

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner,

v.

INGENIOSPEC, LLC.
Patent Owner.

Patent No. 8,112,104

Inter Partes Review No. IPR2026-00142

PETITION FOR *INTER PARTES* REVIEW

UNDER 35 U.S.C. §§311-319 AND 37 C.F.R. §42.100 *et seq.*

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Exhibit List

Exhibit Description	Exhibit #
U.S. Patent No. 8,112,104 to Thomas et al.	EX1001
Prosecution History of U.S. Patent No. 8,112,104	EX1002
Declaration of Dr. Joshua R. Smith	EX1003
Curriculum Vitae for Dr. Joshua R. Smith	EX1004
U.S. Patent No. 7,027,842 to Zhang et al.	EX1005
U.S. Patent Pub. No. 2010/0115149 to Ewer	EX1006
U.S. Patent Pub. No. 2002/0146097 to Vuori	EX1007
U.S. Patent No. 6,633,741 to Posa et al.	EX1008
U.S. Patent No. 8,924,217 to Moore et al.	EX1009
U.S. Patent No. 7,150,526 to Jannard et al.	EX1010
U.S. Patent No. 6,181,956 to Koskan	EX1011
European Telecommunications Standards Institute. “TS 100 901 V6.1.0: Technical Specification Digital Cellular Telecommunications System (Phase 2+); Technical Realization of the Short Message Service (SMS); Point-to-Point (PP) (GSM 03.40 version 6.1.0 Release 1997).” 1998.	EX1012
Excerpts from LOUIS BLOOMFIELD, HOW EVERYTHING WORKS (John Wiley & Sons, Inc., 2008)	EX1013

I. INTRODUCTION

Petitioner Apple Inc. (“Petitioner” or “Apple”) petitions for *inter partes* review of claims 1-47 of U.S. Patent No. 8,112,104 (“the ’104 patent” (EX1001)). The challenged claims do not present any patentable improvement over the prior art, as set forth in this Petition and in the supporting Declaration of Dr. Joshua R. Smith. (EX1003.)

Accordingly, Petitioner requests that the Board institute *inter partes* review of the ’104 patent and cancel the claims at the conclusion of the instituted proceeding.

II. SUMMARY OF THE ’104 PATENT

A. Background of the ’104 Patent

The ’104 patent relates to “communication techniques for electronic devices,” and describes electronic devices with audio and/or textual output capabilities. (EX1001, Abstract, 1:31-32; EX1003, ¶24.) For example, the ’104 patent describes communication between users of electronic devices is “achieved by short audio or textual messages.” (EX1001, 2:9-10.)

B. Priority Date

The application that became the ’104 patent (Appl. No. 12/987,018) was filed on January 7, 2011. The ’104 patent claims priority to Appl. No. 11/006,343, which was filed on December 7, 2004; and to a provisional application (No. 60/527,565) filed on December 8, 2003. (EX1001, (60).) For the purposes of this

proceeding only, a priority date of December 8, 2003, is assumed. This is the filing date of the earliest application to which the '104 patent claims priority.

C. Prosecution History of the '104 Patent

The prosecution of the '104 patent was not robust. The application faced only a single art-based rejection, which was overcome by the applicant without substantive amendment. (EX1002.) The Examiner declined to provide independent reasons for allowance—deferring instead to “the reasons set forth in applicant’s response,” which suggested the claims were patentable over the prior art for “facilitat[ing] text messaging for a user to communicate with another user.” (EX1002, Nov. 2, 2011, Notice of Allowance, July 5, 2011, Office Action Response.) But as demonstrated herein, this feature, and all limitations of the challenged claims, were known in the prior art and thus cannot confer patentability. (EX1003, ¶25.) As the prosecution history indicates, the Examiner’s prior art search was limited—during the entirety of prosecution, the Examiner cited only *one* prior art reference, *see* EX1001, (56)—and was erroneous at least for failing to adequately examine the “facilitat[ing] text messaging” limitation on which allowance rested.

D. Level of Ordinary Skill

Based on the disclosures of the '104 patent and an assumed priority date of December 8, 2003, a person of ordinary skill in the art (“POSITA”) would have

had a Bachelor's degree and a Master's degree in Electrical Engineering, Computer Engineering, Physics, or a related field, as well as one to two years of academic or industry experience in mobile devices, wireless communications, or audio electronics, or comparable industry experience. (EX1003, ¶19.)

III. CLAIM CONSTRUCTION

The Board construes the claim terms “only to the extent necessary to resolve the controversy” at hand: here, the invalidity of the claims under 35 U.S.C. §103. *Realtime Data LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (internal citation omitted). The Board should not construe any of the claim terms because, as set forth in the Petition, the claims are invalid under §103 under any reasonable interpretation and thus no claim construction is necessary to resolve any issue before the Board. (EX1003, ¶27.)

IV. PRECISE REASONS FOR RELIEF REQUESTED

Pursuant to 35 U.S.C. §§311-319 and 37 C.F.R. §42.100 *et seq.* (including §42.104(b)), Petitioner requests cancellation of claims 1-47 of the '104 patent based on the following references and the accompanying Declaration of Dr. Joshua R. Smith (EX1003). All claims are unpatentable, *e.g.*, as obvious, in view of the prior art, at least as set forth herein.

Prior Art Reference	Abbreviation
U.S. Patent No. 7,027,842 to Zhang et al. (“Zhang”)	EX1005
U.S. Patent Pub. No. 2010/0115149 to Ewer (“Ewer”)	EX1006
U.S. Patent Pub. No. 2002/0146097 to Vuori (“Vuori”)	EX1007
U.S. Patent No. 6,633,741 to Posa et al. (“Posa”)	EX1008
U.S. Patent Pub. No. 8,289,951 to Moore et al. (“Moore”)	EX1009
U.S. Patent No. 7,150,526 to Jannard et al. (“Jannard”)	EX1010
U.S. Patent No. 6,181,956 to Koskan (“Koskan”)	EX1011

The statutory grounds for the challenge of each claim are set forth below.

Throughout the Petition, all statutory citations are pre-AIA based on an assumed priority date of December 8, 2003.

Ground	35 U.S.C. §	Claims	Prior Art References
1	103	1, 5, 8, 9, 16, 17, 22, 23, 24, 26, 33, 39, 42, 47	Zhang
2	103	2, 6, 10	Zhang, Ewer
3	103	4, 25	Zhang, Vuori
4	103	11-15, 28-32, 43	Zhang, Posa
5	103	18, 21, 34, 37, 38, 45, 46	Zhang, Moore
6	103	19, 20, 35, 36	Zhang, Posa, Moore
7	103	1, 3, 4, 5, 9, 16, 17, 22-27, 33, 39, 42, 44, 47	Jannard, Vuori

Ground	35 U.S.C. §	Claims	Prior Art References
8	103	2, 6, 7, 10	Jannard, Vuori, Ewer
9	103	8	Jannard, Vuori, Koskan
10	103	11-15, 28-32, 40, 43	Jannard, Vuori, Posa
11	103	18, 21, 34, 37, 38, 45, 46	Jannard, Vuori, Moore
12	103	19, 20, 35, 36, 41	Jannard, Vuori, Posa, Moore

Below, Petitioner discusses why the challenged claims are unpatentable, including by specifying how and where the prior art satisfies each limitation of each challenged claim, as required by 37 C.F.R. §42.104(b)(4).¹ Petitioner's showing establishes a reasonable likelihood that it will prevail on each ground of invalidity as to each challenged claim.

V. ZHANG RENDERS OBVIOUS CLAIMS 1, 2, 4, 5, 6, 8-26, 28-39, 42, 43, AND 45-47

A. Ground 1: Claims 1, 5, 8, 9, 16, 17, 22, 23, 24, 26, 33, 39, 42, and 47 are Rendered Obvious by Zhang

1. Summary of Zhang

Zhang (U.S. Patent No. 7,027,842) was filed on September 24, 2002; Zhang is thus prior art to the '104 patent under at least 35 U.S.C. §§102(a) and (e). (EX1005.)

¹ Petitioner also shows how each claim preamble is satisfied, but does not concede that any preamble is limiting for any ground in the Petition.

Zhang discloses an apparatus and method for providing hands-free operation of a device by using a hands-free adapter and a wireless headset. (EX1005, Abstract, 2:14-28, 5:60-6:6, FIG. 2; EX1003, ¶31.) FIG. 2 illustrates:

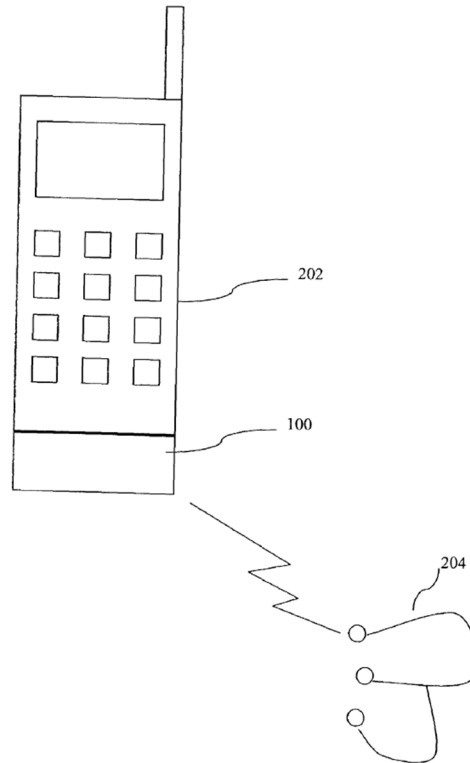
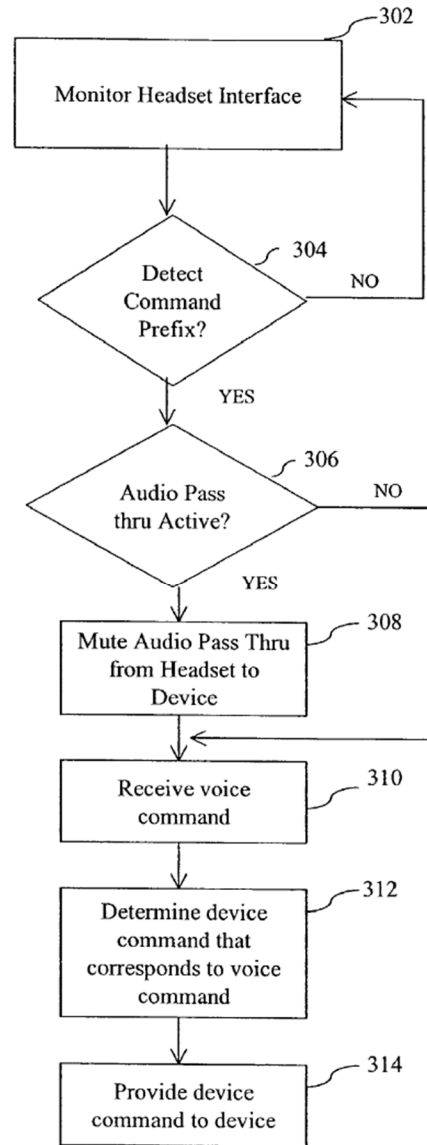


Figure 2

(EX1005, FIG. 2; EX1003, ¶31.)

The headset includes a microphone for recording audio signals, including voice commands, which are transmitted to the hands-free adapter and used to control the device. (EX1005, 2:14-28, 3:61-4:4, 7:13-38; EX1003, ¶32.) FIG. 3 illustrates:

**Figure 3**

(EX1005, 7:13-38, FIG. 3; EX1003, ¶32.)

The device can be an SMS-enabled mobile phone, a pager, or a PDA.

(EX1005, 4:58-5:3; EX1003, ¶33.) The hands-free adapter can retrieve text messages from the device and convert them to audio signals, which can be provided to the headset and read to the user of the device. (EX1005, 4:58-5:3, 9:35-54; EX1003, ¶33.) The hands-free adapter and headset can allow a user to

respond to received text messages. (EX1005, 9:35-54; EX1003, ¶33.) Using a “Reply” command, the user can orally provide a reply message, causing the device to send a reply text message. (EX1005, 9:35-54; EX1003, ¶33.)

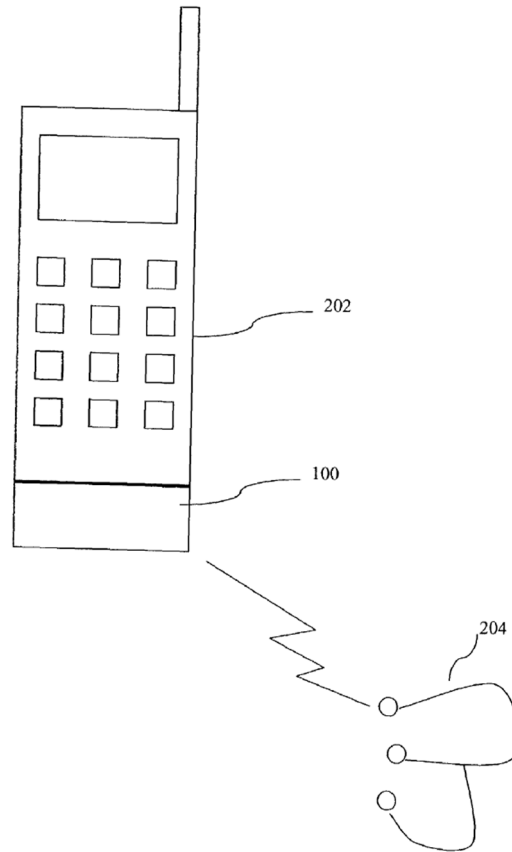
Zhang is analogous art to the ’104 patent because it is directed to the same field of endeavor: communication systems, including wireless, mobile communication systems. (EX1001, 2:1-10; EX1005, 1:14-60; EX1003, ¶34.) For example, Zhang relates to mobile phones with a hands-free adapter and headset to support hands-free operation—the same type of “hands-free” devices that the ’104 patent purports to improve upon. (*See* EX1001, 1:36-67; EX1003, ¶34.) Zhang is reasonably pertinent to the problem faced by the ’104 patent inventor—improving usability and accessibility for users of mobile electronic devices, particularly for hands-free operation. (EX1001, 2:1-5; EX1005, 1:46-48; EX1003, ¶34.)

2. Claim 1

a. [Preamble]²

Zhang discloses a mobile telephone 202 with an integrated hands-free adapter 100, which can communicate wirelessly with a headset 204. (EX1005, 2:14-28, 2:45-52, 5:4-12, 5:60-6:6; EX1003, ¶35.) FIG. 2 illustrates:

² See the claims appendix for a full recitation of each claim.



(EX1005, FIG. 2; EX1003, ¶35.)

b. [A]

As described above, Zhang's hands-free adapter 100 wirelessly communicates with headset 204. (EX1005, 2:14-28, 5:4-12, 5:60-6:6; EX1003, ¶36.) FIG. 1 illustrates a block diagram of hands-free adapter 100, including headset interface 110 that can be wireless:

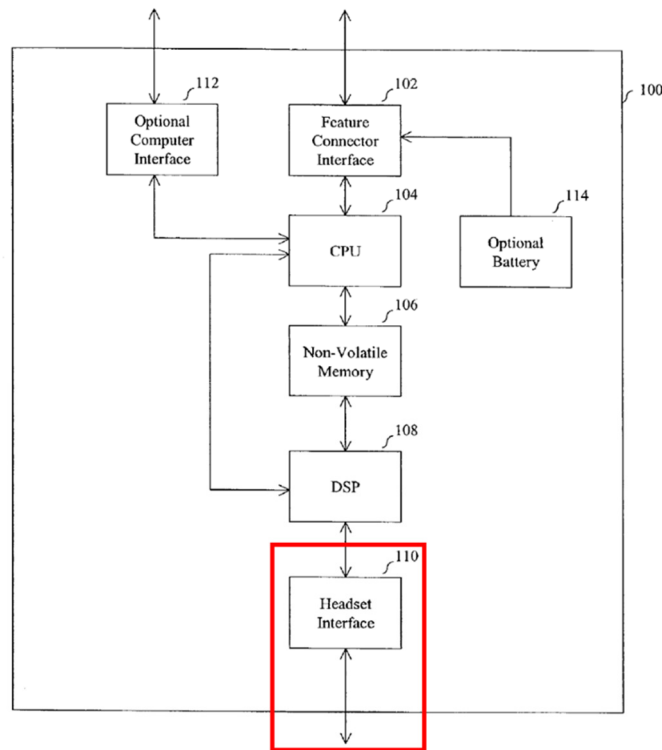


Figure 1

(EX1005, 2:14-28, 5:4-12, FIG. 1 (annotated); EX1003, ¶36.)

c. [B]

As described above, Zhang teaches a wireless communication device (*i.e.*, mobile telephone 202 with hands-free adapter 100) that wirelessly communicates with headset 204. (EX1005, 2:14-28, 5:4-12, 5:60-6:6; EX1003, ¶37.) The device supports wireless communication, including messaging, for the user. (EX1003, ¶37.) For example, the device can be a mobile telephone, a pager, or a PDA, which can send and receive text messages (*e.g.*, SMS text messages). (EX1005, 4:58-5:3, 5:60-6:6, 9:35-60; EX1003, ¶37.) As examples, a “Read” command 702 instructs the hands-free adapter to retrieve a text message from the device and to

play or read the message to the user; and a “Reply” command 704 instructs the hands-free adapter to generate a command to the device to send a reply text message. (EX1005, 9:35-54; EX1003, ¶37.)

d. [C]

Zhang’s wireless communication device receives text messages, which the POSITA would have understood to be received from another user. (EX1005, 4:58-5:3, 9:35-60; EX1003, ¶38.)

e. [D]

Zhang discloses a voice synthesis process, by which “the text messages received by the device are converted to audio signals and forwarded to the headset.” (EX1005, 4:58-5:3; EX1003, ¶39.) The hands-free adapter 100 can include a “DSP [which] performs the voice synthesis,” as illustrated in FIG. 1:

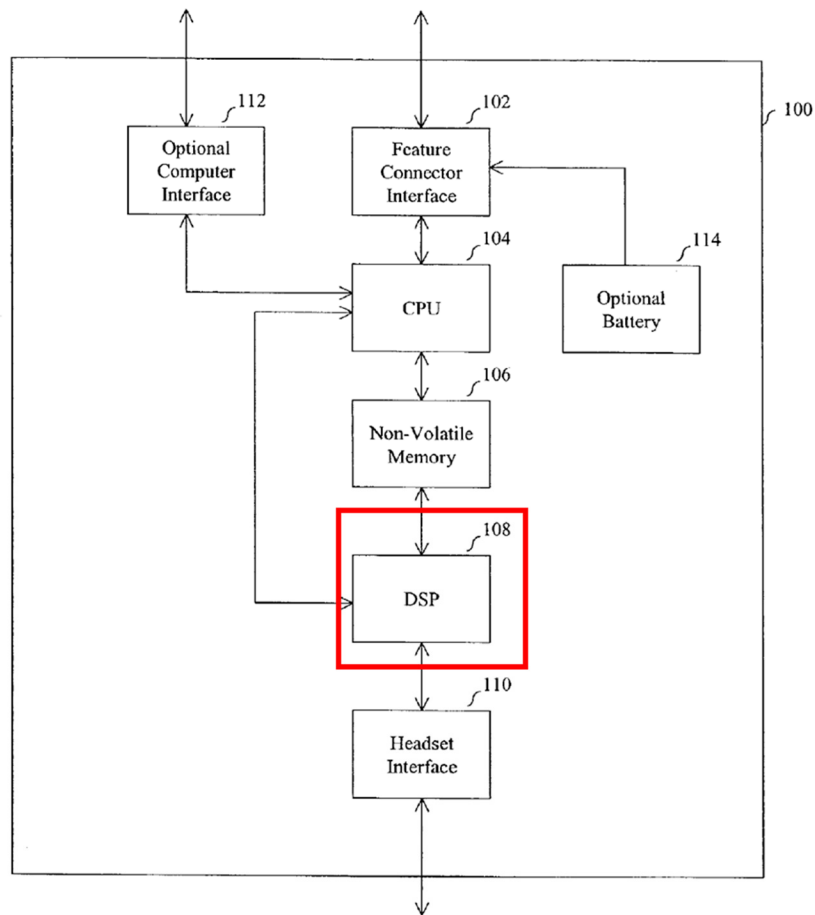


Figure 1

(EX1005, 2:14-28, 2:45-52, 4:58-5:3, FIG. 1 (annotated); EX1003, ¶39.)

f. [E]

Zhang discloses that in response to an oral “Read” command, the hands-free adapter 100 can retrieve a message and read the message to the user, as shown in FIG. 7:

	Voice Command	Device Command/Action
702	Read	Open message and read it
704	Reply	Reply to message
706	Delete	Delete message
708	Joe	Joe@ipager.com

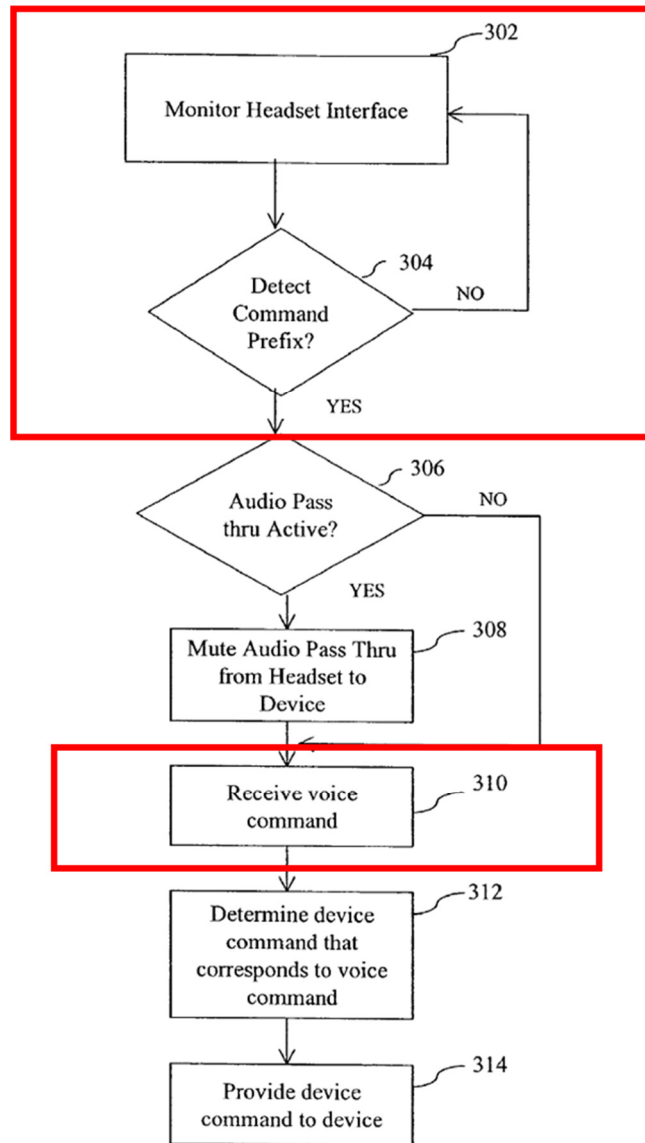
Figure 7

(EX1005, 9:35-54, FIG. 7 (annotated); EX1003, ¶40.)

The text messages can thus be received by the device, converted to audio signals, and forwarded to the headset. (EX1005, 4:58-5:3; EX1003, ¶41.) Further, the wireless headset 204 includes a speaker, which the POSITA would understand to read (*i.e.*, present) the converted audio signals to the user. (EX1005, 5:60-6:6; EX1003, ¶41.)

g. [F]

Zhang discloses that in response to an oral “Reply” command, the hands-free adapter 100 generates a command to send a reply message (310). (EX1005, 9:35-54; EX1003, ¶42.) FIG. 3 illustrates:

**Figure 3**

(EX1005, 2:14-28, 3:61-4:4, 5:4-12, 5:60-6:6, 9:35-54, FIG. 3(annotated); EX1003, ¶42.)

The user orally provides the text of the reply message: for example, “the user says, ‘Goober, Reply yes’ to send a reply message stating ‘Yes.’” (EX1005, 9:35-54; EX1003, ¶43.) The wireless headset 204 includes a microphone for the user to provide the audio message. (EX1005, 5:60-6:6; EX1003, ¶43.) The

POSITA would further understand the detected message to be stored in a memory (*e.g.*, a buffer, such as a buffer of DSP 108), so that it can be converted to a text message as described below. (EX1003, ¶43.) Thus, the wireless headset is used to record reply audio messages (*e.g.*, “Yes” in the above example), which are transmitted to the hands-free adapter 100. (EX1003, ¶43.)

h. [G]

As described above, Zhang teaches the user orally “provides the text of the reply message,” and the hands-free adapter 100 causes the device to send the reply message in text form. (EX1005, 9:34-54; EX1003, ¶44.) FIG. 7 shows the “Reply” command and the corresponding action for the device:

	Voice Command	Device Command/Action
702	Read	Open message and read it
704	Reply	Reply to message
706	Delete	Delete message
708	Joe	Joe@ipager.com

Figure 7

(EX1005, 9:35-54, FIG. 7 (annotated); EX1003, ¶44.)

The POSITA would have understood that in order to receive a spoken reply input and send it as a text message, the audio of the spoken reply would have to be converted to the reply text message. (EX1003, ¶45.)

i. [H]

Zhang discloses the mobile device sends the reply message. (EX1005, 9:35-54, FIG. 7; EX1003, ¶46.) For example, Zhang teaches the user can say “Goober, Reply yes” to “send a reply message” stating “Yes.” (EX1005, 9:35-54; EX1003, ¶46.) Thus, the reply message is transmitted to the second user, *i.e.*, the user that sent the initial incoming message. (EX1003, ¶46.)

3. Claim 5

a. [Preamble]

See claim 1. (EX1003, ¶47.)

b. [A]

Zhang discloses that in response to receiving user input including an oral “Read” command, the hands-free adapter 100 can retrieve and read a message to the user. (EX1005, 9:35-54; EX1003, ¶48.) Thus, the hands-free adapter determines whether the text message should be read to the user based on receiving the “Read” command. (EX1003, ¶48.)

c. [B]

As shown in FIG. 3, Zhang teaches the hands-free adapter receives a voice

command (310), determines an accompanying device command (312), then commands the device to act accordingly (314):

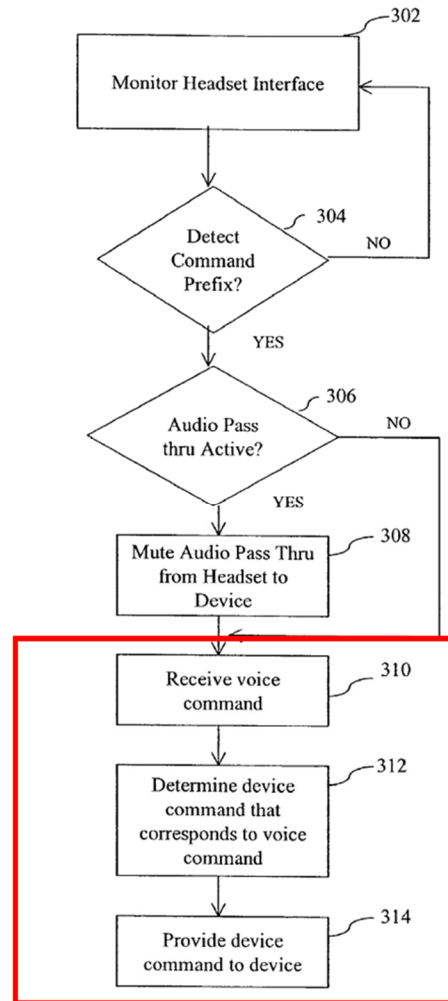


Figure 3

(EX1005, 7:13-48, 9:35-54, FIG. 3 (annotated); EX1003, ¶49.)

As described above, Zhang teaches that in response to an oral “Read” command, the hands-free adapter 100 can retrieve and read a message to the user. (EX1005, 9:35-54, FIG. 7; EX1003, ¶50.) In accordance with Zhang’s teaching that “[i]f the user selects an event indicator message that requires the generation of

speech, then the DSP performs the Voice Synthesis,” the POSITA would understand the text is not converted into audio until the user initiates the conversion with the “Read” command. (EX1005, 4:58-5:3, 9:35-54; EX1003, ¶50.)

4. Claim 8

a. [Preamble]

See claim 5. (EX1003, ¶51.)

b. [A]

Zhang discloses the hands-free adapter can be configured with “user preferences [stored] into the non-volatile memory” including “the selection of other voice commands and event indicators.” (EX1005, 2:39-43; EX1003, ¶52.) The “voice commands typically are selected by the user during configuration.” (EX1005, 7:55-58; 9:20-23.) As shown in FIG. 7, the “Read” command is such a voice command that can be set as a user preference:

	Voice Command	Device Command/Action
702	Read	Open message and read it
704	Reply	Reply to message
706	Delete	Delete message
708	Joe	Joe@ipager.com

Figure 7

(EX1005, 2:39-43, 7:55-58; 9:20-23, 9:35-54, FIG. 7 (annotated); EX1003, ¶52.)

Thus, when received, the “Read” command (set by user preference) causes the hands-free adapter to determine the text message should be read to the user.

(EX1005, 9:35-54, FIG. 7; EX1003, ¶53.)

5. Claim 9

a. [Preamble]

See claim 5. (EX1003, ¶54.)

b. [A]

As previously discussed, Zhang teaches that in response to an oral “Read” command, the hands-free adapter 100 can read the message to the user. (EX1005,

9:35-54, FIG. 7; EX1003, ¶55.) Based on receiving the “Read” voice command, which is a user indication, the hands-free adapter determines the text message should be read to the user. (EX1005, 9:35-54, FIG. 7; EX1003, ¶55.)

6. Claim 16

a. [Preamble]

See claim 1. (EX1003, ¶56.)

b. [A]

Zhang discloses the wireless communication device can be an “SMS enabled mobile telephone.” (EX1005, 9:36-37; EX1003, ¶57.) Thus, an incoming text message received by the SMS-enabled mobile telephone can be an SMS message. (EX1005, 9:35-44; EX1003, ¶57.)

7. Claim 17

a. [Preamble]

See claim 1. (EX1003, ¶58.)

b. [A]

Zhang discloses the wireless communication device can be an “SMS enabled mobile telephone.” (EX1005, 9:36-37; EX1003, ¶59.) That is, the incoming text message received by the SMS-enabled mobile telephone and the reply message sent by the SMS-enabled mobile telephone can both be SMS messages. (EX1005, 9:35-44; EX1003, ¶59.)

8. Claim 22**a. [Preamble]**

See claim 1. (EX1003, ¶60.)

b. [A]

Zhang discloses the wireless communication device can be a “mobile telephone.” (EX1005, 9:35-44; EX1003, ¶61.)

9. Claim 23**a. [Preamble]**

As described above, Zhang discloses that headset 204 wirelessly communicates with the hands-free adapter 100 via a wireless network. (EX1005, 2:14-28, 5:4-12, 5:60-6:6; EX1003, ¶62.) FIG. 2 illustrates:

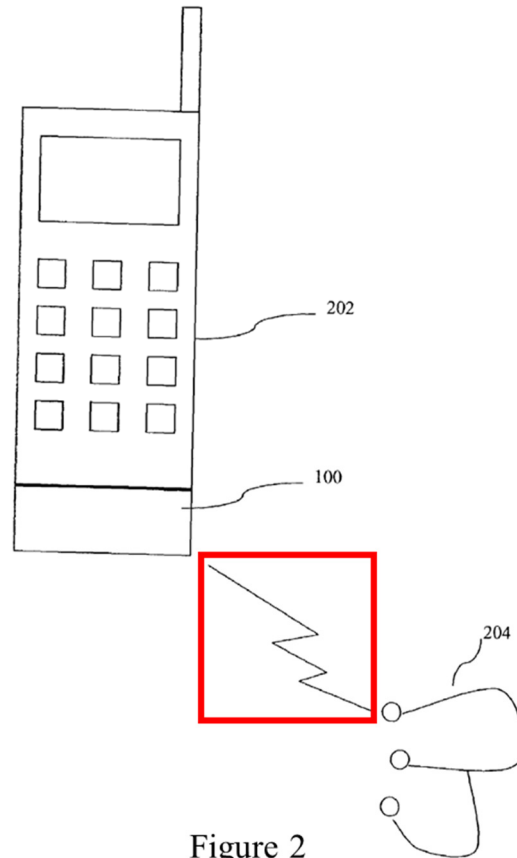


Figure 2

(EX1005, FIG. 2 (annotated); EX1003, ¶62.)

Zhang's wireless communication device supports wireless communication, including messaging, and can send and receive text messages (*e.g.*, SMS messages). (EX1005, 4:58-5:3, 5:60-6:6, 9:35-60; EX1003, ¶63.) As examples, a "Read" command 702 instructs the hands-free adapter to retrieve a text message from the device and to read the message to the user; and a "Reply" command 704 instructs the device to send a reply text message. (EX1005, 9:35-54; EX1003, ¶63.) That is, the wireless headset supports the messaging function of the wireless communication device by reading received text messages to the user and recording

reply messages. (EX1005, 4:58-5:3, 5:60-6:6; EX1003, ¶¶63.)

b. [A]

Zhang discloses a voice synthesis process, by which “the text messages received by the device are converted to audio signals and forwarded to the headset.” (EX1005, 4:58-5:3; EX1003, ¶¶64.) The hands-free adapter 100 can include a DSP 108 to perform voice synthesis and a wireless headset interface 110, as illustrated in FIG. 1:

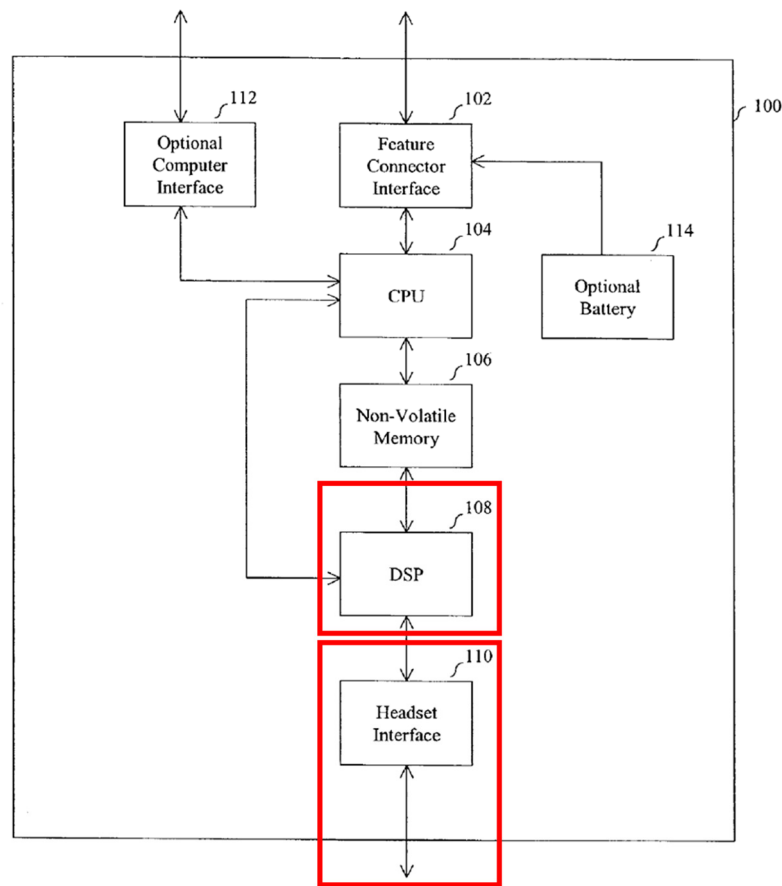


Figure 1

(EX1005, 2:14-28, 2:45-52, 4:58-5:3, FIG. 1 (annotated); EX1003, ¶¶64.)

Thus, the headset wirelessly receives an incoming audio message from the wireless communication device, after the DSP 108 converts an incoming text message to the audio message. (EX1003, ¶65.) The POSITA would have understood that the incoming text message is received from another wireless electronic device via the wireless network. (EX1003, ¶65.) This is at least because Zhang discloses the wireless communication device may be SMS-enabled, and the POSITA would understand the SMS protocol to describe sending and receiving text messages between two or more wireless electronic devices via a wireless network. (*See, e.g.*, EX1012, 6; EX1003, ¶65.)

c. [B]

See claim 1[E]. (EX1003, ¶66.)

d. [C]

See claim 1[F]. (EX1003, ¶67.)

e. [D]

As described above, Zhang discloses the hands-free adapter 100 wirelessly communicates with headset 204. (EX1005, 2:14-28, 5:4-12, 5:60-6:6; EX1003, ¶68.) FIG. 1 illustrates:

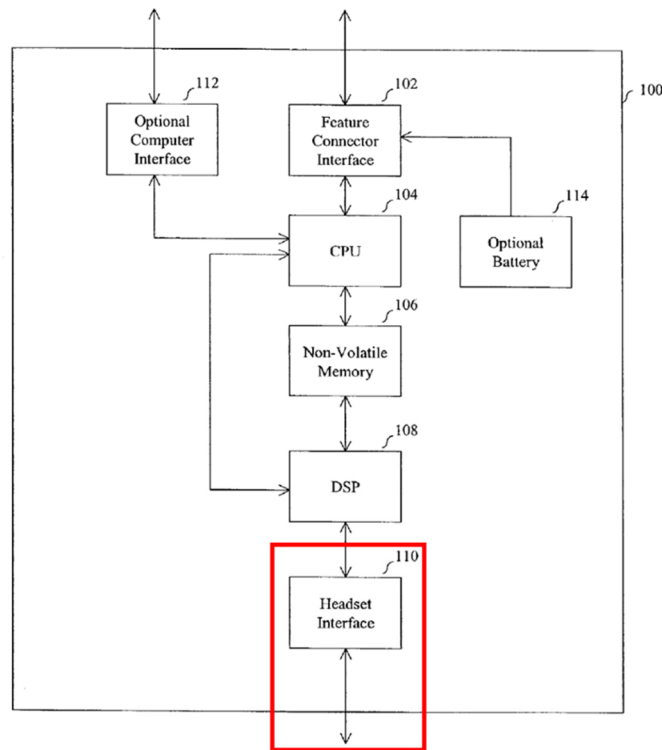


Figure 1

(EX1005, 2:14-28, 5:4-12, FIG. 1 (annotated); EX1003, ¶68.)

Zhang discloses audio signals are received from the headset and processed by the DSP of the hands-free adapter. (EX1005, 5:2-5; EX1003, ¶69.) For example, in response to an oral “Reply” command provided via the microphone of the wireless headset, the hands-free adapter generates a command for the wireless communication device to send a reply message. (EX1005, 9:35-54; EX1003, ¶69.) Based on these teachings, the POSITA would have understood that for the wireless communication device to send a reply message, the wireless headset must first transmit the audio signal containing the reply message’s content to the wireless communication device. (EX1003, ¶69.)

10. Claim 24**a. [Preamble]**

See claim 23. (EX1003, ¶70.)

b. [A]

As described above, Zhang discloses the user orally “provides the text of the reply message,” and the hands-free adapter 100 causes the device to send the reply message in text form. (EX1005, 9:34-54; EX1003, ¶71.) FIG. 7 illustrates:

	Voice Command	Device Command/Action
702	Read	Open message and read it
704	Reply	Reply to message
706	Delete	Delete message
708	Joe	Joe@ipager.com

Figure 7

(EX1005, 9:35-54, FIG. 7 (annotated); EX1003, ¶71.)

To the extent not expressly disclosed, the POSITA would have understood that in order to receive a spoken reply input and send it as a text message, the audio of the spoken reply would have to be converted to the reply text message by the

wireless communication device. (EX1003, ¶72.) The POSITA would have understood a reply text message is transmitted to another wireless communication device, *i.e.*, the wireless electronic device that sent the initial incoming message, via the wireless network. (EX1003, ¶72.) This is at least because Zhang discloses the wireless electronic device may be SMS-enabled, and the POSITA would understand the SMS protocol to describe sending and receiving text messages between two or more wireless electronic devices over a wireless network. (*See, e.g.*, EX1012, 6; EX1003, ¶72.)

11. Claim 26

a. [Preamble]

See claim 24. (EX1003, ¶73.)

b. [A]

See claim 17[A]. (EX1003, ¶74.)

12. Claim 33

a. [Preamble]

See claim 23. (EX1003, ¶75.)

b. [A]

See claim 16[A]. (EX1003, ¶76.)

13. Claim 39

a. [Preamble]

See claim 23. (EX1003, ¶77.)

b. [A]

See claim 22[A]. (EX1003, ¶78.)

14. Claim 42**a. [Preamble]**

See claim 23, preamble. (EX1003, ¶79.)

b. [A]

See claim 23[A] and 23[B]. (EX1003, ¶80.)

c. [B]

See claim 23[C] and claim 24[A]. (EX1003, ¶81.)

15. Claim 47**a. [Preamble]**

See claim 43. (EX1003, ¶82.)

b. [A]

See claim 24[A]. (EX1003, ¶83.)

B. Ground 2: Claims 2, 6, and 10 are Rendered Obvious by Zhang in view of Ewer**1. Summary of Ewer**

Ewer is the publication of a U.S. patent application that was filed on December 12, 2002. (EX1006.) Ewer is thus prior art to the '104 patent under at least 35 U.S.C. §§102(a) and (e). Ewer was not considered during the prosecution of the '104 patent.

Ewer teaches “automatic detection and signaling of the connection status of a headset,” which is useful for identifying when a headset is no longer connected to a phone or computer. (EX1006, Abstract, [0004], [0005]; EX1003, ¶86.) The disclosed methods apply to both wired and wireless headsets, including those using RF technology. (EX1006, [0027]; EX1003, ¶86.) If the headset is disconnected or inactive, the system can pause or terminate applications, or prevent them from running. (EX1006, [0012]; EX1003, ¶86.) If the headset is active, the system can resume or allow execution of applications. (EX1006, [0012].) FIG. 5 illustrates:

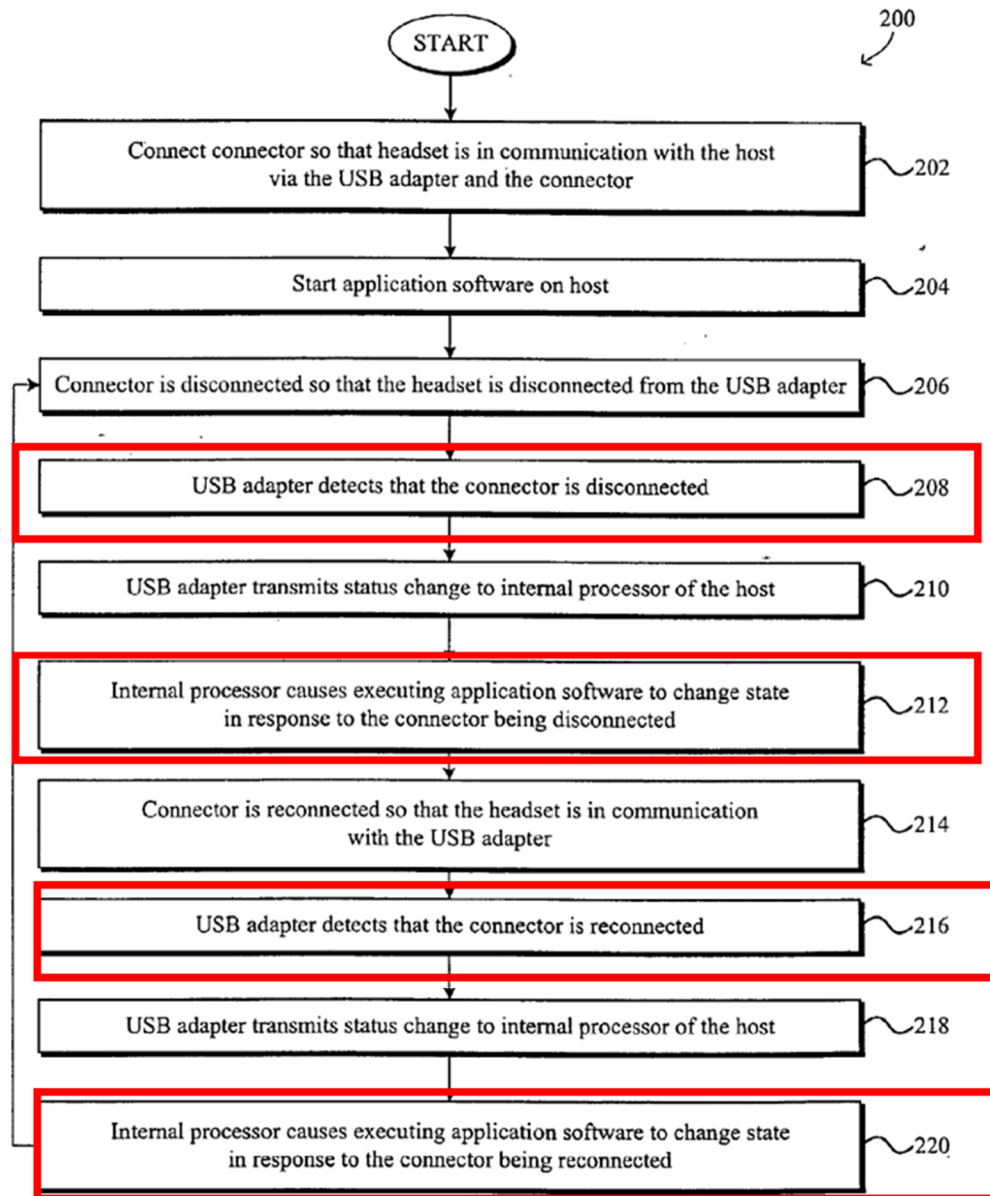


FIG. 5

(EX1006, FIG. 5 (annotated); EX1003, ¶86.)

Ewer is analogous art to the '104 patent at least because it is directed to the same field of endeavor—communication systems that can be wireless and include a wireless headset. (EX1006, [0027]; EX1003, ¶87.) It is also reasonably

pertinent to the '104 patent at least because it discloses solutions for connecting a headset to a host device for hands-free operation, a problem discussed in the '104 patent. (*See* EX1001, 1:36-67; EX1006, [0009]-[0010]; EX1003, ¶87.)

2. Claim 2

a. [Preamble]

See claim 1. (EX1003, ¶88.)

b. [A]

This element is met by Ewer. (EX1003, ¶89.) Ewer discloses that a headset adapter 106 determines whether a wireless headset 110 is connected (and thus active); and transmits a signal to a host device 104 accordingly to indicate the headset's connection status. (EX1006, [0027], [0028]; EX1003, ¶89.) For example, headset adapter 106 can include circuitry (*i.e.*, connector detect circuit 132, processor 136) to monitor the connection status. (EX1006, [0026], [0035]; EX1003, ¶89.) FIG. 2 illustrates an example relationship among the headset 110, headset adapter 106, and host device 104:

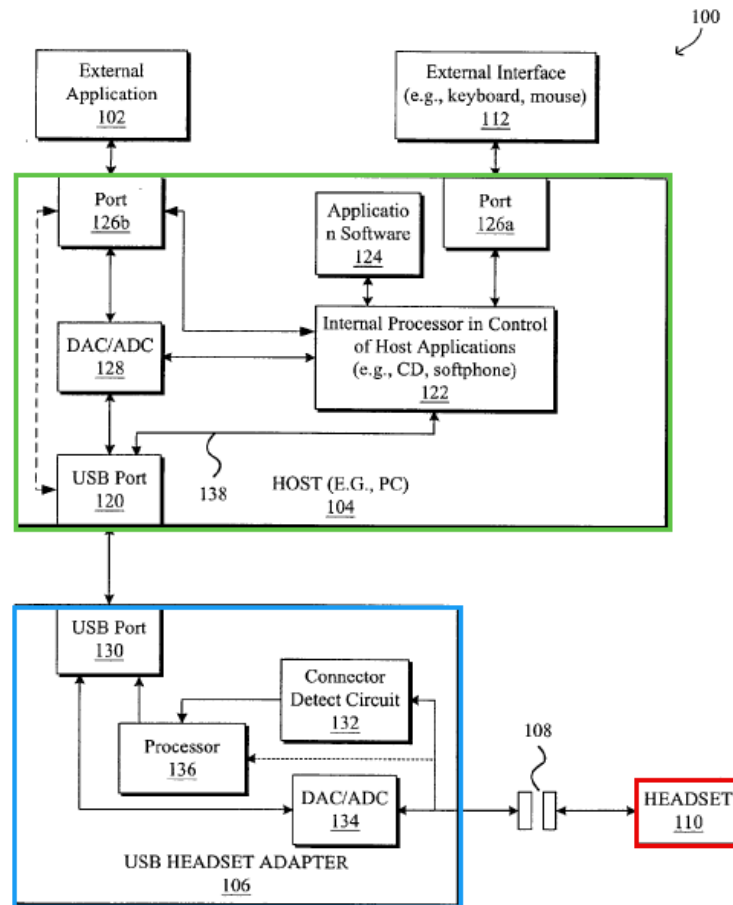


FIG. 2

(EX1006, FIG. 2 (annotated); EX1003, ¶89.)³

When the headset 110 is connected or disconnected, the headset adapter 106

³ While headset 110 communicates with adapter 106 via a connector 108 in the FIG. 2 example, Ewer's automatic detection of the headset's connection status is "similar regardless of whether the connector 108 is provided." (EX1006, [0026]; EX1003, ¶89 n.1.)

transmits a signal “indicating a change in the headset connection status to the host 104”, which runs application software that may respond to the connection status. (EX1006, [0028]; EX1003, ¶90.)

The POSITA would have understood Ewer to disclose determining whether a wireless headset (such as in Zhang) is active, for several reasons. (EX1003, ¶91.) First, although wired embodiments are disclosed, Ewer explains that “wireless connections may alternatively be employed,” and that its use of the term “connection” refers to “both wired and wireless connections.” (EX1006, [0027]; EX1003, ¶91.)

Second, Ewer discloses “RF technology” as one example for headset 110 communicating wirelessly with adapter 106. (EX1006, [0027]; EX1003, ¶92.) The POSITA would have understood that, in order for adapter 106 to perform its task of “indicat[ing] a change in the headset connection status” to the host 104 for a wireless headset utilizing RF technology, the adapter would determine whether the headset is communicating RF signals (*e.g.*, audio signals) with the adapter. (EX1003, ¶92; *see* EX1013, 428-35 (describing wireless communication of audio signals via radio frequency).) Similarly, the POSITA would have understood Ewer’s headset to be active if the headset is communicating with the adapter. (EX1003, ¶92.) This is consistent with the ’104 patent’s description of “determin[ing] whether a head-set is active” in order to “obtain and send 214 an

audio message to the caller,” *i.e.*, via communicating the audio message with the headset. (EX1001, 8:48-54, FIG. 5; EX1003, ¶92.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Zhang and Ewer to meet the claim limitations. (EX1003, ¶93.) Zhang’s system is configured for utilizing a wireless headset in combination with a communication device. (EX1003, ¶93.) The POSITA would have understood that if the wireless headset were disconnected from the communication device, applications on the communication device utilizing the headset cannot function as desired. (EX1003, ¶93.) Zhang’s system would thus face a problem identified in Ewer: the requirement of inconvenient and deliberate “manual intervention by the user in order for the application to be informed of the disconnection and for the application to change its state.” (EX1006, [0009]; EX1003, ¶93.) The POSITA would seek to minimize such inconvenience and would thus be motivated to combine Ewer with Zhang. (EX1003, ¶93.)

The POSITA would have had a reasonable expectation of success in combining the teachings of Zhang and Ewer. (EX1003, ¶94.) Ewer’s techniques are broadly applicable to headsets connected to computers or other processor-based hosts—analogue to Zhang’s headset connected to the integrated communication device and hands-free adapter. (EX1006, [0025]; EX1003, ¶94.) Ewer’s

monitoring of headset connectivity status is implemented via processors 136 and/or connector detect circuit 132 of USB headset adapter 106 by monitoring connection 108, analogous to DSP 108 of hands-free adapter 100 which monitors headset interface 100 of Zhang. (EX1006, [0035]; EX1005, 4:58-59, 6:15-18, FIG. 3; EX1003, ¶94.) Further, Zhang and Ewer also share other analogous and familiar computer components, such as headsets, headset adapters, and communication devices. (EX1005, 1:61-2:52; EX1006, [0025]-[0027]; EX1003, ¶94.) Zhang and Ewer are thus easily combined based on familiar components. (EX1003, ¶94.) Additionally, Zhang's hands-free adapter already monitors the headset interface. (EX1005, 2:61-62.) Thus, it would have been straightforward to modify the hands-free adapter to monitor the connection status in addition to monitoring audio input via the headset interface. (EX1003, ¶94.)

c. [B]

Ewer discloses “[a] signal indicating that the headset is connected may resume a paused application or allow the application to be executed.” (EX1006, [0012]; EX1003, ¶95.) The POSITA would understand this to disclose that upon detecting that the headset is connected (*e.g.*, active), the system can allow an application running on the connected host device to automatically execute in response to the signal. (EX1003, ¶95.) One application running on Zhang's hands-free adapter is the conversion of text messages to audio messages.

(EX1005, 4:58-5:3.) Accordingly, the POSITA would understand the combination of Zhang and Ewer to teach automatically executing the conversion of text messages to audio messages upon determining the wireless headset is active.

(EX1003, ¶¶95.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Zhang and Ewer as discussed with respect to claim 2[A]. (EX1003, ¶¶96.)

3. Claim 6

a. [Preamble]

See claim 5. (EX1003, ¶¶97.)

b. [A]

See claim 2[A]. (EX1003, ¶¶98.)

c. [B]

See claim 2[B]. (EX1003, ¶¶99.)

4. Claim 10

a. [Preamble]

See claim 5. (EX1003, ¶¶100.)

b. [A]

See claim 2[A]. (EX1003, ¶¶101.)

C. Ground 3: Claims 4 and 25 are Rendered Obvious by Zhang in view of Vuori

1. Summary of Vuori

Vuori is the publication of a U.S. patent application that was filed on July 23, 2001, and published on October 10, 2002. (EX1007.) Vuori is thus prior art to the '104 patent under at least 35 U.S.C. §§102(a), (b), and (e). Vuori was not considered during the prosecution of the '104 patent.

Vuori discloses systems and methods for “facilitat[ing] the sending of short messages.” (EX1007, [0006]; EX1003, ¶104.) Vuori describes user equipment that can receive a short voice message (SVM) spoken by a first user and can “recogniz[e] the [SVM] spoken by the first user and ... provid[e] the SVM as a text message.” (EX1007, [0017]; EX1003, ¶104.) The user equipment can “end the message recordation by signaling the user that the maximum message length has been reached.” (EX1007, [0032]; EX1003, ¶104.) The user equipment can be configured to receive an incoming text SVM and can “convert[] the incoming text SVM from the second user to voice for enunciation for instance as an artificial voice.” (EX1007, [0017]; EX1003, ¶104.)

Vuori is analogous art to the '104 patent at least because it is directed to the same field of endeavor—improving communication between users of electronic devices, where the communication is achieved by short audio or textual messages. (EX1007, [0003], [0006], [0017]; EX1001, 2:1-11; EX1003, ¶105.) Vuori is

reasonably pertinent to the '104 patent at least because it describes voice and text messaging solutions applicable to wireless communication devices (*e.g.*, mobile phones), thus addressing a problem faced by the '104 patent's inventors. (*See* EX1001, 2:3-37; EX1007, [0007]-[0017]; EX1003, ¶105.)

2. Claim 4

a. [Preamble]

See claim 1. (EX1003, ¶106.)

b. [A]

Vuori discloses “the user equipment could end the message recordation by signaling the user that the maximum message length has been reached.” (EX1007, [0032]; EX1003, ¶107.) The POSITA would understand the maximum message length corresponds to a predetermined text message size. (EX1003, ¶107.) Thus, ending message recording when the maximum message length has been reached limits the reply audio message during the recording process. (EX1003, ¶107.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Zhang and Vuori to meet the claim limitations. (EX1003, ¶108.) Zhang's system is configured for allowing a user to respond to received SMS text messages. (EX1005, 9:35-54; EX1003, ¶108.) The POSITA would have understood that the SMS protocol limited the length of SMS messages to a specified number of

characters. (*See, e.g.*, EX1012, p. 6; EX1003, ¶108.) Zhang’s system would thus face a problem if the recorded audio message were too long to convert to an SMS text message. (EX1003, ¶108.) The POSITA would seek to prevent such an occurrence and would thus be motivated to combine the teachings of Vuori with Zhang. (EX1003, ¶108.)

The POSITA would have had a reasonable expectation of success in combining the teachings of Zhang and Vuori. (EX1003, ¶109.) Vuori’s methods are broadly applicable for use in “telecommunications network[s] for providing messages between users”—analogous to Zhang’s system which can send and receive SMS text messages. (EX1007, [0007]; EX1005, 4:58-5:3, 5:60-6:6, 9:35-60; EX1003, ¶109.) Thus, it would have been straightforward to modify Zhang’s system to limit the length of the message recorded via the headset interface. (EX1003, ¶109.)

3. Claim 25

a. [Preamble]

See claim 24. (EX1003, ¶110.)

b. [A]

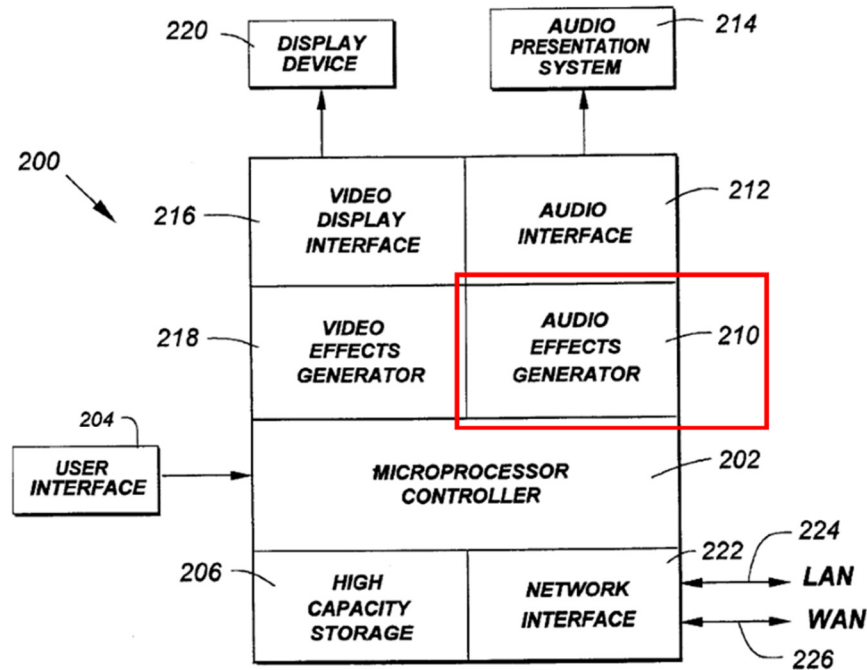
See claim 4[A]. (EX1003, ¶111.)

D. Ground 4: Claims 11-15, 28-32, and 43 are Rendered Obvious by Zhang in view of Posa

1. Summary of Posa

Posa is a U.S. patent that was filed on July 6, 2001, and issued on October 14, 2003. (EX1008.) Posa is thus prior art to the '104 patent under at least 35 U.S.C. §§102(a) and (e). Posa was not considered during prosecution of the '104 patent.

Posa relates to enhancing an e-book reading experience, including by allowing selection of a narrator. (EX1008, 1:13-16, 3:35-43 EX1003, ¶114.) For example, Posa discloses specifying a male or female reader, along with a male or female voice, so that a user can have a book read to them by the narrator of their choice. (EX1008, 3:35-43 EX1003, ¶114.) The e-book device can synthesize the narrator's voice using audio effects generator 210. (EX1008, 3:55-57, 5:19-26; EX1003, ¶114.) FIG. 2 illustrates:

**Fig - 2**

(EX1008, FIG. 2 (annotated); EX1003, ¶114.)

The audio can be presented via headphones, which may be connected to the e-book device through a wireless link. (EX1008, 3:55-61; 5:27-30; EX1003, ¶115.)

Posa is analogous art to the '104 patent at least because it is directed to the same field of endeavor—enhancing user interaction with electronic devices through personalized audio experiences, including by using text to speech synthesis. (EX1003, ¶116.) Posa is also reasonably pertinent to the '104 patent, at least by disclosing solutions to text to audio conversion in electronic devices—a

problem faced by the '104 patent inventors. (EX1003, ¶116.)

2. Claim 11

a. [Preamble]

See claim 1. (EX1003, ¶117.)

b. [A]

Posa discloses that a user can “specify a male, or female reader, along with male or female voice” to provide narration. (EX1008, 3:35-37; EX1003, ¶118.) The male or female voice specified by the user is a user-selected speech characteristic. (EX1003, ¶118.) Further, Posa discloses “the voice of the narrator may be... substantially synthesized by the device itself.” (EX1008, 3:55-57; EX1003, ¶118.)

Zhang discloses that by using the device interface, a user can configure the hands-free adapter. (EX1005, 5:25-38; EX1003, ¶119.) For example, a user can program user preferences, including the selection of event indicators. (EX1005, 2:38-44, 5:25-38; EX1003, ¶119.) An event indicator “can be a message, such as a message previously recorded by the user or a standard message, or a tone or series of tones.” (EX1005, 6:21-23; EX1003, ¶119.) For example, event indicators can be sounds produced by the device, including synthesized speech as generated by the DSP of the hands-free adapter. (EX1005, 2:6-13, 4:52-5:3, 8:13-16; EX1003, ¶119.)

When combined with the voice selection of Posa, Zhang, in teaching that a user can program event indicators including synthesized speech, also discloses that the user can select a voice for the synthesized speech. (EX1005, 4:66-5:3, 8:13-16; EX1008, 3:35-37; 3:55-57; EX1003, ¶120.) Further, when Zhang discloses that text messages are converted to audio signals by the DSP via voice synthesis, Zhang also teaches that the conversion of the text message to audio is at least in part based on the user-selected voice. (EX1005, 4:66-5:3, 8:13-16; EX1008, 3:35-37; 3:55-57; EX1003, ¶120.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Zhang and Posa to meet the claim limitation. (EX1003, ¶121.) Zhang's hands-free adapter is configured to be programmable to allow a user to select event indicators, including synthesized speech. (EX1005, 2:6-44, 4:52-5:3, 8:13-16 EX1003, ¶121.) The POSITA would understand this system provides a level of customization. (EX1003, ¶121.) Posa provides an example of additional customization by teaching that a user can choose voice characteristics of synthesized speech. (EX1006, Abstract, 3:35-37; EX1003, ¶121.) The POSITA would have sought to provide such customization to Zhang's system to increase a user's enjoyment and would thus be motivated to combine Zhang with Posa. (EX1003, ¶121.)

The POSITA would have had a reasonable expectation of success in

combining Zhang and Posa. (EX1003, ¶122.) Posa's speech synthesis is implemented by DSP components such as the audio effects generator 210, which is analogous to DSP 108 of Zhang's hands-free adapter. (EX1005, 4:58-5:3; EX1006, 5:19-17; EX1003, ¶122.) Zhang and Posa also share other analogous and familiar computer components, such as wireless headphones to play the audio, memories, and processing units. (EX1005, 4:40-5:66, FIG. 1; EX1006, 4:59-61, 5:1-4, 5:10-19, 5:27-30, FIG. 2; EX1003, ¶122.) Zhang and Posa are thus easily combined based on familiar components. (EX1003, ¶122.)

Further, Zhang already discloses that a user can select user preferences using the device interface, such as the selection of event indicators which include synthesized speech. (EX1005, 2:6-44, 4:58-5:3, 5:27-38, 8:13-16; EX1003, ¶123.) Thus, it would have been straightforward to combine the teachings of Posa and Zhang. (EX1003, ¶123.)

3. Claim 12

a. [Preamble]

See claim 11. (EX1003, ¶124.)

b. [A]

See claim 11[A]. (EX1003, ¶125.)

4. Claim 13**a. [Preamble]**

See claim 11. (EX1003, ¶126.)

b. [A]

Zhang discloses that a user can use the device interface to program user preferences into the non-volatile memory of the hands-free adapter. (EX1005, 2:38-44; EX1003, ¶127.)

5. Claim 14**a. [Preamble]**

See claim 11. (EX1003, ¶128.)

b. [A]

See claim 11[A]. (EX1003, ¶129.)

6. Claim 15**a. [Preamble]**

See claim 11. (EX1003, ¶130.)

b. [A]

See claim 1[F] and claim 11[A]. (EX1003, ¶131.) Since the audio message is synthesized based on the user-selected voice, playback of the audio message is also dependent on the user-selected voice. (EX1003, ¶131.)

7. Claim 28**a. [Preamble]**

See claim 23. (EX1003, ¶132.)

b. [A]

See claim 11[A]. (EX1003, ¶133.)

8. Claim 29**a. [Preamble]**

See claim 28. (EX1003, ¶134.)

b. [A]

See claim 11[A]. (EX1003, ¶135.)

9. Claim 30**a. [Preamble]**

See claim 28. (EX1003, ¶136.)

b. [A]

See claim 13[A]. (EX1003, ¶137.)

10. Claim 31**a. [Preamble]**

See claim 28. (EX1003, ¶138.)

b. [A]

See claim 11[A]. (EX1003, ¶139.)

11. Claim 32**a. [Preamble]**

See claim 23. (EX1003, ¶140.)

b. [A]

Zhang discloses “[t]he headset used with the hands-free adapter includes a speaker.” (EX1005, 2:48-49; EX1003, ¶141.)

c. [B]

Zhang discloses that the incoming text messages can be received by the device, converted to audio signals, and forwarded to the headset where they are read to the user. (EX1005, 4:58-5:3; EX1003, ¶142.) The headset includes a speaker, which the POSITA would understand to present the converted audio signals to the user; this process inherently requires directing the audio message to the speaker. (EX1005, 5:60-6:6; EX1003, ¶142.)

d. [C]

See claim 11[A]. (EX1003, ¶143.)

12. Claim 43**a. [Preamble]**

See claim 42. (EX1003, ¶144.)

b. [A]

See claim 11[A]. (EX1003, ¶145.)

c. [B]

See claim 13[A]. (EX1003, ¶146.)

(i) Motivation to Combine

See claim 11[A]. (EX1003, ¶147.)

E. Ground 5: Claims 18, 21, 34, 37, 38, 45, and 46 are Rendered Obvious by Zhang in view of Moore

1. Summary of Moore

Moore is a U.S. patent that was filed on April 2, 2003, claiming priority to a provisional filed April 2, 2002, and published on October 2, 2003. (EX1009.)

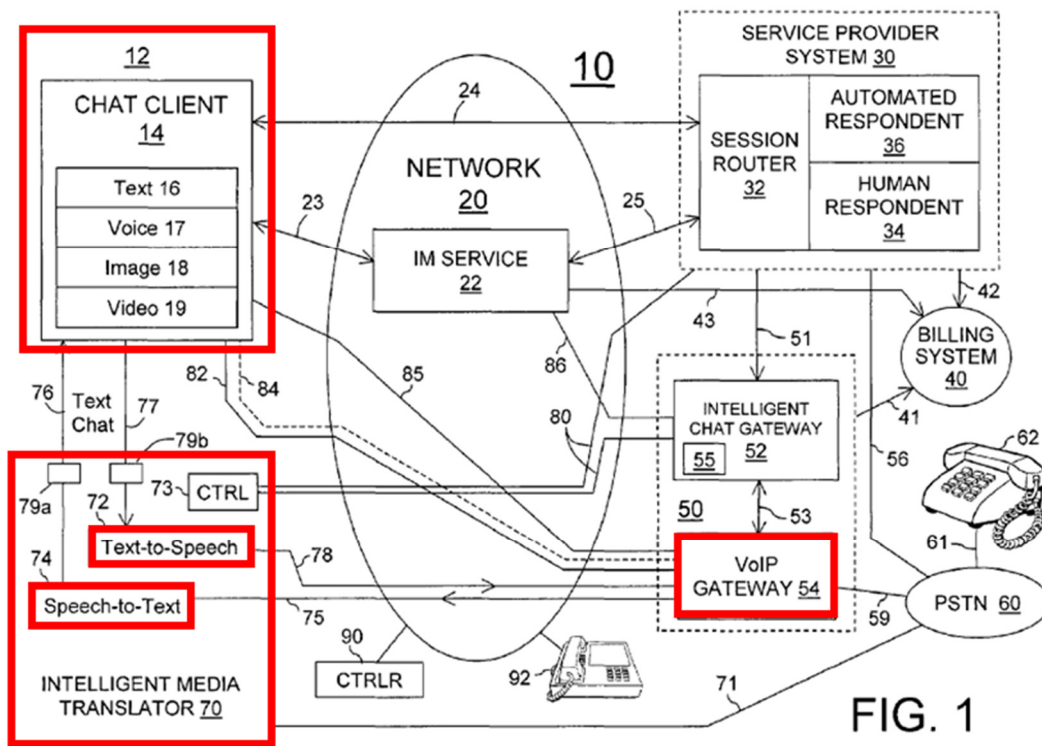
Moore is thus prior art to the '104 patent under at least 35 U.S.C. §§102(a) and (e).

Moore was not considered during the prosecution of the '104 patent.

Moore describes methods and systems for “facilitating communications among one party using an instant communications client and another party using a telephonic connection.” (EX1009, 17:35-41; EX1003, ¶150.) For example, the user of a telephone can “hear synthesized speech representing chat messages as they are received from [a] chat client.” (EX1009, 19:28-31 EX1003, ¶150.)

Moore describes that translation between a textual interface at chat client 14 and an audio interface at VoIP gateway 54 can be implemented by “[intelligent media translator] 70, which may comprise one or both of a text-to-speech module 72 and a speech-to-text module 74”. (EX1009, 16:23-31; EX1003, ¶150.) FIG. 1

illustrates:



(EX1009, FIG. 1 (annotated); EX1003, ¶150.)

Moore allows a user to provide text “using human-readable text in a natural style akin to conversational language.” (EX1009, 12:43-46; EX1003, ¶151.) For example, “the speech-to-text module 74 and text-to-speech module 72 may employ special-purpose dictionaries ... that list the proper equivalents for performing conversion among speech and text or symbols.” (EX1009, 17:42-52; EX1003, ¶151.) In one example, “LOL” may be translated to “laughing out loud.” (EX1009, 17:42-52; EX1003, ¶151.)

2. Claim 18

a. [Preamble]

See claim 1. (EX1003, ¶152.)

b. [A]

Moore discloses the use of special-purpose dictionaries for properly converting conventional abbreviations commonly used in instant messaging sessions. (EX1009, 17:42-52; EX1003, ¶153.) For example, Moore teaches that “‘LOL’ may be translated to the spoken equivalent of ‘laughing out loud.’” (EX1009, 17:42-52; EX1003, ¶153.) The POSITA would understand that abbreviations such as “LOL” correspond to the claimed “condensed format” and the resulting expansions such as “laughing out loud” correspond to the claimed “uncondensed format.” (EX1003, ¶153.) This is at least because the ’104 patent specifically provides “LOL” as an example of condensed text, and the expansion “lots of love” as an example of uncondensed text. (EX1001, 10:63-11:3; EX1003, ¶153.)

To the extent not expressly disclosed by Moore, the POSITA would understand that the condensed, chat abbreviation would first be translated to an uncondensed, textual format before the message is converted into an audio format. (EX1003, ¶154.) This is at least because Moore teaches that the audio is computer-synthesized speech. (EX1009, 2:12-15, 16:26-39, 19:28-31; EX1003,

¶154.) Synthesized speech outputs are generated from a textual format, and generally require the text to be in a comprehensible format before it can be synthesized into speech. (EX1003, ¶154.) That is, the condensed textual abbreviation must first be translated into an uncondensed textual format before being translated into an uncondensed audio format. (EX1003, ¶154.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Zhang and Moore to meet the claim limitation. (EX1003, ¶155.) Zhang describes a hands-free adapter that synthesizes speech from incoming text messages. (EX1005, 4:63-5:3; EX1003, ¶155.) Moore discloses techniques for converting text messages to audio formats that convey emotions, thoughts, or impressions, including those indicated by text abbreviations. (EX1009, Abstract, 17:35-52; EX1003, ¶155.) The POSITA would have sought to enhance the conveyance of emotions and context in the synthesized speech of Zhang, and would thus be motivated to combine Zhang with Moore in order to do so. (EX1003, ¶155.) Integrating Moore's approach with Zhang's system would improve the synthesized speech's expressiveness and contextual accuracy, enabling users to better perceive both informational content and emotional nuances. (EX1003, ¶155.)

The POSITA would have had a reasonable expectation of success in combining Zhang and Moore. (EX1003, ¶156.) Moore's techniques are broadly

applicable to the conversion of text-based communications to audio output — analogous to Zhang’s synthesis of speech from incoming text messages. (EX1003, ¶156.) Moore’s speech synthesis is implemented by components such as the text-to-speech module, which is analogous to DSP 108 of Zhang’s hands-free adapter. (EX1005, 4:58-5:3; EX1009, 16:26-39; EX1003, ¶156.) Zhang and Moore also share other analogous and familiar computer components, such as memories, processors, and mobile phones and are thus easily combined based on familiar components. (EX1003, ¶156.)

c. [B]

This element is met by Moore. (EX1003, ¶157.) For example, as described above, Moore discloses the use of special-purpose dictionaries for properly converting conventional abbreviations and emoticons commonly used in instant messaging sessions. (EX1009, 17:42-52; EX1003, ¶157.) For example, Moore teaches that portions of an incoming text message, such as “LOL,” may be “translated to the spoken equivalent of ‘laughing out loud.’” (EX1009, 17:42-52; EX1003, ¶157.)

The POSITA would understand that the untranslated portions of the incoming text message would be converted from the uncondensed text format to a portion of the incoming audio message, as described above for claim 1, element [D]. (EX1003, ¶158.)

Additionally, to the extent not expressly disclosed by Moore, the POSITA would understand that the condensed, chat abbreviation would also be translated to an uncondensed, textual format before the message is converted into an audio format. (EX1003, ¶159.) This is at least because Moore teaches that the audio created is computer-synthesized speech. (EX1009, 2:12-15, 16:26-39, 19:28-31; EX1003, ¶159.) The POSITA would understand that synthesized speech outputs are generated from a textual format, and generally require the text to be in a comprehensible format before it can be synthesized into speech. (EX1003, ¶159.) That is, the condensed textual abbreviation must first be translated into an uncondensed textual format before being translated into an uncondensed audio format. (EX1003, ¶159.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶160.)

3. Claim 21

a. [Preamble]

See claim 1. (EX1003, ¶161.)

b. [A]

See claim 18[A] and 18[B]. (EX1003, ¶162.) The text abbreviation (*e.g.*, “LOL”) corresponds to the claimed “chat language” and the expanded form (*e.g.*, “laughing out loud”) corresponds to the claimed “plurality of words.” (EX1003,

¶162.)

4. Claim 34

a. [Preamble]

See claim 23. (EX1003, ¶163.)

b. [A]

See claim 18[A]. (EX1003, ¶164.)

c. [B]

See claim 18[B]. (EX1003, ¶165.)

5. Claim 37

a. [Preamble]

See claim 23. (EX1003, ¶166.)

b. [A]

See claim 21[A]. (EX1003, ¶167.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶168.)

6. Claim 38

a. [Preamble]

See claim 23. (EX1003, ¶169.)

b. [A]

See claim 18[A] and 18[B]. (EX1003, ¶170.) The text abbreviation (*e.g.*, “LOL”) corresponds to the claimed “chat language” and the expanded form (*e.g.*,

“laughing out loud”) comprises an increased “number of alphabets.” (EX1003, ¶170.)

7. Claim 45

a. [Preamble]

See claim 43. (EX1003, ¶171.)

b. [A]

See claim 21[A]. (EX1003, ¶172.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶173.)

8. Claim 46

a. [Preamble]

See claim 43. (EX1003, ¶174.)

b. [A]

See claim 18[A]. (EX1003, ¶175.)

c. [B]

See claim 18[B]. (EX1003, ¶176.)

F. Ground 6: Claims 19, 20, 35, and 36 are Rendered Obvious by Zhang in view of Posa and Moore

1. Claim 19

a. [Preamble]

See claim 18. (EX1003, ¶178.)

b. [A]

See claim 11[A]. (EX1003, ¶179.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Zhang and Moore as discussed with respect to claim 18[A]. (EX1003, ¶180.) The POSITA would have been motivated to combine the teachings of Zhang and Posa as discussed with respect to claim 11[A]. (EX1003, ¶180.) Zhang and Posa are compatible because they both pertain to methods of converting text to speech (*e.g.*, speech synthesis). (EX1003, ¶180.)

2. Claim 20**a. [Preamble]**

See claim 19. (EX1003, ¶181.)

b. [A]

See claim 13[A]. (EX1003, ¶182.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶183.)

3. Claim 35**a. [Preamble]**

See claim 34. (EX1003, ¶184.)

b. [A]

See claim 11[A]. (EX1003, ¶185.)

(i) Motivation to Combine

See claim 19[A]. (EX1003, ¶186.)

4. Claim 36**a. [Preamble]**

See claim 35. (EX1003, ¶187.)

b. [A]

See claim 13[A]. (EX1003, ¶188.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶189.)

VI. JANNARD IN VIEW OF VUORI RENDERS OBVIOUS CLAIMS 1-47**A. Ground 7: Claims 1, 3, 4, 5, 9, 16, 17, 22-27, 33, 39, 42, 44, and 47 are Rendered Obvious by Jannard in View of Vuori****1. Summary of Jannard**

Jannard is a U.S. patent that was filed on July 28, 2003, and claims priority to provisional applications filed April 3, 2003, and July 26, 2002. (EX1010.)

Jannard is thus prior art to the '104 patent under at least 35 U.S.C. §§102(a) and (e).

Jannard discloses a wearable audio interface that includes “audio electronics such as, for example, speakers, microphones, and/or interface electronics for interacting with a wireless network.” (EX1010, 1:22-24; EX1003, ¶192.) The wearable audio device 10C can be configured to provide wireless communication

with a source device B, such as a cellular phone. (EX1010, 19:41-56; EX1003, ¶192.) The user of the wearable device 10C can use audio device 10C to receive and listen to audio signals from source device B and also to transmit audio signals to the source device B. (EX1010, 19:41-56; EX1003, ¶192.) FIG. 8 illustrates:

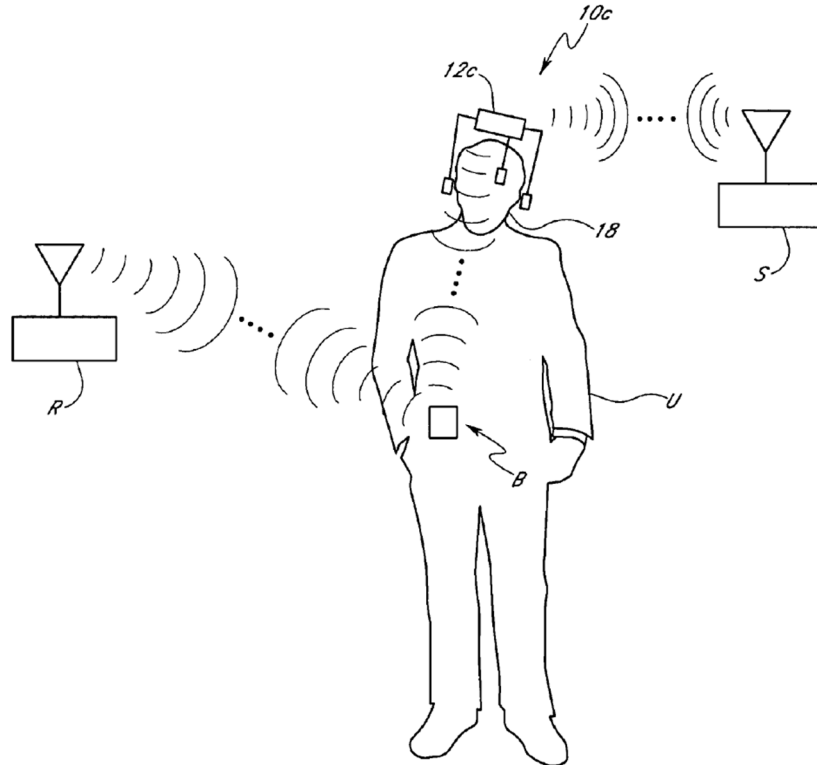


FIG. 8

(EX1010, 19:41-20:9, FIG. 8; EX1003, ¶192.)

The cell phone can “be configured with a text-to-voice speech engine which generates a humanoid voice.” (EX1010, 31:29-31; EX1003, ¶193.) For example, “if the cell phone or other source device is configured to receive email, the ... text-to-speech engine can be configured to read the email to the user.” (EX1010,

31:35-40; EX1003, ¶193.)

Jannard is analogous art to the '104 patent because it is directed to the same field of endeavor—wearable devices with audio functionality that interact with wireless communication devices. (EX1001, 2:1-10; EX1010, 1:20-24; EX1003, ¶194.) By disclosing devices that “allow a user to ‘hear’ emails, or other text documents without the need to hold or look at the device,” Jannard is reasonably pertinent to the problem faced by the '104 patent inventor—providing adaptable communication techniques for users of electronic devices. (EX1001, 2:1-5; EX1010, 32:27-31; EX1003, ¶194.)

2. Claim 1

a. [Preamble]

Jannard discloses an audio device 10C “configured to provide one or two-way wireless communication with a source device,” such as a cellular phone. (EX1010, 19:41-56; EX1003, ¶195.) The user “can use the audio device 10C to receive and listen to audio signals from the source device B, and/or transmit audio signals to the source device B.” (EX1010, 19:47-56; EX1003, ¶195.) The cellular source device can “be configured to communicate, via long or short range wireless networking protocols, with a remote source R,” such as a cellular phone service provider. (EX1010, 19:56-20:9; EX1003, ¶195.) FIG. 8 illustrates:

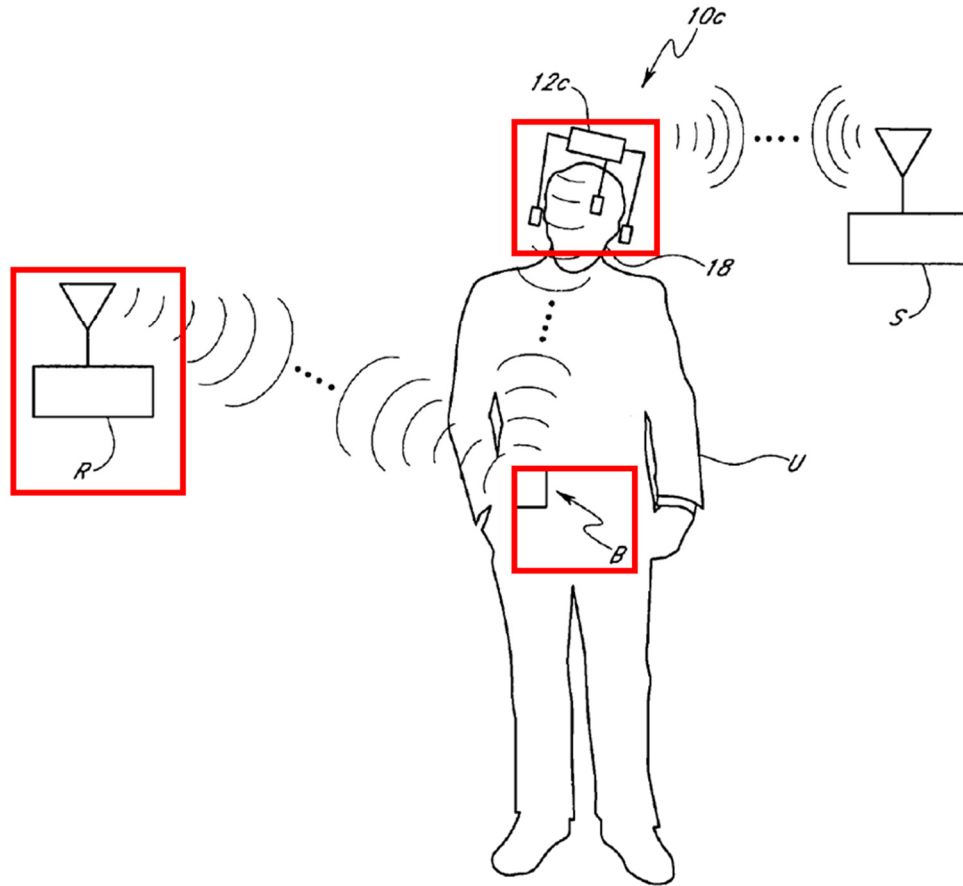
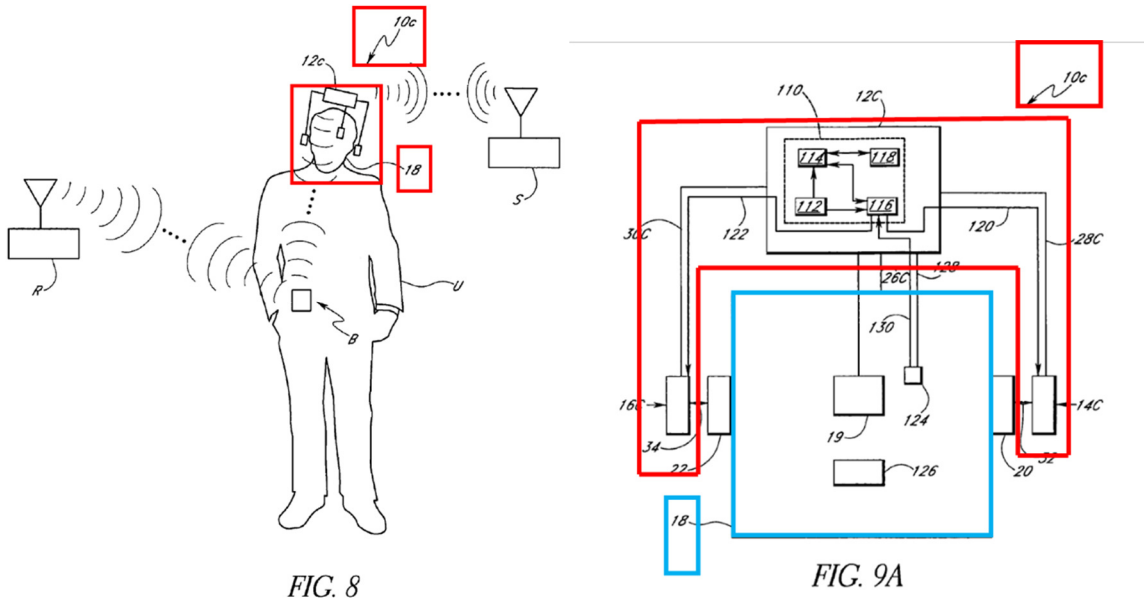


FIG. 8

(EX1010, 19:41-20:9, FIG. 8 (annotated); EX1003, ¶195.)

b. [A]

Jannard discloses that the audio device 10C is a headset and “the audio device 10C can be worn on the head 18 of a user U.” (EX1010, 19:41-56, 30:40-46; EX1003, ¶196.) FIGS. 8 and 9A illustrate:



(EX1010, 19:41-20:9, FIGS. 8 and 9A (annotated); EX1003, ¶196.)

The audio device 10C wirelessly communicates with device B. (EX1010, 19:41-56; EX1003, ¶197.) Thus, audio device 10C is a wireless headset.

c. [B]

Jannard discloses source device B can be a cellular phone that can “communicate, via long or short range wireless networking protocols, with a remote source R” which can be a “a cellular phone service provider, a satellite radio provider, or a wireless internet service provider.” (EX1010, 19:56-20:9; EX1003, ¶198.) By communicating with remote source R, the source device B can support email messaging for a user. (EX1010, 31:29-32:3; EX1003, ¶198.) As described above, the source device can wirelessly communicate with the audio device 10C (*e.g.*, the wireless headset). (EX1010, 19:41-47; EX1003, ¶198.) FIG. 8 illustrates:

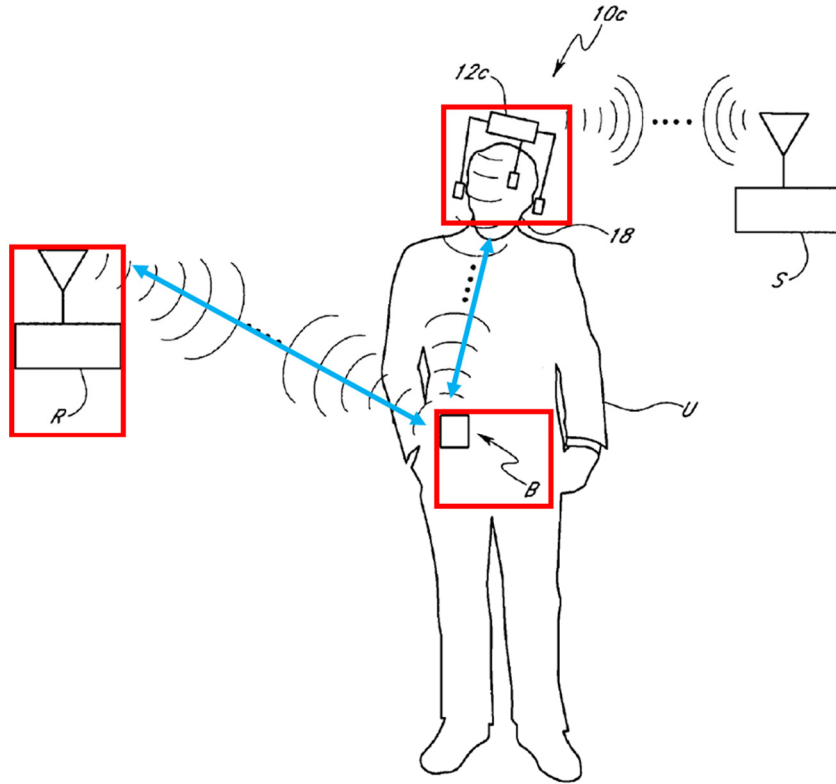


FIG. 8

(EX1010, 19:41-20:9, FIG. 8 (annotated); EX1003, ¶198.)

d. [C]

Jannard discloses that “the cell phone or other source device is configured to receive email.” (EX1010, 31:34-44; EX1003, ¶199.) That is, Jannard teaches that a wireless communication device (*e.g.*, the cell phone) can receive an incoming text message (*e.g.*, an email) from another user. (EX1010, 31:34-44; EX1003, ¶199; *see* EX1001, 4:2-17 (describing device textual inter-communication via network 108 as including email messages).)

e. [D]

Jannard discloses that the source device includes a text-to-voice speech engine and “[t]he text-to-speech engine can be configured to read the email to the user.” (EX1010, 31:29-44; EX1003, ¶200.) The POSITA would understand that Jannard’s text-to-voice speech engine converts the incoming textual email message to an audio message, so that it can be heard by the user. (EX1010, 31:29-44; EX1003, ¶200.)

f. [E]

As discussed above, Jannard discloses that “a user can ‘listen’ to email through the audio device 10, 10A, 10A’, 10B, 10C, 10D, 10E, without manually operating the source device.” (EX1010, 31:29-44; EX1003, ¶201.) By “‘reading’ the email to the user,” via the audio device, the system of Jannard presents the audio message to the user using a wireless headset. (EX1010, 31:50-53; EX1003, ¶201.) Further, the audio device (*e.g.*, audio device 10C) includes speakers (*e.g.*, speakers 14c and 16c), which the POSITA would understand to present the converted audio signals to the user. (EX1010, 32:1-3; EX1003, ¶201.) FIG. 9A illustrates:

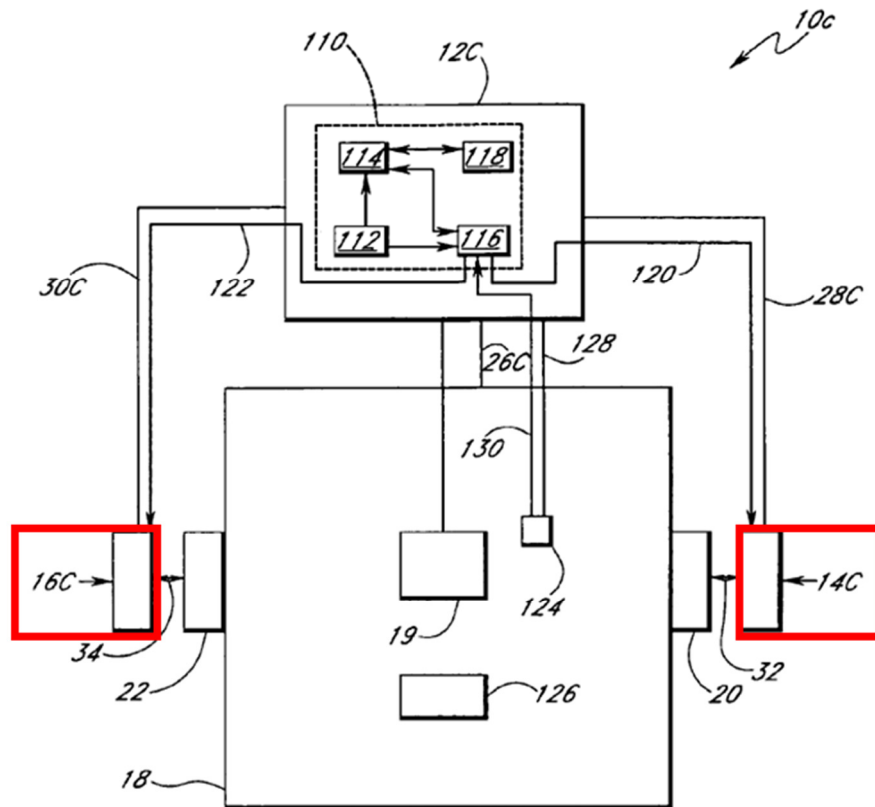


FIG. 9A

(EX1010, 32:1-3, FIG. 9A (annotated); EX1003, ¶201.)

g. [F]

Jannard discloses that the user can reply to the received email by “record[ing] an audio file, ... as an attachment to a reply email.” (EX1010, 31:45-32:3; EX1003, ¶202.) For example, the audio device 10C can include a microphone 124, and the user can provide voice commands “by speaking into a microphone on the audio device 10C.” (EX1010, 20:5-7, 21:35-55; EX1003, ¶202.)

FIG. 9A illustrates:

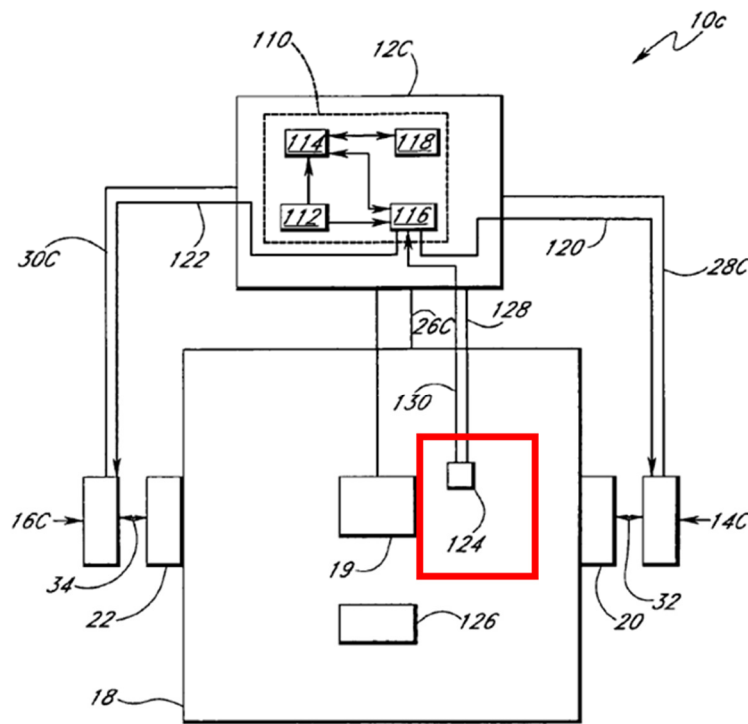


FIG. 9A

(EX1010, 21:35-55, FIG. 9 (annotated); EX1003, ¶202.)

That is, Jannard teaches that the microphone 124 of the audio device 10C can record a reply email from the first user. (EX1010, 20:5-7, 21:35-55, 31:45-32:3; EX1003, ¶203.)

h. [G]

Vuori discloses that “the problem of entering numerous letters of the alphabet for assembling short messages can be overcome by converting the spoken SVM to text in the user terminal by means of voice recognition software and sending the converted text to the recipient.” (EX1007, [0058]; EX1003, ¶204.) Such reply text message “takes up much less storage capacity” than an audio

message. (EX1007, [0058]; EX1003, ¶204.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Jannard and Vuori to meet the claim limitations. (EX1003, ¶205.) Jannard's system is configured for allowing a user to respond to received textual email messages in email format. (EX1010, 31:44-48; EX1003, ¶205.) The POSITA would have understood that attaching an audio file to an email would require larger storage and communication bandwidth compared to sending a reply message in textual format. (EX1003, ¶205.) Jannard's system would thus face a problem if the recorded audio message were too large for storage or transmission. (EX1003, ¶205.) The POSITA would seek to prevent such an occurrence and would thus be motivated to combine the teachings of Vuori with Jannard. (EX1003, ¶205.) Further, since the second user sent an email in textual format, the POSITA would understand that it would be desirable for the first user to respond in the same (*e.g.*, textual) manner as the incoming message. (EX1003, ¶205.)

The POSITA would have had a reasonable expectation of success in combining the teachings of Jannard and Vuori. (EX1003, ¶206.) Vuori's methods are broadly applicable for use in "telecommunications network[s] for providing messages between users"—analogous to Jannard's system which can send and receive text messages. (EX1007, [0007]; EX1010, 31:34-32:3; EX1003, ¶206.)

Vuori's conversion of an audio reply message is implemented via voice recognition software, analogous to Jannard's speech recognition engine that is trained to recognize the voice of the user. (EX1007, [0058]; EX1010, 32:4-13; EX1003, ¶206.) Thus, it would have been straightforward to modify Jannard's system to convert the audio reply message recorded via the headset to a reply text message as taught in Vuori. (EX1003, ¶206.)

i. [H]

As discussed above, Jannard teaches the user can respond to an email by sending "a reply email." (EX1010, 31:45-56; EX1003, ¶207.) Vuori teaches "converting the spoken SVM to text in the user terminal by means of voice recognition software and sending the converted text to the recipient." (EX1007, [0058]; EX1003, ¶207.) When viewed in combination with the teachings of Vuori, Jannard teaches transmitting a reply email containing a reply text message that was converted from the recorded reply audio message. (EX1010, 31:45-56; EX1007, [0058]; EX1003, ¶207.) To the extent not expressly disclosed, the POSITA would have understood that the reply email is to be transmitted to the second user, *i.e.*, the user that sent the initial incoming email message. (EX1003, ¶207.)

(i) Motivation to Combine

See claim 1[G]. (EX1003, ¶208.)

3. Claim 3

a. [Preamble]

See claim 1. (EX1003, ¶209.)

[A]

Jannard discloses that “after the text-to-speech engine finishes ‘reading’ the email to the user, the interface device 116 can enter another audio menu” which includes “a reply option.” (EX1010, 31:45-60; EX1003, ¶210.) Upon hearing “the word ‘reply’ the user can depress the button 150 to enter a reply mode.” (EX1010, 31:45-60; EX1003, ¶210.) That is, Jannard’s reply option prompts the first user to provide the reply audio message prior to said recording of the reply audio message (*e.g.*, prior to entering a reply mode). (EX1010, 31:45-60; EX1003, ¶210.)

4. Claim 4

a. [Preamble]

See claim 1. (EX1003, ¶211.)

b. [A]

Vuori discloses “the user equipment could end the message recordation by signaling the user that the maximum message length has been reached.” (EX1007, [0032]; EX1003, ¶212.) The POSITA would understand that Vuori’s maximum message length corresponds to a predetermined text message size. (EX1003, ¶212.) Ending message recording when the maximum message length has been

reached limits the reply audio message during the recording process. (EX1003, ¶212.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Jannard and Vuori to meet the claim limitations. (EX1003, ¶213.) Jannard’s system is configured for allowing a user to respond to received textual email messages in email format. (EX1010, 31:44-48; EX1003, ¶213.) The POSITA would have understood that the email messages are limited to a pre-determined size. (EX1003, ¶213.) Jannard’s system would thus face a problem if the recorded audio message or converted text message was too large to send as an email. (EX1003, ¶213.) The POSITA would seek to prevent such an occurrence and would thus be motivated to combine the teachings of Vuori with Jannard in order to do so. (EX1003, ¶213.)

The POSITA would have had a reasonable expectation of success in combining the teachings of Jannard and Vuori. (EX1003, ¶214.) Vuori’s methods are broadly applicable for use in “telecommunications network[s] for providing messages between users”—analogous to Jannard’s system which can send and receive text messages. (EX1007, [0007]; EX1010, 31:34-32:3; EX1003, ¶214.) Thus, it would have been straightforward to modify Jannard’s system to convert the audio reply message recorded via the headset to a reply text message as taught

in Vuori. (EX1003, ¶214.)

5. Claim 5

a. [Preamble]

See claim 1. (EX1003, ¶215.)

b. [A]

Jannard discloses the source device can read the email to the user in response to the “user ... send[ing] a signal to the source device so as to open the email.” (EX1010, 31:35-44; EX1003, ¶216.) Thus, upon receiving the user input, the source device determines that the text message should be read to the user. (EX1003, ¶216.)

c. [B]

Jannard discloses a “user can send a signal to the source device so as to open the email,” causing the text-to-speech engine to read the email to the user. (EX1010, 31:35-44; EX1003, ¶217.) That is, the text is not converted into audio until the user initiates the conversion by sending a signal to the source device to open the email. (EX1010, 31:35-44; EX1003, ¶217.)

6. Claim 9

a. [Preamble]

See claim 5. (EX1003, ¶218.)

b. [A]

As previously discussed, Jannard discloses that in response to a signal from the user, the text to speech engine of the source device can open an email and read the message to the user. (EX1010, 31:35-44; EX1003, ¶219.) Based on receiving the signal from the user, which is a user indication, the source device determines that the message should be read to the user. (EX1003, ¶219.)

7. Claim 16**a. [Preamble]**

See claim 1. (EX1003, ¶220.)

b. [A]

Vuori discloses that “the means for receiving an incoming SVM from the second user may include means for receiving an incoming text SVM,” where SVMs “are sent as SMS messages.” (EX1007, [0017], [0031], [0058]; EX1003, ¶221.) That is, Vuori teaches that the incoming text messages are SMS messages. (EX1003, ¶221.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Jannard and Vuori to meet the claim limitations. (EX1003, ¶222.) Jannard discloses a wireless audio device with two-way communication capabilities, including integration with cell phones and text-based communications. (EX1010,

19:41-20:9, 31:29-32:3; EX1003, ¶222.) For example, Jannard discloses that its device can be a Blackberry mobile device, which supports text communication over “a variety of wireless networks.” (EX1010, 32:20-25; EX1003, ¶222.) Vuori specifically teaches using SMS infrastructure for text messaging with voice-to-text and text-to-voice conversion. (EX1007, [0058]; EX1003, ¶222.) Vuori emphasizes the universality and usefulness of SMS systems. (EX1007, [0005]; EX1003, ¶222.) The POSITA would be motivated to modify the system of Jannard to allow users to communicate quickly and reliably, such as via SMS, even in situations where email is unavailable or impractical. (EX1003, ¶222.) The POSITA would understand that the integration of SMS messaging would leverage existing cellular infrastructure and maximize user convenience, especially for short, immediate communications from a wearable device. (EX1003, ¶222.)

The POSITA would have had a reasonable expectation of success in combining the teachings of Jannard and Vuori. (EX1003, ¶223.) Vuori’s methods are broadly applicable for use in “telecommunications network[s] for providing messages between users”—analogous to Jannard’s system which can send and receive text messages. (EX1007, [0007]; EX1010, 31:34-32:3; EX1003, ¶223.) Jannard’s source device can be a cellular phone configured to communicate with cellular phone service providers, satellite radio providers, and wireless internet service providers. (EX1010, 19:41-66; EX1003, ¶223.) Thus, it would have been

straightforward to modify Jannard’s system to send and receive SMS messages as taught in Vuori. (EX1003, ¶223.)

8. Claim 17

a. [Preamble]

See claim 1. (EX1003, ¶224.)

b. [A]

Vuori discloses that “the means for receiving an incoming SVM from the second user may include means for receiving an incoming text SVM,” where SVMs “are sent as SMS messages.” (EX1007, [0017], [0031], [0058]; EX1003, ¶225.) Further, the user’s device can “convert[] the spoken SVM to text in the user terminal by means of voice recognition software and sending the converted text to the recipient by means of the traditional SMS infrastructure.” (EX1007, [0058]; EX1003, ¶225.) That is, Vuori teaches that both the incoming and reply text messages are SMS messages. (EX1003, ¶225.)

(i) Motivation to Combine

See claim 16[A]. (EX1003, ¶226.)

9. Claim 22

a. [Preamble]

See claim 1. (EX1003, ¶227.)

b. [A]

As discussed above, Jannard's source device can be a cellular phone.

(EX1010, 19:41-66; EX1003, ¶228.)

10. Claim 23

a. [Preamble]

As discussed above, Jannard is directed to a “wireless interactive headset” and discloses an audio device (*e.g.*, audio devices 10, 10A, 10A, 10B, 10C, 10D, 10E) “configured to provide one or two-way wireless communication with a source device,” such as a mobile electronic device that can send and receive emails.

(EX1010, 19:41-47, 31:35-60; EX1003, ¶229.) The wireless headset supports the messaging function of the mobile electronic device by reading received emails to the user and recording reply messages. (EX1010, 31:35-60; EX1003, ¶229.)

b. [A]

As described above, the audio device wirelessly communicates with the source device via a wireless network connection. (EX1010, 19:41-47; EX1003, ¶230.) For example, a user “can use the audio device 10C to receive and listen to audio signals from the source device B.” (EX1010, 19:48-55; EX1003, ¶230.) Such received audio signals can include an email converted to an audio message by a text-to-speech engine configured to audibly read the email to the user. (EX1010, 31:35-60; EX1003, ¶230.) Thus, the POSITA would have understood that Jannard

teaches the audio device (*e.g.*, a headset) wirelessly receives an incoming audio message from the source device, *i.e.*, after the text-to-speech engine of the source device converts an incoming text message to the audio message. (EX1003, ¶230.)

The POSITA further would have understood that an incoming text message is received from another wireless electronic device via a wireless network. (EX1003, ¶230.) This is at least because Zhang discloses that incoming text message is an email, which the POSITA would understand to be received from another wireless electronic device via the wireless network connection. (EX1003, ¶230; *see* EX1001, 4:2-17 (describing device inter-communication via network 108, which supports email messaging protocols).)

c. [B]

See claim 1[E]. (EX1003, ¶231.)

d. [C]

See claim 1[F]. (EX1003, ¶232.)

e. [D]

In Jannard, the user can “send voice signals or commands to the cellular phone by speaking into a microphone on the audio device 10C.” (EX1010, 19:41-47, 20:5-7, 21:35-55; EX1003, ¶233.) Such voice signals, transmitted wirelessly to the phone as described above, can include the reply audio file for responding to the incoming email. (EX1010, 31:45-32:3; EX1003, ¶233.)

11. Claim 24**a. [Preamble]**

See claim 23. (EX1003, ¶234.)

b. [A]

See claim 1[H]. (EX1003, ¶235.) The POSITA would have understood that the reply email is transmitted to another wireless electronic device via the wireless network, *i.e.*, the device that sent the initial incoming email message. (EX1003, ¶235.)

(i) Motivation to Combine

See claim 1[G]. (EX1003, ¶236.)

12. Claim 25**a. [Preamble]**

See claim 24. (EX1003, ¶237.)

b. [A]

See claim 4[A]. (EX1003, ¶238.)

(i) Motivation to Combine

See claim 4[A]. (EX1003, ¶239.)

13. Claim 26**a. [Preamble]**

See claim 24. (EX1003, ¶240.)

b. [A]

See claim 17[A]. (EX1003, ¶241.)

(i) Motivation to Combine

See claim 17[A]. (EX1003, ¶242.)

14. Claim 27**a. [Preamble]**

See claim 23. (EX1003, ¶243.)

b. [A]

See claim 3[B]. (EX1003, ¶244.)

15. Claim 33**a. [Preamble]**

See claim 23. (EX1003, ¶245.)

b. [A]

See claim 16[A]. (EX1003, ¶246.)

(i) Motivation to Combine

See claim 16[A]. (EX1003, ¶247.)

16. Claim 39**a. [Preamble]**

See claim 23. (EX1003, ¶248.)

b. [A]

See claim 22[A]. (EX1003, ¶249.)

17. Claim 42**a. [Preamble]**

See claim 23, preamble. (EX1003, ¶250.)

b. [A]

See claim 23[A] and 23[B]. (EX1003, ¶251.)

c. [B]

See claim 23[C] and claim 24[A]. (EX1003, ¶252.)

(i) Motivation to Combine

See claim 24[A]. (EX1003, ¶253.)

18. Claim 44**a. [Preamble]**

See claim 43. (EX1003, ¶254.)

b. [A]

See claim 3[A]. (EX1003, ¶255.)

19. Claim 47**a. [Preamble]**

See claim 43. (EX1003, ¶256.)

b. [A]

See claim 24[A]. (EX1003, ¶257.)

(i) Motivation to Combine

See claim 1[G]. (EX1003, ¶258.)

B. Ground 8: Claims 2, 6, 7, and 10 are Rendered Obvious by Jannard in view of Vuori and Ewer

1. Claim 2

a. [Preamble]

See claim 1. (EX1003, ¶260.)

b. [A]

Ewer discloses that, to determine whether the headset is connected, “the connector detect circuit 132 or processor 136 either alone or in combination may passively or actively monitor the status of the headset connector 108.” (EX1006, [0035]; EX1003, ¶261.) FIG. 2 illustrates:

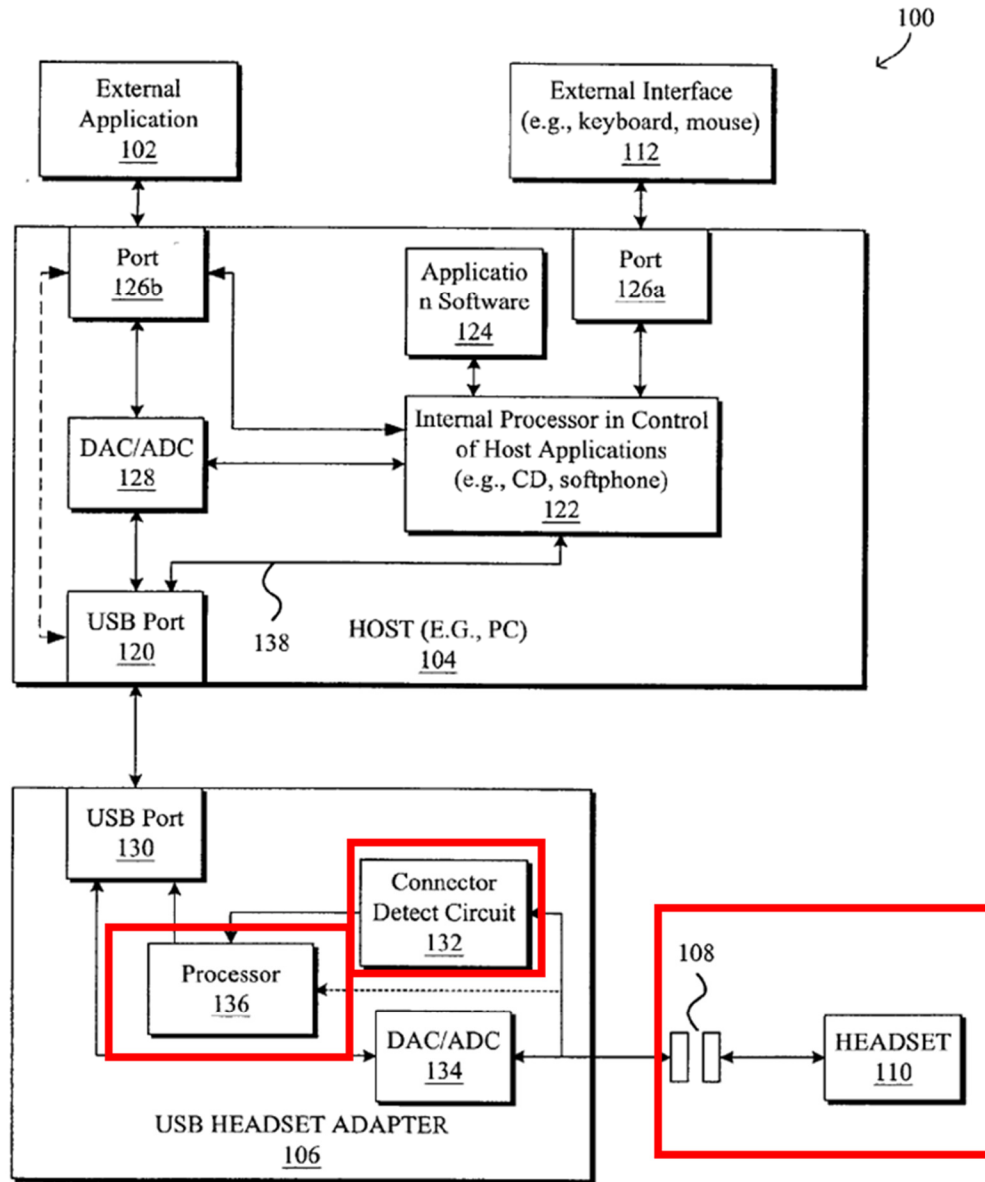


FIG. 2

(EX1006, FIG. 2 (annotated); EX1003, ¶261.)

In FIG. 2 above, headset 110 may be wireless as in Zhang, *e.g.*, “a cordless headset in wireless communication with the adapter 106” via RF technology.

(EX1006, [0027]; EX1003, ¶262.)

To the extent not explicitly disclosed by Ewer, the POSITA would have understood that a headset is active when it is connected to an associated device and inactive when it is not connected. (EX1003, ¶263.) Accordingly, Ewer teaches monitoring whether the headset is connected to determine whether the headset is active. (EX1003, ¶263.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Jannard and Ewer to meet the claim limitations. (EX1003, ¶264.) Jannard's system is configured for utilizing a wireless headset in combination with a communication device. (EX1003, ¶264.) The POSITA would have understood that if the wireless headset were disconnected from the communication device, applications run on the communication device that utilize the headset cannot function as desired. (EX1003, ¶264.) Jannard's system would thus face a problem identified in Ewer: requirement of inconvenient and deliberate "manual intervention by the user in order for the application to be informed of the disconnection and for the application to change its state." (EX1006, [0009]; EX1003, ¶264.) The POSITA would seek to minimize the inconvenience of manual intervention and would thus be motivated to combine Ewer with Jannard. (EX1003, ¶264.)

The POSITA would have had a reasonable expectation of success in combining the teachings of Jannard and Ewer. (EX1003, ¶265.) Ewer's techniques are broadly applicable to headsets connected to computers or other processor-based hosts—analogue to Jannard's audio device (*e.g.*, the wireless headset) connected to the source device (*e.g.*, a cell phone). (EX1006, [0025]; EX1003, ¶265.) Thus, it would have been straightforward to modify the hands-free adapter to monitor the connection status in addition to monitoring audio input via the headset interface. (EX1003, ¶265.)

The POSITA further would have been motivated to combine the teachings of Jannard and Vuori with a reasonable expectation of success as discussed with respect to claim 1[G]. (EX1003, ¶266.) Vuori and Ewer are compatible because they both pertain to methods of wireless communication. (EX1003, ¶266.)

c. [B]

Ewer discloses that “[a] signal indicating that the headset is connected may resume a paused application or allow the application to be executed.” (EX1006, [0012]; EX1003, ¶267.) The POSITA would have understood that Ewer teaches that upon detecting that the headset is connected (*e.g.*, active), the system can allow an application running on the connected host device to automatically execute. (EX1003, ¶267.) One of the applications running on Jannard's source device is the conversion of text messages to audio messages by the text-to-speech

engine, as described above. (EX1005, 4:58-5:3; EX1003, ¶267.) Accordingly, the combination of Jannard and Ewer teach automatically executing the conversion of text messages to audio messages upon determining that the wireless headset is active. (EX1003, ¶267.)

(i) Motivation to Combine

See claim 2[A]. (EX1003, ¶268.)

2. Claim 6

a. [Preamble]

See claim 5. (EX1003, ¶269.)

b. [A]

See claim 2[A]. (EX1003, ¶270.)

c. [B]

See claim 2[B]. (EX1003, ¶271.)

(i) Motivation to Combine

See claim 2[A]. (EX1003, ¶272.)

3. Claim 7

a. [Preamble]

See claim 6. (EX1003, ¶273.)

[A]

See claim 3[A]. (EX1003, ¶274.)

(i) Motivation to Combine

See claim 2[A]. (EX1003, ¶275.)

4. Claim 10**a. [Preamble]**

See claim 5. (EX1003, ¶276.)

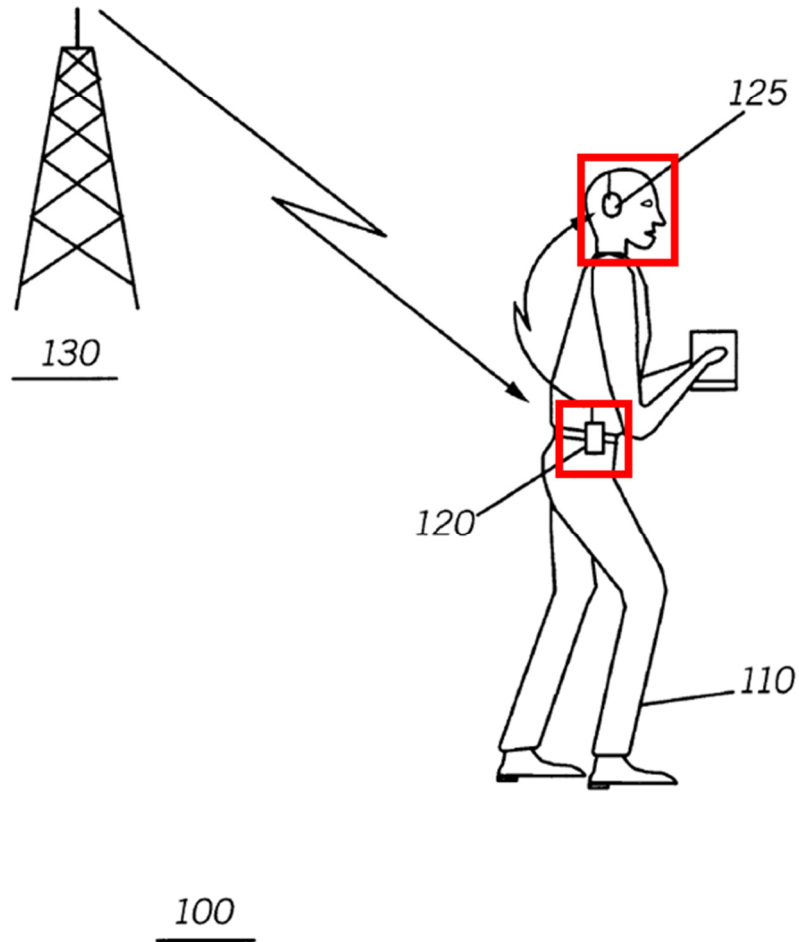
b. [A]

See claim 2[A]. (EX1003, ¶277.)

C. Ground 9: Claim 8 is Rendered Obvious by Jannard in view of Vuori and Koskan**1. Summary of Koskan**

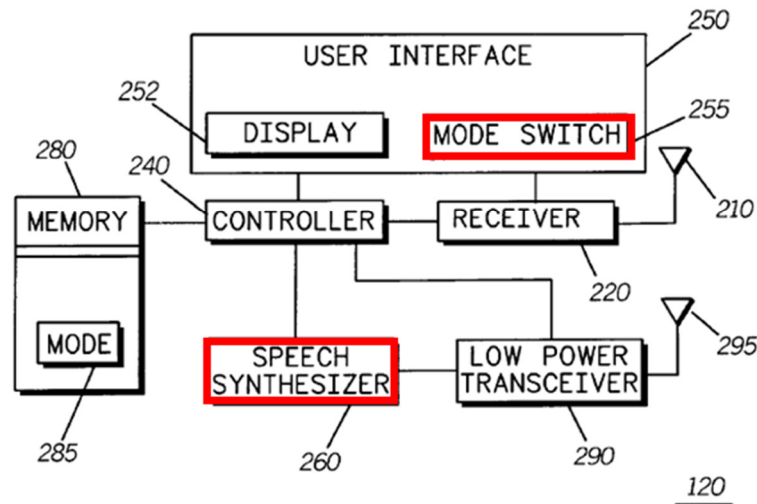
Koskan is a U.S. patent that was filed August 3, 1998, and issued January 30, 2001. (EX1011.) Koskan is prior art to the '104 patent under at least 35 U.S.C. §§102(a), (b) and (e).

Koskan discloses a “communication system ... that selectively presents messages through an at-the-ear device.” (EX1011, 1:62-2:6; EX1003, ¶280.) A base device is switchable between a “first operating mode, [where] the messages are presented in human readable form,” and a “second operating mode, [where] the messages are converted to audible form and presented at the earpiece.” (EX1011, 1:62-2:6; EX1003, ¶280.) As illustrated in FIG. 1, the base device 120 and the earpiece 125 are wirelessly coupled:

FIG. 1

(EX1011, 2:7-17, FIG. 1 (annotated); EX1003, ¶280.)

As illustrated in FIG. 2, the base device includes “a selectable mode switch 255” that can be used to select the operating mode and a speech synthesizer “to convert alphanumeric text messages to speech data”:

FIG.2

(EX1011, 2:18-52, FIG. 2 (annotated) EX1003, ¶281.)

Koskan is analogous art to the '104 patent because it is directed to the same field of endeavor—wearable devices with audio functionality that interact with wireless communication devices. (EX1001, 2:1-10; EX1011, Abstract; EX1003, ¶282.) Koskan is reasonably pertinent to the '104 patent at least because it describes solutions for presenting audio messages to a user of a wireless communication device, thus addressing a problem faced by the '104 patent's inventors. (EX1003, ¶282.)

2. Claim 8

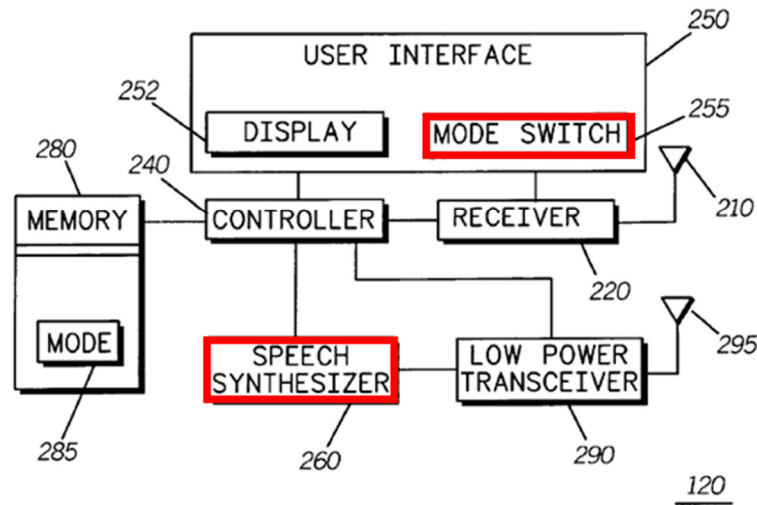
a. [Preamble]

See claim 5. (EX1003, ¶283.)

b. [A]

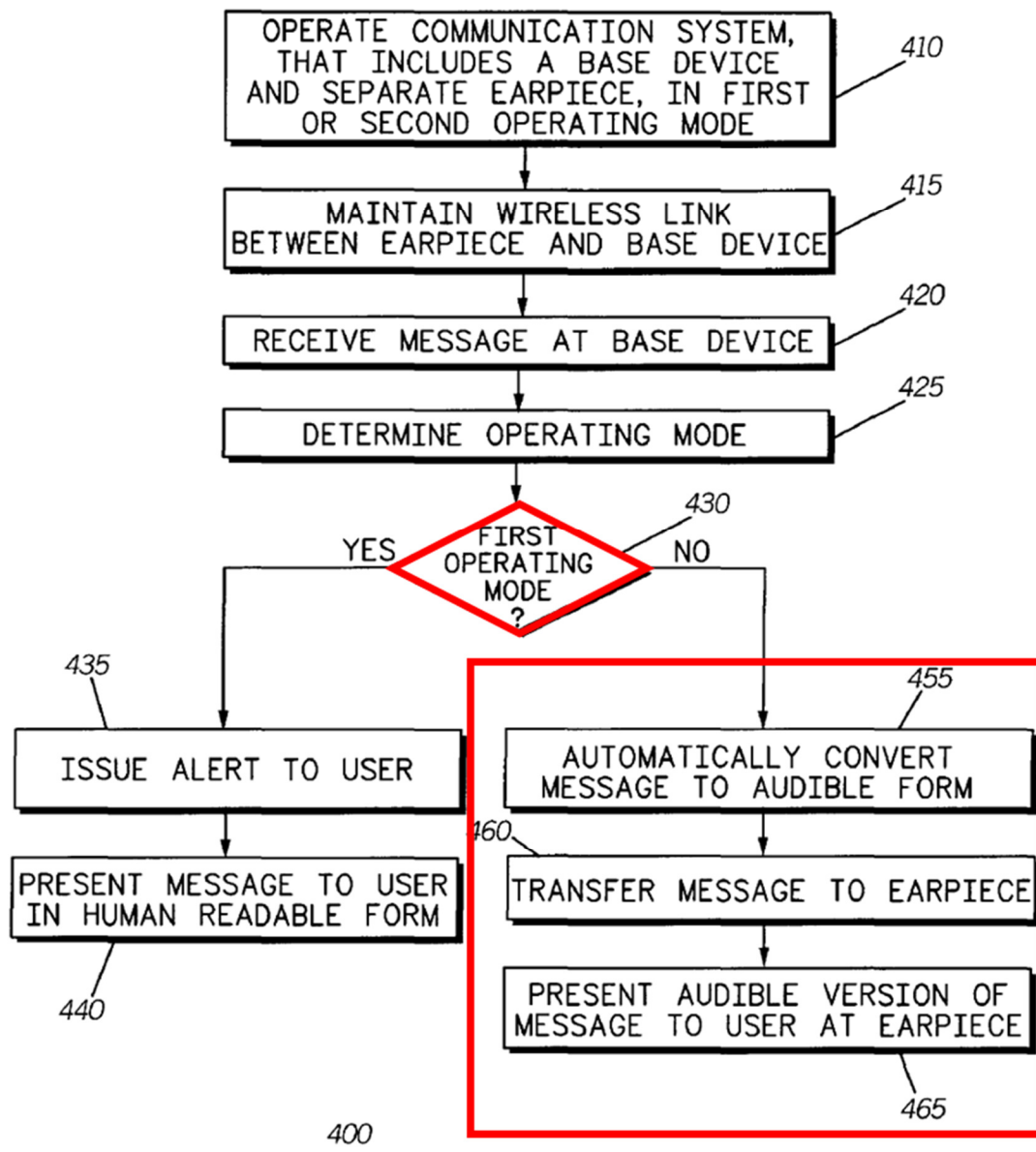
Koskan discloses a base device where, in a second operating mode,

“messages are converted to audible form and presented at the earpiece.” (EX1011, 1:62-2:6; EX1003, ¶284.) The user of the mobile telephone can select which operating mode they prefer (*e.g.*, a preference setting) using a selectable mode switch 255 on the mobile telephone. (EX1011, 2:18-52; EX1003, ¶284.) FIG. 2 illustrates:



(EX1011, 2:18-52, FIG. 2 (annotated); EX1003, ¶284.)

As shown in FIG. 4 below, the base device determines which operating mode (*i.e.*, which user preference setting) the user has selected, and based on that determination, automatically converts a received message to audible form:

FIG. 4

(EX1011, 3:15-42, FIG. 4 (annotated); EX1003, ¶285.)

That is, the determination of whether the message should be converted to audio form is based on a user preference setting (*e.g.*, the setting of the second operating mode) set by the user using the mode switch. (EX1011, 2:18-52, 3:15-

42; EX1003, ¶286.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Jannard and Koskan to meet the claim limitations. (EX1003, ¶287.) Jannard’s system allows a user to use a wireless headset to hear emails or other text messages without the need to hold or look at a source device. (EX1010, 32:33-36; EX1003, ¶287.) The POSITA would have understood that if a user were in a situation where they could not hold or operate the source device, they may also not be able to operate the user interface on the wireless headset of Jannard to trigger the base device to read the message. (EX1003, ¶287.) Jannard’s system would thus face a problem identified in Koskan: that “environmental or physical impediments may prevent a user from immediately retrieving a message, and thus valuable time may transpire while the message remains undelivered.” (EX1011, 1:24-28; EX1003, ¶287.) The POSITA would seek to modify Jannard to allow users to set the source device to automatically read received text messages. (EX1003, ¶287.)

The POSITA would have had a reasonable expectation of success in combining the teachings of Jannard and Koskan. (EX1003, ¶288.) Koskan’s methods are broadly applicable for use in “wearable personal communication devices”—analogous to Jannard’s system, which includes a wireless headset coupled to a source device that can send and receive text messages. (EX1011, 1:5-

9; EX1010, 31:34-32:3; EX1003, ¶288.) Koskan’s conversion of an audio reply message is implemented via a speech synthesizer on a base device, analogous to Jannard’s text-to-speech engine on a source device. (EX1011, 2:38-52; EX1010, 32:4-13; EX1003, ¶288.) Further, Jannard and Koskan also share other analogous and familiar computer components, such as wireless headsets and speakers. (EX1003, ¶288.) The systems of Jannard and Koskan are thus easily combined based on familiar components. (EX1003, ¶288.)

The POSITA would have been motivated to combine the teachings of Jannard and Vuori as discussed with respect to claim 1[G]. (EX1003, ¶289.) Vuori and Koskan are compatible because they both pertain to converting text to speech. (EX1003, ¶289.)

D. Ground 10: Claims 11-15, 28-32, 40, and 43 are Rendered Obvious by Jannard in view of Vuori and Posa

1. Claim 11

a. [Preamble]

See claim 1. (EX1003, ¶291.)

b. [A]

Posa discloses that a user can “specify a male, or female reader, along with male or female voice” to provide narration. (EX1008, 3:35-37 EX1003, ¶292.) The POSITA would understand that the male or female voice specified by the user is a user-selected speech characteristic. Further, Posa discloses that the “voice of

the narrator may be... substantially synthesized by the device itself.” (EX1008, 3:55-57; EX1003, ¶292.)

Jannard discloses that the cell phone can “be configured with a text-to-voice speech engine which generates a humanoid voice” to provide further convenient uses for a user, such as reading emails to the user. (EX1010, 31:29-44; EX1003, ¶293.) When combined with voice selection of Posa, Jannard teaches that the email messages are converted to audio signals by the text-to-speech engine based on the voice selected by the user. (EX1010, 31:29-44; EX1008, 3:35-37; 3:55-57; EX1003, ¶293.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Jannard and Posa to meet the claim limitation. (EX1003, ¶294.) Jannard’s source device includes a text-to-speech engine that synthesizes speech. (EX1010, 31:29-44; EX1003, ¶294.) The POSITA would understand that such a user of a system would desire customization of the system to enhance enjoyment and would want to select the voice that reads to them. (EX1003, ¶294.) Posa provides an example of customization by teaching that a user can choose voice characteristics of synthesized speech to increase enjoyment. (EX1008, Abstract, 3:35-37; EX1003, ¶294.) The POSITA would have sought to use provide such customization to a user of Jannard’s system to increase the user’s enjoyment and would thus be

motivated to combine Jannard with Posa. (EX1003, ¶294.)

The POSITA would have had a reasonable expectation of success in combining Jannard and Posa. (EX1003, ¶295.) Posa’s speech synthesis is implemented by DSP components such as the audio effects generator 210, which is analogous Jannard’s text-to-speech engine. (EX1010, 31:29-44; EX1008, 5:19-17; EX1003, ¶295.) Jannard and Posa also share other analogous and familiar computer components, such as wireless headphones to play the audio, memories, and processing units. (EX1003, ¶295.) Jannard and Posa are thus easily combined based on familiar components. (EX1003, ¶295.)

The POSITA would have been motivated to combine the teachings of Jannard and Vuori as discussed with respect to claim 1[G]. (EX1003, ¶296.) Vuori and Posa are compatible because they both pertain to converting text to speech. (EX1003, ¶296.)

2. Claim 12

a. [Preamble]

See claim 11. (EX1003, ¶297.)

b. [A]

Posa discloses that a user can “specify a male, or female reader, along with male or female voice” to provide narration. (EX1008, 3:35-37; EX1003, ¶298.) To the extent not expressly disclosed in Posa, the POSITA would understand such

specification of a reader is set based on a user preference. (EX1003, ¶298.) This is at least because Posa describes the ability for the user to select the narrator from a stored library, including options for well-known narrators or individuals known to the user, and provides a user interface for making such selection, indicating that the system is designed to accommodate user preferences in determining the reader for the electronic book experience. (EX1008, 3:35-43; EX1003, ¶298.)

(i) Motivation to Combine

See claim 11[A]. (EX1003, ¶299.)

3. Claim 13

a. [Preamble]

See claim 11. (EX1003, ¶300.)

b. [A]

As discussed above, Posa discloses a device that enables users to select the voice of a narrator. (EX1008, 3:35-37; EX1003, ¶301.) The POSITA would understand that such selection is done through a user interface integrated into the device. (EX1003, ¶301.) This is at least because Posa discloses the device “has a user interface 104, which may be physically located internal or external to the electronic book player unit 102.” (EX1008, 4:49-55; EX1003, ¶301.) The POSITA would understand that the user would use the user interface 104 of the device to interact with the device, including by selecting the voice. (EX1008,

4:49-55; EX1003, ¶301.)

(i) *Motivation to Combine*

See claim 11[A]. (EX1003, ¶302.) Further, the POSITA would have been motivated to modify Jannard to provide the voice selection at the source device. (EX1003, ¶302.) The POSITA would have had a limited number of choices as to where the user could select which voice to use: the audio device and the source device. (EX1003, ¶302.) The POSITA would have selected the source device because the source device is where the text-to-speech engine is located. (EX1003, ¶302.)

4. Claim 14

a. [Preamble]

See claim 11. (EX1003, ¶303.)

b. [A]

See claim 11[A]. (EX1003, ¶304.)

5. Claim 15

a. [Preamble]

See claim 11. (EX1003, ¶305.)

b. [A]

See claim 1[F] and claim 11[A]. (EX1003, ¶306.) To the extent not

explicitly disclosed by Jannard in view of Vuori and Posa, the POSITA would have understood that since the audio message was synthesized based on the user-selected voice, playback of the audio message is also dependent on the user-selected voice. (EX1003, ¶¶306.)

(i) Motivation to Combine

See claim 11[A]. (EX1003, ¶¶307.)

6. Claim 28

a. [Preamble]

See claim 23. (EX1003, ¶¶308.)

b. [A]

See claim 11[A]. (EX1003, ¶¶309.)

7. Claim 29

a. [Preamble]

See claim 28. (EX1003, ¶¶310.)

b. [A]

See claim 12[A]. (EX1003, ¶¶311.)

(i) Motivation to Combine

See claim 11[A]. (EX1003, ¶¶312.)

8. Claim 30**a. [Preamble]**

See claim 28. (EX1003, ¶313.)

b. [A]

See claim 13[A]. (EX1003, ¶314.)

9. Claim 31**a. [Preamble]**

See claim 28. (EX1003, ¶315.)

b. [A]

See claim 11[A]. (EX1003, ¶316.)

10. Claim 32**a. [Preamble]**

See claim 23. (EX1003, ¶317.)

b. [A]

Jannard discloses audio device 10C includes speakers 14C and 16C.

(EX1010, 21:55-60, 32:1-3, FIG. 9A; EX1003, ¶318.) FIG. 9A illustrates:

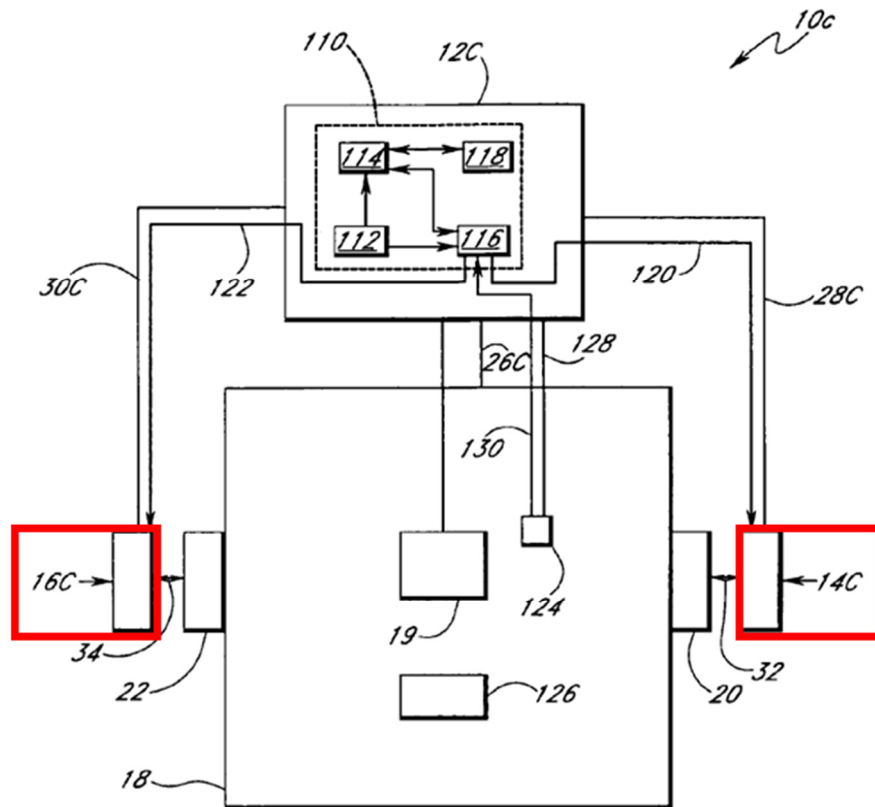


FIG. 9A

(EX1010, 21:55-60, 32:1-3, FIG. 9A (annotated); EX1003, ¶318.)

c. [B]

Jannard discloses “[t]he interface 116 can then direct the left and right audio signals to the speakers ... through the speaker lines 120, 122.” (EX1010, 29:64-67; EX1003, ¶319.) FIG. 9A illustrates:

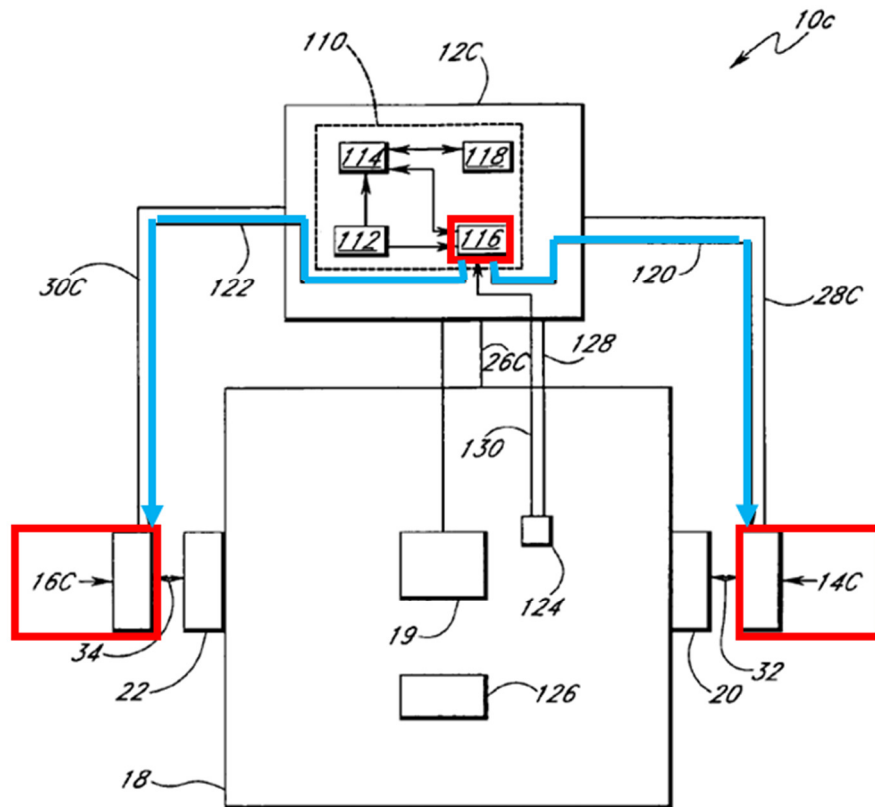


FIG. 9A

(EX1010, 29:64-67, FIG. 9A (annotated); EX1003, ¶319.)

To the extent not expressly disclosed in Jannard, the POSITA would understand the audio signals directed to the speakers include the incoming audio message, at least because Jannard discloses that the “user can ‘listen’ to email through the audio device.” (EX1010, 31:40-44; EX1003, ¶320.)

d. [C]

See claim 11[A]. (EX1003, ¶321.)

11. Claim 40**a. [Preamble]**

See claim 23. (EX1003, ¶322.)

b. [A]

See claim 3[A]. (EX1003, ¶323.)

c. [B]

See claim 24[A]. (EX1003, ¶324.)

(i) Motivation to Combine

See claim 1[G]. (EX1003, ¶325.)

d. [C]

See claim 11[A]. (EX1003, ¶326.)

e. [D]

See claim 13[A]. (EX1003, ¶327.)

f. [E]

See claim 17[A]. (EX1003, ¶328.)

12. Claim 43**a. [Preamble]**

See claim 42. (EX1003, ¶329.)

b. [A]

See claim 11[A]. (EX1003, ¶330.)

c. [B]

See claim 13[A]. (EX1003, ¶331.)

(i) Motivation to Combine

See claim 11[A]. (EX1003, ¶332.)

E. Ground 11: Claims 18, 21, 34, 37, 38, 45, and 46 are Rendered Obvious by Jannard in view of Vuori and Moore

1. Claim 18

a. [Preamble]

See claim 1. (EX1003, ¶334.)

b. [A]

This element is met by Moore as described for Ground 5, claim 18[A].
(EX1003, ¶¶153-54, 335-36.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Jannard and Moore to meet the claim limitation. (EX1003, ¶337.) Jannard describes a source device that synthesizes speech from incoming text messages, enabling users to conveniently access message content without the need to look at the source device. (EX1010, 32:20-42; EX1003, ¶337.) Moore discloses techniques for converting text messages to audio formats that convey emotions, thoughts, or impressions, including those indicated by text abbreviations. (EX1009, Abstract, 17:35-52; EX1003, ¶337.) The POSITA would have sought to

enhance the conveyance of emotions and context in the synthesized speech of Jannard; integrating Moore's approach with Jannard's system would improve the synthesized speech's expressiveness and contextual accuracy, enabling users to better perceive both informational content and emotional nuances. (EX1003, ¶337.)

The POSITA would have had a reasonable expectation of success in combining Jannard and Moore. (EX1003, ¶338.) Moore's techniques are broadly applicable to the conversion of text-based communications to audio output — analogous to Jannard's synthesis of speech from incoming email messages. (EX1003, ¶338.) Moore's speech synthesis is implemented by components such as the text-to-speech module, which is analogous to the text-to-speech engine of Jannard's source device. (EX1003, ¶338.) Jannard and Moore also share other analogous and familiar computer components, such as memories, processors, and mobile phones. (EX1003, ¶338.) Jannard and Moore are thus easily combined based on familiar components. (EX1003, ¶338.)

The POSITA would have been motivated to combine the teachings of Jannard and Vuori as discussed with respect to claim 1[G]. (EX1003, ¶339.) Vuori and Moore are compatible because they both pertain to methods of converting text to speech. (EX1003, ¶339.)

c. [B]

This element is met by Moore as described for Ground 5, claim 18[B]. (EX1003, ¶¶157-59, 340-42.) The POSITA would understand that the untranslated portions of the incoming text message would be converted from the uncondensed text format to a portion of the incoming audio message, as described above for Jannard’s text-to-voice speech engine in claim 1, element [D]. (EX1003, ¶341.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶343.)

2. Claim 21

a. [Preamble]

See claim 1. (EX1003, ¶344.)

b. [A]

See claim 18[A] and 18[B]. (EX1003, ¶345.) The POSITA would have understood that text abbreviation (*e.g.*, “LOL”) corresponds to the claimed “chat language” and the expanded form (*e.g.*, “laughing out loud”) corresponds to the claimed “plurality of words,” at least because the ’104 patent describes “LOL” as an example of such chat language, and further describes expanding “LOL” to a plurality of words. (EX1001, 10:63-11:3; EX1003, ¶345.)

3. Claim 34**a. [Preamble]**

See claim 23. (EX1003, ¶346.)

b. [A]

See claim 18[A]. (EX1003, ¶347.)

c. [B]

See claim 18[B]. (EX1003, ¶348.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶349.)

4. Claim 37**a. [Preamble]**

See claim 23. (EX1003, ¶350.)

b. [A]

See claim 21[A]. (EX1003, ¶351.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶352.)

5. Claim 38**a. [Preamble]**

See claim 23. (EX1003, ¶353.)

b. [A]

See claim 18, elements[A] and [B]. (EX1003, ¶354.) The text abbreviation

(*e.g.*, “LOL”) corresponds to the claimed “chat language” and the expanded form (*e.g.*, “laughing out loud”) comprises an increased “number of alphabets.”

(EX1003, ¶354; *see* EX1009, 17:42-52.)

(i) Motivation to Combine

See claim 18, elements [A] and [B]. (EX1003, ¶355.)

6. Claim 45

a. [Preamble]

See claim 43. (EX1003, ¶356.)

b. [A]

See claim 21[A]. (EX1003, ¶357.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶358.)

7. Claim 46

a. [Preamble]

See claim 43. (EX1003, ¶359.)

b. [A]

See claim 18[A]. (EX1003, ¶360.)

c. [B]

See claim 18[B]. (EX1003, ¶361.)

(i) Motivation to Combine

See claim 18[A]. (EX1003, ¶362.)

F. Ground 12: Claims 19, 20, 35, 36, and 41 are Rendered Obvious by Jannard in view of Vuori, Posa, and Moore

1. Claim 19

a. [Preamble]

See claim 18. (EX1003, ¶364.)

b. [A]

See claim 11[A]. (EX1003, ¶365.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of Jannard, Vuori, and Posa as discussed with respect to claim 11[A]. (EX1003, ¶366.) The POSITA would have been motivated to combine the teachings of Jannard, Vuori, and Moore as discussed with respect to claim 18[A]. (EX1003, ¶366.) Additionally, the teachings of Posa and Moore are compatible at least because they both pertain to converting text to speech. (EX1003, ¶366.)

2. Claim 20

a. [Preamble]

See claim 19. (EX1003, ¶367.)

b. [A]

See claim 13[A]. (EX1003, ¶368.)

(i) Motivation to Combine

The POSITA would have been motivated to combine the teachings of

Jannard, Vuori, and Posa as discussed with respect to claim 13[A]. (EX1003, ¶369.) The POSITA would have been motivated to combine the teachings of Jannard, Vuori, and Moore as discussed with respect to claim 18[A]. (EX1003, ¶369.) Additionally, the teachings of Posa and Moore are compatible at least because they both pertain to converting text to speech. (EX1003, ¶369.)

3. Claim 35

a. [Preamble]

See claim 34. (EX1003, ¶370.)

b. [A]

See claim 11 [A]. (EX1003, ¶371.)

(i) Motivation to Combine

See claim 19[A]. (EX1003, ¶372.)

4. Claim 36

a. [Preamble]

See claim 35. (EX1003, ¶373.)

b. [A]

See claim 13[A]. (EX1003, ¶374.)

(i) Motivation to Combine

See claim 20[A]. (EX1003, ¶375.)

5. Claim 41**a. [Preamble]**

See claim 40. (EX1003, ¶376.)

b. [A]

See claim 21[A]. (EX1003, ¶377.)

(i) Motivation to Combine

See claim 19[A]. (EX1003, ¶378.)

VII. NOTICES AND STATEMENTS

Pursuant to 37 C.F.R. §42.8(b)(1), Apple Inc. is the real party-in-interest for Petitioner.

Pursuant to 37 C.F.R. §42.8(b)(2), Petitioner identifies the following related matters. The '104 patent is asserted in the following litigation matter:

IngenioSpec, LLC v. Apple, Inc., Case No. 1:25-cv-00877 (W.D. Tex.). The '104 patent was previously asserted in the following litigation matters, since dismissed: *IngenioSpec, LLC v. Samsung Electronics Co., Ltd. et al.*, Case No. 2:24-cv-00819 (E.D. Tex.) (dismissed June 11, 2025); *IngenioSpec, LLC v. Sony Group Corporation et al.*, Case No. 2:24-cv-00820 (E.D. Tex.) (dismissed Nov. 6, 2025).

Pursuant to 37 C.F.R. §42.8(b)(3), Petitioner identifies the following counsel (and a power of attorney accompanies this Petition).

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Pursuant to 37 C.F.R. §42.8(b)(4), service information for lead and back-up counsel is provided above. Petitioner consents to electronic service by email to Apple-IngenioSpec-IPR@mofo.com.

Pursuant to 37 C.F.R. §42.104(a), Petitioners certify that the '104 patent is available for *inter partes* review and that Petitioners are not barred or estopped from requesting an *inter partes* review challenging the patent claims on the grounds identified in this Petition.

VIII. CONCLUSION

Petitioner requests that the Board initiate *inter partes* review and cancel all challenged claims of the '104 patent.

The USPTO is authorized to charge any required fees, including the fee as set forth in 37 C.F.R. §42.15(a) and any excess claim fees, to Deposit Account No. **03-1952** referencing Docket No. **10684-0000911**.

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Respectfully submitted,

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IX. CLAIMS APPENDIX

Claim 1

[Preamble] *A wireless communication system, comprising:*

[A] *a wireless headset; and*

[B] *a wireless communication device that supports wireless communication, including messaging, for a first user, said wireless communication device capable of wirelessly communicating with the wireless headset,*

[C] *wherein said wireless communication device is configured to perform the method of: receiving an incoming text message from a second user;*

[D] *converting the incoming text message to an incoming audio message;*

[E] *presenting the incoming audio message for the first user via the wireless headset;*

[F] *recording a reply audio message by the first user via the wireless headset;*

[G] *converting the reply audio message into a reply text message; and*

[H] *transmitting the reply text message to the second user.*

Claim 2

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein said wireless communication device is configured to perform the operation of determining whether the wireless headset is active, and*

[B] *wherein said converting of the incoming text message is automatically invoked to convert the incoming text message to the incoming audio message, provided that said determining determines that the wireless headset is active.*

Claim 3

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein said wireless communication device is configured to perform the operation of: prompting the first user to provide the reply audio message prior to said recording of the reply audio message.*

Claim 4

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein said wireless communication device is configured to perform the operation of: limiting the reply audio message during said recording and/or said converting of the reply audio message so that the reply text message does not exceed a predetermined text message size.*

Claim 5

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein said wireless communication device is configured to perform the operation of: determining whether the incoming text message should be presented to the first user in an audio manner, and*

[B] *wherein said converting of the incoming text message is invoked to convert the incoming text message to the incoming audio message, provide that said determining determines that the incoming text message should be presented to the first user in an audio manner.*

Claim 6

[Preamble] *A wireless communication system as recited in claim 5,*

[A] *wherein said wireless communication device is configured to perform the operation of determining whether the wireless headset is active, and*

[B] *wherein said converting of the incoming text message is automatically invoked to convert the incoming text message to the incoming audio message, provide that said determining determines that the wireless headset is active.*

Claim 7

[Preamble] *A wireless communication system as recited in claim 6,*

[A] *wherein said wireless communication device is configured to perform the operation of: prompting the first user to provide the reply audio message prior to said recording of the reply audio message.*

Claim 8

[Preamble] *A wireless communication system as recited in claim 5,*

[A] *wherein said determining is based on a preference setting that is able to be set by the first user.*

Claim 9

[Preamble] *A wireless communication system as recited in claim 5,*

[A] *wherein said determining is based on a user indication.*

Claim 10

[Preamble] *A wireless communication system as recited in claim 5,*

[A] *wherein said determining comprises determining whether the wireless headset is active.*

Claim 11

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein said converting of the incoming text message to the incoming audio message depends on at least one user-selected speech characteristic.*

Claim 12

[Preamble] *A wireless communication system as recited in claim 11,*

[A] *wherein the at least one user-selected speech characteristic is set based on at least one user preference that is able to be set by the first user.*

Claim 13

[Preamble] *A wireless communication system as recited in claim 11,*

[A] *wherein the at least one user-selected speech characteristic is set based on at least one user setting provided at said wireless communication device.*

Claim 14

[Preamble] *A wireless communication system as recited in claim 11,*

[A] *wherein the at least one user-selected speech characteristic pertains to at least a voice for use in producing the incoming audio message.*

Claim 15

[Preamble] *A wireless communication system as recited in claim 11,*

[A] *wherein said presenting of the incoming audio message comprises playing the incoming audio message, with the playing of the incoming audio message being dependent on at least one user-selected speech*

characteristic.

Claim 16

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein the incoming text message is a SMS message.*

Claim 17

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein the incoming text message is a SMS message, and wherein the reply text message is a SMS message.*

Claim 18

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein said converting of the incoming text message to the incoming audio message comprises: translating at least a portion of the incoming text message from a condensed format to an uncondensed text format; and*

[B] *converting at least the portion of the incoming text message in the uncondensed text format to at least a portion of the incoming audio message.*

Claim 19

[Preamble] *A wireless communication system as recited in claim 18,*

[A] *wherein said converting of the incoming text message to the incoming audio message depends on at least one user-selected speech characteristic.*

Claim 20

[Preamble] *A wireless communication system as recited in claim 19,*

[A] *wherein the at least one user-selected speech characteristic is set based on at least one user setting provided at said wireless communication device.*

Claim 21

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein at least a portion of the incoming text message is in a chat language, and wherein said converting of the incoming text message to the incoming audio message comprises expanding the portion of the incoming text message that is in the chat language to a plurality of words.*

Claim 22

[Preamble] *A wireless communication system as recited in claim 1,*

[A] *wherein said wireless communication device is a mobile telephone.*

Claim 23

[Preamble] *A wireless headset that at least supports messaging for a first user, said wireless headset operatively connects to a mobile electronic device having wireless communication capability, and*

[A] *wherein said wireless headset is configured to at least: wirelessly receive an incoming audio message from the mobile electronic device, the incoming audio message being produced by converting an incoming text message from another wireless electronic device, the incoming text message being received at the mobile electronic device via a wireless network;*

[B] *output the incoming audio message for the first user;*

[C] receive a reply audio message from the first user in response to the incoming audio message; and

[D] wirelessly transmit the reply audio message to the mobile electronic device.

Claim 24

[Preamble] A wireless headset according to claim 23,

[A] wherein the reply audio message thereafter being converted to a reply text message and transmitted to the another wireless electronic device via the wireless network.

Claim 25

[Preamble] A wireless headset as recited in claim 24,

[A] wherein at least one of said wireless headset and the mobile electronic device are configured to: limit the reply audio message and/or the reply text message so that the reply text message does not exceed a maximum text message size.

Claim 26

[Preamble] A wireless headset as recited in claim 24,

[A] wherein the incoming text message is a SMS message, and wherein the reply text message is a SMS message.

Claim 27

[Preamble] A wireless headset as recited in claim 23,

[A] wherein said wireless headset is configured to: prompt the first user to provide the reply audio message prior to said receiving of the reply audio

message.

Claim 28

[Preamble] *A wireless headset as recited in claim 23,*

[A] *wherein the conversion of the incoming text message to the incoming audio message depends on at least one user-selected speech characteristic.*

Claim 29

[Preamble] *A wireless headset as recited in claim 28,*

[A] *wherein the at least one user-selected speech characteristic is set based on at least one user preference able to be set by or for the first user.*

Claim 30

[Preamble] *A wireless headset as recited in claim 28,*

[A] *wherein the at least one user-selected speech characteristic is set based on at least one user setting able to be provided at the mobile electronic device.*

Claim 31

[Preamble] *A wireless headset as recited in claim 28,*

[A] *wherein the at least one user-selected speech characteristic pertains to at least a voice for use in producing the incoming audio message.*

Claim 32

[Preamble] *A wireless headset as recited in claim 23,*

[A] *wherein said wireless headset includes at least one speaker,*

[B] *wherein the output of the incoming audio message comprises directing the incoming audio message to the at least one speaker in said wireless headset, and*

[C] *wherein the output of the incoming audio message is dependent on at least one user-selected speech characteristic.*

Claim 33

[Preamble] *A wireless headset as recited in claim 23,*

[A] *wherein the incoming text message is a SMS message.*

Claim 34

[Preamble] *A wireless headset as recited in claim 23,*

[A] *wherein the conversion of the incoming text message to the incoming audio message comprises: translation of at least a portion of the incoming text message from a condensed format to an uncondensed text format; and*

[B] *conversion of at least the portion of the incoming text message in the uncondensed text format to at least a portion of the incoming audio message.*

Claim 35

[Preamble] *A wireless headset as recited in claim 34,*

[A] *wherein the conversion of the incoming text message to the incoming audio message depends on at least one user-selected speech characteristic.*

Claim 36

[Preamble] *A wireless headset as recited in claim 35,*

[A] *wherein the at least one user-selected speech characteristic is set based on at least one user setting able to be provided at the mobile electronic device.*

Claim 37

[Preamble] *A wireless headset as recited in claim 23,*

[A] *wherein at least a portion of the incoming text message is in a chat language, and wherein the conversion of the incoming text message to the incoming audio message comprises expanding the portion of the incoming text message that is in the chat language to a plurality of words.*

Claim 38

[Preamble] *A wireless headset as recited in claim 23,*

[A] *wherein at least a portion of the incoming text message is in a chat language, and wherein the conversion of the incoming text message to the incoming audio message comprises at least increasing the number of alphabets in the portion of the incoming text message that is in the chat language.*

Claim 39

[Preamble] *A wireless headset as recited in claim 23,*

[A] *wherein the mobile electronic device is a mobile telephone.*

Claim 40

[Preamble] *A wireless headset as recited in claim 23,*

[A] wherein said wireless headset is configured to: prompt the first user to provide the reply audio message prior to said receiving of the reply audio message,

[B] wherein the reply audio message thereafter being converted to a reply text message and transmitted to the another wireless electronic device via the wireless network,

[C] wherein the conversion of the incoming text message to the incoming audio message depends on at least one user-selected speech characteristic,

[D] wherein the at least one user-selected speech characteristic is set based on at least one user setting able to be provided at the mobile electronic device, and

[E] wherein the incoming text message is a SMS message, and wherein the reply text message is a SMS message.

Claim 41

[Preamble] A wireless headset as recited in claim 40,

[A] wherein at least a portion of the incoming text message is in a chat language, and wherein the conversion of the incoming text message to the incoming audio message comprises expanding the portion of the incoming text message that is in the chat language to a plurality of words.

Claim 42

[Preamble] A wireless headset that at least supports messaging for a first user, said wireless headset operatively connects to a mobile electronic device having wireless communication capability, and

[A] wherein said wireless headset is configured to at least: play an incoming audio message for the first user via the wireless headset, the incoming audio message being produced by converting an incoming text message from a second user, the incoming text message being received at the mobile electronic device via a wireless network; and

[B] receive a reply audio message from the first user via the wireless headset in response to the incoming audio message, the reply audio message thereafter being converted to a reply text message and transmitted to the second user via the wireless network.

Claim 43

[Preamble] A wireless headset as recited in claim 42,

[A] wherein the conversion of the incoming text message to the incoming audio message depends on at least one user-selected speech characteristic, and

[B] wherein the at least one user-selected speech characteristic is set based on at least one user setting able to be provided at the mobile electronic device.

Claim 44

[Preamble] A wireless headset as recited in claim 43,

[A] wherein said wireless headset is configured to: prompt the first user to provide the reply audio message prior to the reply audio message being received at said wireless headset,

Claim 45

[Preamble] A wireless headset as recited in claim 43,

[A] wherein at least a portion of the incoming text message is in a chat language, and wherein the conversion of the incoming text message to the incoming audio message comprises expanding the portion of the incoming text message that is in the chat language to a plurality of words.

Claim 46

[Preamble] *A wireless headset as recited in claim 43,*

[A] *wherein the conversion of the incoming text message to the incoming audio message comprises: translation at least a portion of the incoming text message from a condensed format to an uncondensed text format; and*

[B] *conversion of at least the portion of the incoming text message in the uncondensed text format to at least a portion of the incoming audio message.*

Claim 47

[Preamble] *A wireless headset as recited in claim 43,*

[A] *wherein the reply audio message is converted to the reply text message and transmitted to the another wireless electronic device by the mobile electronic device.*

Certification of Word Count (37 C.F.R. §42.24)

I hereby certify that this Petition for *Inter Partes* Review has 13,977 words (as counted by the “Word Count” feature of the Microsoft Word™ word-processing system), exclusive of “a table of contents, a table of authorities, mandatory notices under §42.8, a certificate of service or word count, or appendix of exhibits or claim listing.”

Dated: November 21, 2025

By: /Bryan Blumenkopf/
Bryan Blumenkopf

Certificate of Service (37 C.F.R. §42.6(e)(4) and 42.205(a))

I hereby certify that the attached Petition for *Inter Partes* Review and supporting materials were served as of the below date by UPS, a means as fast and reliable as Priority Mail Express®, on the Patent Owner at the correspondence address indicated for U.S. Patent No. 8,112,104.

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Dated: November 21, 2025

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