitioner's conclusory argument, supported by conclusory testimony, and weighing this against Patent Owner's evidence that Petitioner's proposed modification of Ohel would have been disadvantageous, we find that a skilled artisan would not have had reasons, with rational underpinning, to modify Ohel's system to use a queue.

Accordingly, Petitioner has not shown that Ohel teaches or suggests each limitation of claims 11, 13, and 14. Claim 12 depends from claim 11; claims 15 and 16 depend from claim 14. For the same reasons, Petitioner has not shown that Ohel teaches or suggests each limitation of claims 12, 15, and 16.

3. Conclusion of Obviousness

In sum, as detailed above, Ohel teaches each limitation of claims 1–4, 6–10, and 17–21, but does not teach or suggest each limitation of claims 5 and 11–16. The complete record does not contain allegations of evidence of objective indicia of nonobviousness. Upon consideration of all the evidence,

we conclude that Petitioner has proved by a preponderance of the evidence that claims 1–4, 6–10, and 17–21 would have been obvious over Ohel, but has not proved by a preponderance of the evidence that claims 5 and 11–16 would have been obvious over Ohel.

D. Obviousness over Nigawara and over Nigawara and Doolin

Petitioner contends that claims 1–7 and 11–21 would have been obvious over Nigawara and that claims 3 and 8–10 would have been obvious over Nigawara and Doolin. Pet. 1. As explained above, Petitioner has shown that claims 1–4, 6–10, and 17–21 would have been obvious over Ohel. Thus, we do not reach whether these same claims would also have been obvious over Nigawara or Nigawara and Doolin. However, as also explained above, Petitioner has not shown that claims 5 and 11–16 would have been obvious over Ohel. Thus, we evaluate whether claims 5 and 11–16 would have been obvious over Nigawara and determine that Petitioner has not made a sufficient showing.

1. Scope and Content of the Prior Art—Overview of Nigawara

Nigawara relates to

> a method and system for announcing, by voice messages, the operating conditions of a plant such as a thermal power plant, or announcing a change or changes in the operating conditions of such a plant, and more particularly to an announcing method and system suitable for application to a plant where a plurality of voice message announcing devices are provided.

Ex. 1007, 1:6–13. Figure 1, reproduced below, illustrates an example:

FIG. 1

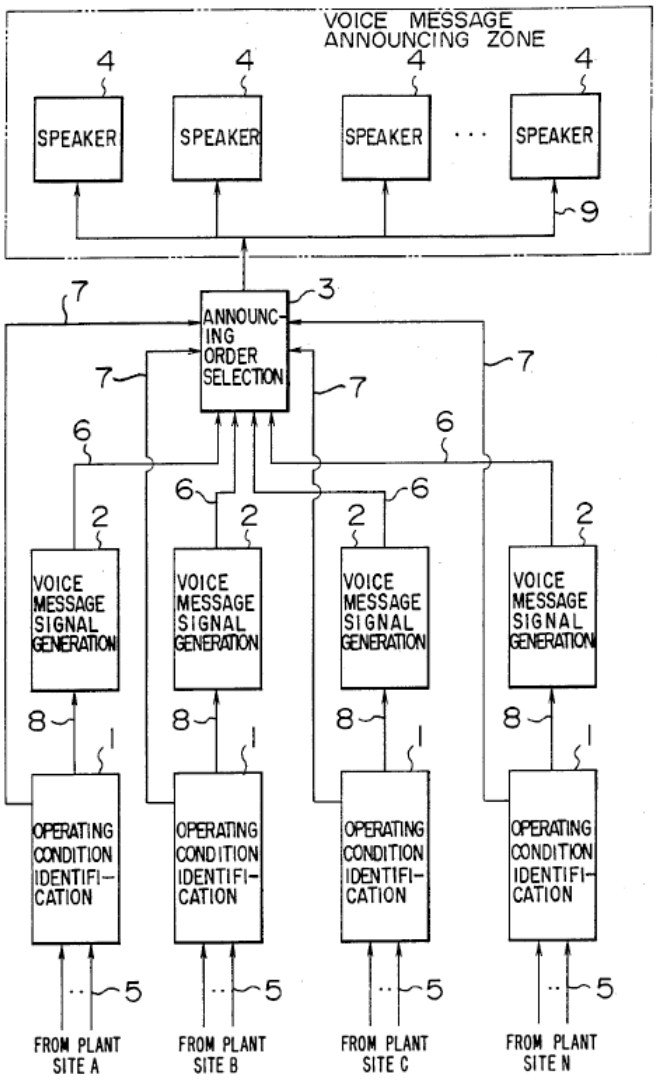


Figure 1 is a block diagram of the structure of an automatic voice message announcing system. *Id.* at 2:6–8.

A thermal power plant includes plant sites A–N. *Id.* at 2:26–27. Plant sites A–N send information signals 5 indicative of operating conditions of the plant sites and identification units 1 identify the operating conditions based on the information signals. *Id.* at 2:30–44. Examples of operating conditions can include:

> (1) Whether or not the speed of the plant's steam turbine has increased up to its rated speed; (2) whether or not the pressure of oil lubricating the bearings of the turbine driving the boiler feed water pump has decreased to a dangerously low level; (3) whether or not the quality (iron content, turbidity, pH value, etc.) of boiler feed water has become normal enough to end the water clean-up treatment.

Id. at 2:46–54. Based on information signals 5, identification units 1 send announcement instruction signals 8 to voice message signal generating units 2, which generate voice message signals that can be understood by a human. *Id.* at 2:59–3:2.

Nagawara's Figure 2 is reproduced below:

FIG. 2

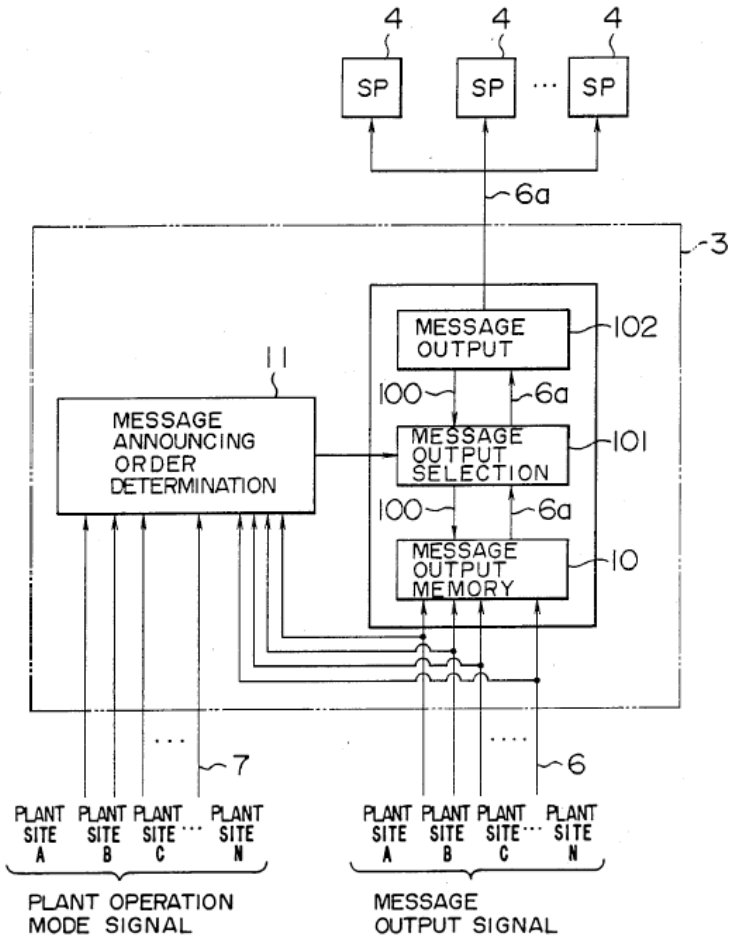


Figure 2 is a block diagram of message announcing order selection unit 3 of Figure 1. *Id.* at 2:9–11. 3:66–68. Voice message signals 6 from voice message signal generating units 2 are stored in voice message signal memory 10 and are applied, along with plant operation mode information signals 7, to message announcing order determination unit 11. *Id.* at 3:68–4:5. Voice message signals 6*a* selected by message signal selection unit 101 are sequentially applied to message output unit 102 according to a priority order determined by message announcing order determination unit 11 and are announced from speakers 4. *Id.* at 4:13–24. An example of priority order is a message pertaining to "serious trouble in main machinery and equipments" being given higher priority over a message regarding "a change in operating conditions of auxiliary machinery and equipment." *Id.* at 4:60–5:23 (Table 1).

Nigawara's Figure 3 is reproduced below:

FIG. 3

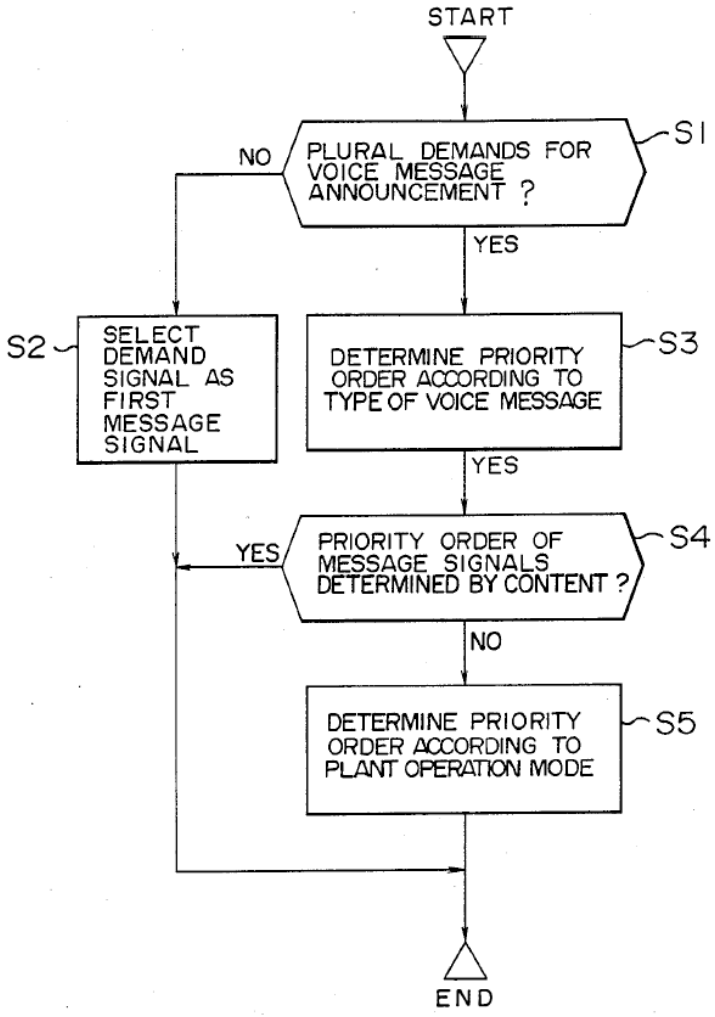


Figure 3 is a flow chart of the steps of processing in the voice message announcing order determination unit 11 of Figure 2. *Id.* at 2:12–14, 6:16–18. Voice message announcing order determination unit 11 determines whether there are a plurality voice message signals 6 with demands for voice message announcements (step S1). *Id.* at 6:22–27. If there is only one voice message signal 6, that signal is selected as a first message to message signal selection unit 101 (step S2) and is applied by message output unit 102 to corresponding speaker 4, which announces the voice message. *Id.* at 6:27–

35. If there are plural voice message signals 6, the priority order shown in Table 1 is applied to classify the signals as first message signal, second message signal, etc. (step S3) and message signals can be played in that order (step S4). *Id.* at 6:35–46.

2. Differences Between the Challenged Claims and the Prior Art; Reasons to Modify

a. Claim 5

Claim 5 depends from claim 4, which depends from claim 1.

Claim limitation [1c] recites "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*." For this limitation, Petitioner contends that Nigawara teaches determining priority based on parameters "such as content, importance of information, and plant operation conditions." Pet. 63 (citing Ex. 1007, 1:56–62, 3:33–47, 4:6–15, 4:39–58, 5:24–68, 6:35–7:2, 7:20–28). In particular, Petitioner points to Nigawara's disclosure as to steps S3, S4, and S5 of Figure 3 (reproduced above). *Id.* at 62–63 (citing Ex. 1007, 3:33–39, 6:36–42, Tables 1, 2, Fig. 3; Ex. 1002 ¶¶ 245–249).

Claim 4 depends from claim 1 and adds "wherein the predefined parameter comprises a type of the received messages." For this claim, Petitioner points to Nigawara's description corresponding to step S3 of Figure 3 (reproduced above) and Table 1 of Nigawara. *Id.* at 75–77 (citing Ex. 1007, 4:39–58, 6:36–42, Table 1; Ex. 1002 ¶¶ 278–279). Petitioner argues that "Nigawara expressly discloses determining one or more priorities

for the first and second messages based on a type of the received messages." *Id.* at 76.

According to Nigawara, "[v]oice messages are classified into those having a higher degree of importance and those having a lower degree of importance depending on their contents." Ex. 1007, 4:41–43. When plural voice message signals 6 are received at message signal selection unit 101 of Nigawara's Figure 2 (reproduced above), "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." *Id.* at 6:35–41. Nigawara's Table 1 is reproduced below:

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 equip-ments

TABLE 1-continued

Example of determination of priority order according to contents of voice messages (type of message output signals 6)	
Priority order	Contents of Message
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

Table 1 is a tabulation of priority order of announcement of voice messages. Ex. 1007, 4:55–5:23.

Claim 5 depends from claim 4 and adds "wherein the type of received messages being one of a group comprising audio, video, text, and image." In the Petition, Petitioner observes that the information signals 5 input to operating condition identification modules 1 (shown in Fig. 1 of Nigawara, reproduced above) can be voice messages and video signals. Pet. 78 (citing Ex. 1007, 2:31–41; Ex. 1002 ¶¶ 280–283). Here, Petitioner provides no evidence or argument that Nigawara's system prioritizes playing messages based on whether information signals 5 are voice, video, etc. We find that Nigawara provides no disclosure on which to base Petitioner's conclusion.

In the Reply, Petitioner changes its position and argues that Nigawara's Table 1 shows that messages are prioritized based on the type of messages of output signals 6 (not input signals 5, which Petitioner relies upon in the Petition, at 77–78), that each type of message of output signal 6

is a voice message, and, accordingly, "Nigawara expressly contemplates prioritizing based on whether the message is a 'voice message' (i.e., an audio message) and other criteria." Reply 25–26 (citing Ex. 1007, 4:59–5:23, Table 1).

First, Petitioner's Reply argument is an attempt to advance a new and different prima facie case from what it presented in the Petition. "A reply may only respond to arguments raised in the corresponding opposition, patent owner preliminary response, patent owner response, or decision on institution." 37 C.F.R. § 42.23(b); *see also* Consolidated Trial Practice Guide ("TPG") 73 (Nov. 2019), *available at* https://go.usa.gov/xpvPF ("Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability."). Thus, Petitioner's new argument is forfeited.

Even if we were to consider it, the new argument would not be persuasive. As Patent Owner argues, Nigawara's system determines message priority based on the messages' content. PO Resp. 51 (citing Ex. 1007, Ex. 1007, 1:49–55, 3:33–39, 4:55–5:24, 6:1–15, Fig. 3). Table 1 itself states that priority order is determined "according to contents of voice messages," rather than the fact that a message is an audio message or a video message (indeed, all message output signals 6 are voice messages (Ex. 2005, 122:3–21). Petitioner admitted this at the oral argument. Tr. 22:17–19 ("JUDGE TROCK: Counsel, . . . doesn't Table 1 specifically say according to contents of the message? MR. STAVINOHA: It does say that, yes, Your Honor."). Thus, we find that Nigawara does not teach "wherein the type of

received messages being one of a group comprising audio, video, text, and image," as recited in claim 5.[5]

Accordingly, Nigawara does not teach each limitation of claim 5.

b. Claims 11–16

As noted above, claims 11, 13, and 14 recite storing messages in a queue. *See* claim limitations [11f] ("storing the message having lower priority in a queue on the basis of the determination and the prioritization"), [13g] ("means for storing the messages other than the one sent for playing in a queue based upon the associated priority"), [14g] ("a storage medium configured to store the messages in a queue based upon the associated priority and the determination"). The parties dispute whether Nigawara teaches the recited queue.

Petitioner argues that "Nigawara discloses prioritizing the first and second messages based on at least one predefined parameter and storing lower priority messages in voice message signal memory 10 for a suitable delay as discussed for elements 1[c] and 1[f]." Pet. 80. According to Petitioner, "[s]toring messages for playback in priority order discloses or at least renders obvious storing the message having lower priority in a queue." *Id.* (citing Ex. 1002 ¶¶ 290–292). In support of this argument, Mr. Williams testifies that "[a] queue can take various forms, but any queue is essentially multiple data elements, stored in some sort of sequence for later use, which

[5] Petitioner appeared to advance yet another new argument at the oral hearing, namely, that claim 5 should be construed broadly enough to encompass prioritizing messages, wherein the messages have types including audio, even if those messages are not prioritized based on the type. Tr. 22:1–16. That argument also is untimely and forfeited.

is based in some form on that stored sequence." Ex. 1002 ¶ 291. Mr. Williams continues, "Nigawara discloses 'those voice message signals having priority lower than the others are announced with a suitable delay [*stored*] according to the priority order [*in a queue*], so as to solve the problem of intermixture of announced messages.'" *Id.* ¶ 292 (quoting Ex. 1007, 7:24–28 (alterations and emphasis by Mr. Williams)).

The passage on which Mr. Williams relies (Ex. 1007, 7:24–28) describes the order in which Nigawara's system plays messages, but does not describe how those messages are stored. As Patent Owner explains, Nigawara's system stores incoming messages before it determines the priority in which those messages will be played. PO Resp. 54–55 (citing Ex. 1007, 3:66–4:5). Patent Owner's reading of Nigawara is correct. According to Nigawara, "[v]oice 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." Ex. 1007, 3:68–4:2. While the messages are being stored, "[t]he voice message signals 6 are also applied, together with the plant operation mode information signals 7, to a message announcing order determination unit." *Id.* at 4:3–5. Based on this information, "the message announcing order determination unit 11 determines the priority order of announcement of the voice message signals 6," and the messages are played out in that order. *Id.* at 4:6–20. As Patent Owner observes, "[a]s the message output memory receives the message output signals ***before*** the message announcing order determination unit determines priority, a lower priority message cannot be stored in a queue based on the determination or the prioritization as claimed in claim 11." PO Resp. 54–55 (citing Ex. 2007 ¶¶ 116–118; Ex. 1007, 4:6–30). Dr. Akl's

testimony supports this argument and is consistent with Nigawara's disclosure. Ex. 2007 ¶¶ 116–118. That testimony is therefore credible.

Mr. Williams' alterations to Nigawara are not supported by Nigawara's disclosure. Ex. 1002 ¶ 292. Instead, his testimony lacks credibility on this point, and is therefore entitled to little weight.

In the Reply, Petitioner changes its argument, contending that "[q]ueues were well known in the art" and that the claims do not require storing messages in a specific order. Reply 27–28 (citing Ex. 1002 ¶ 93, Ex. 1017, 3:60–4:34, Fig. 4; Ex. 2007 ¶ 76). Aside from being late, and forfeited, these arguments are unpersuasive for the reasons given for Petitioner's similar contentions above for Ohel.

Accordingly, Petitioner has not shown that Nigawara teaches or suggests each limitation of claims 11, 13, and 14. Claim 12 depends from claim 11; claims 15 and 16 depend from claim 14. For the same reasons, Petitioner has not shown that Nigawara teaches or suggests each limitation of claims 12, 15, and 16.

3. Conclusion of Obviousness

In sum, as detailed above, Nigawara does not teach or suggest each limitation of claims 5 and 11–16. Upon consideration of all the evidence, we conclude that Petitioner has not proved by a preponderance of the evidence that claims 5 and 11–16 would have been obvious over Nigawara.

IV. CONCLUSION[6]

Petitioner has proved by a preponderance of the evidence that claims 1–4, 6–10, and 17–21 would have been obvious over Ohel. Petitioner has not proved by a preponderance of the evidence that claims 5 and 11–16 would have been obvious. The outcome for the challenged claims of this Final Written Decision follows. In summary:

Claim(s)	35 U.S.C. §	References/ Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1–21	103(a)	Ohel	1–4, 6–10, 17–21	5, 11–16
1–7, 11–21	103(a)	Nigawara[7]		5, 11–16
3, 8–10	103(a)	Nigawara, Doolin[8]		
Overall Outcome			1–4, 6–10, 17–21	5, 11–16

[6] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

[7] As explained above, because we determine that challenged claims 1–4, 6, 7, and 17–21 are unpatentable over Ohel, we decline to address this ground as to claims 1–4, 6, 7, and 17–21.

[8] As explained above, because we determine that challenged claims 3 and 8–10 are unpatentable over Ohel, we decline to address this ground.

V. ORDER

It is hereby

ORDERED that claims 1–4, 6–10, and 17–21 of the '802 patent are unpatentable;

FURTHER ORDERED that claims 5 and 11–16 of the '802 patent are not unpatentable;

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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