

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAPTIONCALL, L.L.C.,
Petitioner,

v.

ULTRATEC, INC.,
Patent Owner.

Case IPR2013-00544
Patent 8,213,578 B2

Before WILLIAM V. SAINDON, BARBARA A. BENOIT, and
LYNNE E. PETTIGREW, *Administrative Patent Judges*.

PETTIGREW, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed herein, Petitioner has shown by a preponderance of the evidence that claims 7–11 of U.S. Patent No. 8,213,578 B2 (Ex. 1001, “the ’578 patent”) are unpatentable.

A. Procedural History

Petitioner, CaptionCall, L.L.C., filed a Petition for *inter partes* review of claims 7–11 of the ’578 patent. Paper 1 (“Pet.”). Patent Owner, Ultratec, Inc., did not file a Preliminary Response. On March 5, 2014, pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review for claims 7–11 of the ’578 patent on the following grounds of unpatentability:

Reference(s)	Basis	Challenged Claims
Ryan ¹	35 U.S.C. § 102(e)	7
Wycherley ² and Yamamoto ³	35 U.S.C. § 103(a)	7
Ryan and McLaughlin ⁴	35 U.S.C. § 103(a)	7–11

Paper 6 (“Inst. Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 27, “PO Resp.”), and Petitioner filed a Reply to Patent Owner’s Response (Paper 32, “Reply”). Patent Owner also filed Motions to Exclude Evidence. Paper 41 (“PO Mot. to Exc. Occhiogrosso”); Paper 42 (“PO Mot. to Exc. Yamamoto”). Petitioner filed a combined Opposition (Paper 51, “Pet. Opp. to Mots. to Exc.”) to Patent Owner’s Motions, and Patent Owner filed a Reply to Petitioner’s Opposition (Paper 54, “PO Reply

¹ U.S. Patent No. 5,809,112, issued Sept. 15, 1998 (Ex. 1004, “Ryan”).

² U.S. Patent No. 5,163,081, issued Nov. 10, 1992 (Ex. 1005, “Wycherley”).

³ Yamamoto is a Japanese language document—Seichi Yamamoto and Masanobu Fujioka, *New Applications of Voice Recognition*, Proc. JASJ Conf. (March 1996) (Ex. 1006). Unless indicated otherwise, all subsequent references to Yamamoto in this decision will refer to its English language translation (Ex. 1007). Petitioner provided a revised certification attesting to the accuracy of the translation. See Ex. 1069; 37 C.F.R. § 42.63(b).

⁴ U.S. Patent No. 6,181,736 B1, issued Jan. 30, 2001 (Ex. 1009, “McLaughlin”).

to Opp. to Mots. to Exc.”). Also, Petitioner filed a Motion for Leave to File Supplemental Evidence Regarding Yamamoto (Paper 48), and Patent Owner filed an Opposition to Petitioner’s Motion (Paper 53). In response to the Board’s order (Paper 59), Petitioner filed additional briefing (Paper 61) regarding the public availability of Yamamoto. In turn, Patent Owner filed a response (Paper 63), to which Petitioner filed a Reply (Paper 64).

An oral hearing was held on November 19, 2014.⁵

B. Related Proceedings

Petitioner represents that Patent Owner asserted the ’578 patent against Petitioner’s parent company in the following district court proceeding: *Ultratec, Inc. v. Sorenson Communications, Inc.*, No. 13-CV-00346 (W.D. Wis.). Pet. 2. Petitioner also represents that in the same district court proceeding, Patent Owner asserted the following patents at issue in related *inter partes* reviews: U.S. Patent No. 6,233,314 (Case IPR2013-00540), U.S. Patent No. 5,909,482 (Case IPR2013-00541), U.S. Patent No. 7,319,740 (Case IPR2013-00542), U.S. Patent No. 7,555,104 (Case IPR2013-00543), U.S. Patent No. 6,594,346 (Case IPR2013-00545), U.S. Patent No. 6,603,835 (Case IPR2013-00549), and U.S. Patent No. 7,003,082 (Case IPR2013-00550). Pet. 2.

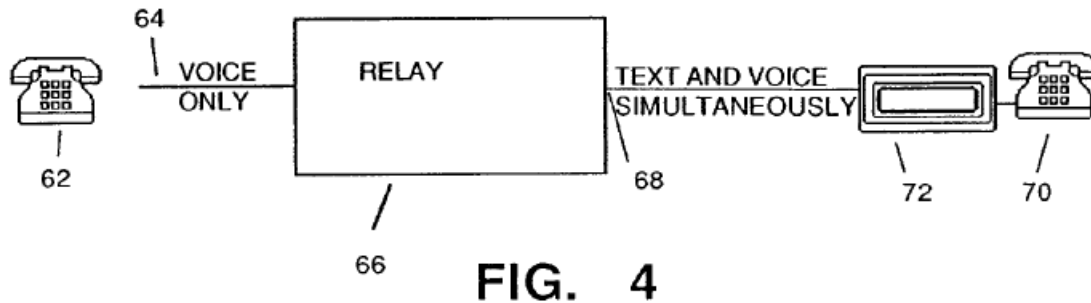
⁵ This proceeding and IPR2013-00540, IPR2013-00541, IPR2013-00542, IPR2013-00543, IPR2013-00545, IPR2013-00549, and IPR2013-00550 involve the same parties and similar issues. The oral arguments for all eight reviews were merged and conducted at the same time. A transcript of the oral hearing is included in the record as Paper 73.

C. The '578 Patent

The '578 patent describes a system that assists deaf, hard of hearing, or otherwise hearing-impaired individuals in using telephones. Ex. 1001, 1:26–29. A conventional system uses a device that includes a keyboard, a display, and a specific type of modem, and is known as a telecommunication device for the deaf (TDD), a text telephone (TT), or a teletype (TTY). *Id.* at 1:37–42. When a hearing person who does not have access to a TDD wishes to communicate with a hearing-impaired person who uses a TDD, the parties may utilize a relay system, in which a human intermediary, known as a “call assistant,” communicates with the hearing user by voice and with the hearing-impaired user by using a TDD. *Id.* at 1:65–2:10. In a conventional relay system, the call assistant types, at a TDD keyboard, the words spoken by the hearing user and voices to the hearing user the words received on the TDD from the hearing-impaired user. *Id.* at 2:10–15.

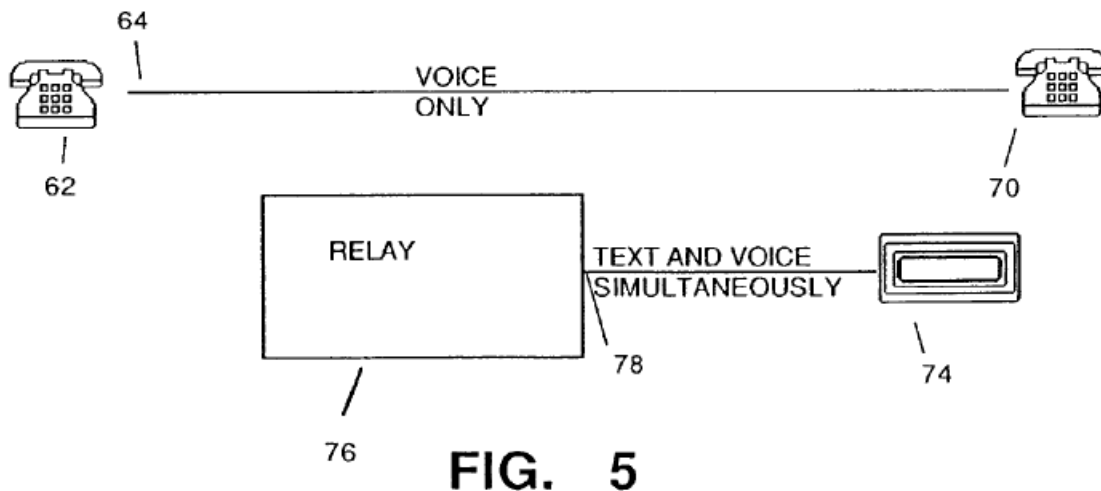
The '578 patent relates to an improved method for providing a captioned telephone service using a relay. *Id.* at 2:39–56. Instead of typing the hearing user’s words, the call assistant re-voices those words into a microphone that transmits the voice of the call assistant to a computer with voice recognition software trained specifically to the voice of the call assistant. *Id.* at 6:10–16. Using the voice recognition software, the computer translates the words of the call assistant to digital text, which is sent to a display of the hearing-impaired user. *Id.* at 9:22–26.

The '578 patent also describes a captioned telephone device at the site of the assisted user. *Id.* at 6:29–7:13. Figure 4, reproduced below, illustrates the setup of a telephone call involving captioned telephone device 72:



As shown in Figure 4, a hearing user at telephone 62 communicates with relay 66 through telephone line 64. *Id.* at 6:31–32. The relay communicates both the voice of the hearing user and a transcription of the text of the conversation through telephone line 68 to an assisted user. *Id.* at 6:32–34. At the assisted user's site are captioned telephone device 72, which includes a display for text, and conventional telephone 70. *Id.* at 6:34–38. The functions of captioned telephone device 72 and telephone 70 may be combined into a single device. *Id.* at 6:46–53.

Figure 5, reproduced below, illustrates an alternative, two-line embodiment described in the '578 patent:



As shown in Figure 5, this embodiment utilizes voice-only telephone line 64 between telephone 62 of the hearing user and telephone 70 at the assisted user's location, and a separate connection—telephone line 78—carrying text and voice between relay 76 and captioned telephone device 74 at the assisted user's location. *Id.* at 6:54–63. The voice of the hearing user is received at telephone 70 and transferred to telephone line 78 for transmission to relay 76, which converts the spoken words to a text stream to be returned to the assisted user via telephone line 78. *Id.* at 6:63–67, 7:26–30.

D. Illustrative Claim

Of the challenged claims, claim 7 is the only independent claim. Claims 8 and 11 depend from claim 7, and claims 9 and 10 depend from claim 8. Claim 7 is illustrative:

7. A method of operating a captioned telephone service, the method comprising the steps of:

providing words spoken by a remote user to a relay;

at the relay, a call assistant listening to the words spoken by the remote user and re-voicing the words into a computer with voice recognition software trained to the voice of the call assistant to create a text stream of the words spoken by the remote user; and

presenting the text stream to an assisted user via a display.

Id. at 10:15–23.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, we construe claim terms in an unexpired patent according to their broadest reasonable construction in light of the

specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, No. 2014-1301, slip op. at 11–19 (Fed. Cir. Feb. 4, 2015). Consistent with the broadest reasonable construction, claim terms are presumed to have their ordinary and customary meaning, as understood by a person of ordinary skill in the art, in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). An inventor may provide a meaning for a term that is different from its ordinary meaning by defining the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

We construe the claim language below in accordance with these principles. No other terms require express construction.

1. “captioned telephone device”

Claim 8, which depends from independent claim 7, and from which claims 9 and 10 depend, recites “receiving the words spoken at a *captioned telephone device* and transmitting the words spoken from the captioned telephone device to the relay.” Ex. 1001, 10:26–28 (emphasis added). The ordinary meaning of “telephone” is “[a]n instrument that converts voice and other sound signals into a form that can be transmitted to remote locations and that receives and reconverts waves into sound signals.”⁶ In the context

⁶ THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 1846 (3d ed. 1992); THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 1779 (4th ed. 2006).

of voice communication, a “caption” is text that communicates dialogue.⁷ Thus, according to its ordinary meaning, a captioned telephone device is a device that transmits and receives voice signals and displays text.

The ’578 patent uses the term “captioned telephone device” consistent with this ordinary meaning. Claim 8 recites receiving spoken words at the captioned telephone device. The written description of the ’578 patent describes a captioned telephone device as a device that receives both voice signals and text information and displays the text information to an assisted user. *Id.* at 6:36–42 (“The captioned telephone device 72 is constructed to accomplish two objectives. One objective is to filter, or separate, the digital signals carrying the text information from the voice signal. The other objective is to take the digital signals and create a visual display of the text information for the assisted user.”); *see also id.* at Fig. 4 (showing a simultaneous text and voice connection between captioned telephone device 72 and relay 66). Note that a captioned telephone device need not output any audio signals to the assisted user. *See id.* at 6:46–48 (stating that a captioned telephone device may be a stand-alone device separate from a telephone at an assisted user’s location); *id.* at Figs. 4, 5 (illustrating captioned telephone device and telephone as two separate devices).

In light of the use of “captioned telephone device” in the ’578 patent and the ordinary meaning of the term, we construe “captioned telephone

⁷ THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 286 (3d ed. 1992) (defining “caption” in relevant part as “2. A subtitle in a motion picture.”); THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 278 (4th ed. 2006) (defining “caption” in relevant part as “2. A series of words . . . that communicate dialogue to the hearing-impaired or translate foreign dialogues.”).

device” as a device that transmits and receives voice signals, receives text information, and displays text to an assisted user.

2. “*A method of operating a captioned telephone service*”

The preamble of independent claim 7 recites “[a] method of operating a captioned telephone service.” *Id.* at 10:15. Petitioner argues that the preamble language should not be treated as a limitation that provides both the remote user’s voice and text to the assisted user’s station. Pet. 13–14; Reply 2. Patent Owner contends that “operating a captioned telephone service” is limiting, requiring transmission of both voice and text to the assisted user. PO Resp. 10–12. If claim 7 does not require providing the remote user’s voice to the assisted user’s station, the parties agree that claim 7 is entitled to the benefit of the filing date of U.S. Patent No. 5,909,482 (“the ’482 patent”), i.e., September 8, 1997.⁸ Pet. 13; PO Resp. 35.

“In general, a preamble limits the invention if it recites essential structure or steps, or if it is ‘necessary to give life, meaning, and vitality’ to the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). A preamble, however, “generally is not limiting when the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention.” *Id.* at 809. One guidepost for determining the effect of a preamble on claim scope is whether the preamble language provides antecedent basis for any limitation in the body of the claim. *Id.* at 808.

⁸ The prior art status of certain references asserted against claim 7 depends on the effective filing date and on whether the claim requires providing the remote user’s voice to the assisted user’s station.

Moreover, a preamble describing the purpose or intended use of an invention generally does not limit the claim. *Id.* at 809.

As described in the '578 patent, providing captioned telephone service involves receiving the voice of the hearing user at a relay and transmitting a text stream and the voice of the hearing user over a telephone connection to the assisted user. Ex. 1001, 8:53–57. Patent Owner contends that given the emphasis in the '578 patent on providing both voice and text in a captioned telephone service, we should construe claim 7 to require transmitting both voice and text to the assisted user. PO Resp. 12. The phrase “operating a captioned telephone service,” however, appears only in the preamble of claim 7, and does not provide antecedent basis for any limitation in the body of the claim. As Petitioner notes, the phrase “captioned telephone service” is not recited again in the claim, see Pet. 13, nor is it recited in any of the claims that depend from claim 7.

The steps recited in the body of claim 7—providing words spoken by the remote user to a relay, a call assistant re-voicing the words to create a text stream, and presenting a text stream of the spoken words to the assisted user—define a complete method and do not rely on a recitation of a “captioned telephone service” in the preamble. Thus, “operating a captioned telephone service” is not an essential step that is necessary to give meaning to the claim and only states a purpose or intended use of the claimed method steps. Although claim 7 recites some steps associated with providing a captioned telephone service, notably missing from claim 7 is a limitation that requires providing the voice of the remote user to the assisted user. Because claim 7 does not recite that limitation explicitly, and because the phrase “operating a captioned telephone service” in the preamble is not an

essential step of the claim, we do not construe the claim to include the additional limitation of providing the voice of the remote user to the assisted user.

Reading the claim as a whole and applying the broadest reasonable construction of the claim language, we conclude that the “operating a captioned telephone service” language in the preamble of claim 7 is not a limitation requiring a remote user’s voice to be transmitted to, or received by, the assisted user. Accordingly, claim 7 has an effective filing date of September 8, 1997.

3. *“trained to the voice of the call assistant”*

Neither party expressly proposes a construction for “trained to the voice of the call assistant,” which appears in independent claim 7. *See* Pet. 16–17; PO Resp. 6–12; Reply 1–2. In their dispute over the teachings of the asserted prior art, however, the parties articulate different views as to how the term should be construed. Patent Owner construes “trained to the voice of the call assistant” to require training to recognize individual voices, PO Resp. 24, presumably trained to the voice of one, and only one, call assistant and to preclude training for a type of speech used by a group of people (such as a regional accent) that could apply to more than one call assistant. Patent Owner also seeks to construe “trained to the voice of the call assistant” as having a temporal constraint so as to preclude training at the time when the voice recognition computer software package is “designed in advance of implementation at the source code level.” *Id.* (emphasis omitted). According to Patent Owner, “trained to the voice of the call assistant” precludes software that is “built” to recognize the voice of a particular agent. *Id.* at 25. Petitioner disagrees. Reply 4–5.

The '578 patent does not set forth a special definition for “training.” In the “Brief Summary of the Invention,” however, the '578 patent refers to “a speech recognition computer program which has been trained to the voice *pattern* of the call assistant.” Ex. 1001, 2:44–46 (emphasis added). The '578 patent incorporates by reference the disclosure of the '482 patent regarding the use of voice recognition software in a re-voicing relay. *Id.* at 3:51–53. In that context, the '482 patent describes “the call assistant operat[ing] at a computer terminal which contains a copy of a voice recognition software package which is specifically trained to the voice of that *particular* call assistant.” Ex. 1002, 5:44–47 (emphasis added). Thus, the '578 patent contemplates software trained to “a voice *pattern* of the call assistant” as well as software “specifically trained to the voice of [a] *particular* call assistant.” Neither description of training, however, indicates when or how the training occurs. Patent Owner, relying on its declarant Mr. Paul W. Ludwick, asserts that a person of ordinary skill in the art would not have understood software that is “designed” in advance to recognize the voice of particular agents to be software that is “trained to recognize individual voices,” because such technology was not used in telecommunications relay service in 1994. PO Resp. 24 (citing Ex. 2010 ¶¶ 21–22). We note that technology available in 1994 has little probative value here because the earliest date of invention for claims of the '578 patent is 1997.

We give claim language its broadest reasonable construction in light of the specification of the patent in which it appears. Thus, we will not limit “trained to the voice of the call assistant” to require training to the voice of one particular call assistant, because the claim language encompasses the

invention as disclosed in the written description of the '578 patent—software trained to a voice *pattern* of a call assistant. Ex. 1001, 2:39–47 (“Summary of the Invention”). Nor will we limit “trained to the voice of the call assistant” to a particular time at which training must occur or to a particular manner of training that is not found in the claims or the written description of the '578 patent.

B. Principles of Law

To prevail in challenging Patent Owner’s claims, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A claim is anticipated if a single prior art reference either expressly or inherently discloses every limitation of the claim. *Orion IP, LLC v. Hyundai Motor Am.*, 605 F.3d 967, 975 (Fed. Cir. 2010). To anticipate, a reference also “must enable one of ordinary skill in the art to make the invention without undue experimentation.” *Impax Labs., Inc. v. Aventis Pharm., Inc.*, 545 F.3d 1312, 1314 (Fed. Cir. 2008). To determine whether “undue experimentation” is required, various factors are examined, including (1) the quantity of experimentation; (2) the amount of direction or guidance present; (3) the presence or absence of working examples; (4) the nature of the invention; (5) the state of the prior art; (6) the relative skill of those in the art; (7) the predictability or unpredictability of the art; and (8) the breadth of the claims. *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988); *see also Impax Labs.*, 545 F.3d at 1314–15 (indicating the Wands factors should be applied to a determination whether a prior art reference is enabled).

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). The level of ordinary skill in the art is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

C. Patent Owner’s Motion to Exclude Testimony by Mr. Occhiogrosso

Patent Owner seeks to exclude the testimony of Mr. Benedict Occhiogrosso (Exs. 1030, 1057, 2006, 2007, and 2016) on the theory that he is not qualified as an expert under Federal Rule of Evidence 702 (“FRE 702”).^{9,10} PO Mot. to Exc. Occhiogrosso; PO Resp. 2–5. FRE 702 provides that a witness qualified as an expert by knowledge, skill,

⁹ Patent Owner also seeks to *exclude* Mr. Occhiogrosso’s testimony under 37 C.F.R. § 42.65. PO Mot. to Exc. Occhiogrosso 1. Rule 42.65, however, addresses (a) the weight given to expert testimony that does not disclose underlying facts or data on which the opinion is based, (b) the showing required if a party seeks to rely on a technical test or data from such a test, and (c) the exclusion of expert testimony on United States patent law or patent examination practice. As such, Rule 42.65 does not apply to a determination whether to exclude Mr. Occhiogrosso’s testimony.

¹⁰ With some enumerated exceptions, the Federal Rules of Evidence apply to an *inter partes* review. 37 C.F.R. § 42.62.

experience, training, or education may testify in the form of an opinion if (a) the expert's knowledge will help the trier of fact to understand the evidence or to determine a fact in issue, (b) the testimony is based upon sufficient facts or data, (c) the testimony is the product of reliable principles and methods, and (d) the witness has applied the principles and methods reliably to the facts of the case. Testimony on the issue of unpatentability proffered by a witness who is not "qualified in the pertinent art" generally is not admissible under FRE 702. *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1363–64 (Fed. Cir. 2008). In determining who is qualified in the pertinent art under FRE 702, we need not find a complete overlap between the witness's technical qualifications and the problem confronting the inventor or the field of endeavor. *See SEB S.A. v. Montgomery Ward & Co., Inc.*, 594 F.3d 1360, 1372–73 (Fed. Cir. 2010) (upholding admission of the testimony of an expert who admittedly lacked expertise in the design of the patented invention, but had experience with materials selected for use in the invention); *Mytee Prods., Inc. v. Harris Research, Inc.*, 439 Fed. App'x 882, 886–87 (Fed. Cir. 2011) (non-precedential) (upholding admission of the testimony of an expert who "had experience relevant to the field of the invention," despite admission that he was not a person of ordinary skill in the art).

Patent Owner contends that, to qualify as an expert under FRE 702, Mr. Occhiogrosso must be a person of ordinary skill in the art, and that Mr. Occhiogrosso is not a person of ordinary skill in the art because he does not have "general knowledge and understanding of the telecommunications needs of the deaf and HOH [(hard of hearing)]" or "experience with the development of assistive telecommunications technology for such

individuals.” PO Mot. to Exc. Occhiogrosso 1–4; *see also id.* at 5–7 (discussing Mr. Occhiogrosso’s experience with respect to these areas). Petitioner responds that Patent Owner’s definition of the level of ordinary skill in the art conflates a requirement for skill in the relevant technical art (“telecommunications systems [having] voice-to-text transcription”) with skill in one particular commercial sector that applies that technical art (“telecommunications services *specifically* designed for the deaf or hard of hearing”). Pet. Opp. to Mots. to Exc. 1, 3–4.

Patent Owner’s arguments are unpersuasive at the outset because, to testify as an expert under FRE 702, a person need not be a person of ordinary skill in the art, but rather “qualified in the pertinent art.” *Sundance*, 550 F.3d at 1363–64; *see SEB*, 594 F.3d at 1372–73; *Mytee*, 439 Fed. App’x at 886–87. Patent Owner’s arguments are also unpersuasive because they attempt to constrict the “pertinent art,” i.e., the pertinent technology, to a particular subset of individuals who use the pertinent technology, rather than the pertinent technology itself. *See* Pet. Opp. to Mots. to Exc. 4–5 (arguing that the problems in the pertinent art are not “uniquely related” to the deaf and hard-of-hearing). Moreover, Patent Owner indicates elsewhere that the relevant field of art is telecommunication technologies. *See* PO Resp. 18 n.1 (Patent Owner indicating its declarant “Mr. Ludwick indisputably is [a person of ordinary skill in the art] in telecommunications technologies, which is the relevant field of art,” to opine on speech recognition software for use in telecommunication relay service settings). Petitioner similarly indicates the relevant field is telecommunication technologies. Pet. Opp. to Mots. to Exc. 6 (“Mr. Occhiogrosso’s qualifications should be analyzed with

respect to the pertinent art of telecommunication technologies in which an intermediary facilitates voice-to-text transcription.”).

We agree that the pertinent art is telecommunication technologies. The ’578 patent states that the “present invention relates to the general field of telephone communications.” Ex. 1001, 1:25–26. The ’578 patent focuses on a particular application of that technology: people who need assistance in using telecommunications devices. *Id.* at 1:25–2:34 (describing various prior art assistive technologies to help characterize the evolution of assistive technologies). The ’578 patent also summarizes the invention as the use of a speech recognition computer program trained to the voice of the call assistant to translate promptly the words spoken by an intermediary call assistant into a “high speed digital communication message [that] is then transmitted electronically promptly by telephone to a visual display accessible to the” hearing-assisted user. *Id.* at 2:47–50.

The qualifications of Mr. Occhiogrosso, as summarized in his curriculum vitae (Ex. 1019), qualify him to give expert testimony on the subject of telecommunication technologies. He possesses a Bachelor of Science in Electrical Engineering and a Master of Science in Electrical Engineering. Ex. 1019, 2. Mr. Occhiogrosso testifies that he has more than thirty years of experience in the field of telecommunications and information technology, and he has planned, designed, implemented, and managed large scale projects involving wired and wireless communication systems, including transmission of voice and data. Ex. 1030 ¶ 7; *see also* Ex. 1019, 2–6 (detailing Mr. Occhiogrosso’s enterprise consulting engagements, research and development, and wireless experience).

Moreover, to the extent Mr. Occhiogrosso is more familiar with general telecommunications technology and less familiar with voice-to-text or its application to the deaf or hearing-impaired, or to the extent that Mr. Occhiogrosso's testimony is inconsistent or unsupported, we weigh Mr. Occhiogrosso's testimony accordingly, taking into account the extent of his expertise in these areas. *See, e.g., Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (holding the Board has discretion to give more weight to one item of evidence over another "unless no reasonable trier of fact could have done so"); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) ("[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.").

Patent Owner also contends that Mr. Occhiogrosso's testimony fails to identify the level of skill in the art in his declaration (Ex. 1030), fails to give any consideration to what one of ordinary skill in the art would have known or not known, is unsupported and unreliable, and does not consider secondary considerations. PO Mot. to Exc. Occhiogrosso 8; PO Resp. 4–5; PO Reply to Opp. to Mots. to Exc. 3. Petitioner counters that Mr. Occhiogrosso "consistently applied his definition of a [person of ordinary skill in the art] throughout his testimony" and, in a supplemental declaration, "made explicit the level of ordinary skill he applied" in his first declaration. Pet. Opp. to Mots. to Exc. 11–12.

Patent Owner's argument goes more to the weight we should accord Mr. Occhiogrosso's testimony, rather than its admissibility. It is within our discretion to assign the appropriate weight to the testimony offered by Mr. Occhiogrosso. *See, e.g., Yorkey*, 601 F.3d at 1284. Moreover,

Mr. Occhiogrosso provided a supplemental declaration identifying the level of skill in the art and confirming his opinion presented in the earlier declaration in view of the level of skill in the art. *See* Ex. 1057 ¶¶ 12–17, 19. Mr. Occhiogrosso’s testimony also confirmed his legal understanding of anticipation and obviousness, including secondary considerations. *See id.* ¶¶ 20–26.

Under the totality of these circumstances, we decline to exclude the testimony of Mr. Occhiogrosso. Accordingly, Patent Owner’s Motion to Exclude Mr. Occhiogrosso’s testimony (Paper 41) is *denied*.

D. Asserted Ground of Anticipation by Ryan

Petitioner asserts that claim 7 of the ’578 patent is anticipated by Ryan. Pet. 31–32. Patent Owner challenges Petitioner’s assertion. PO Resp. 15–35.

1. Summary of Ryan

Ryan describes a relay interface system for communication between a standard telephone set used by a hearing user and a TDD used by a hearing-impaired person. Ex. 1004, Abstract, 1:6–10. Figure 1 of Ryan is set forth below:

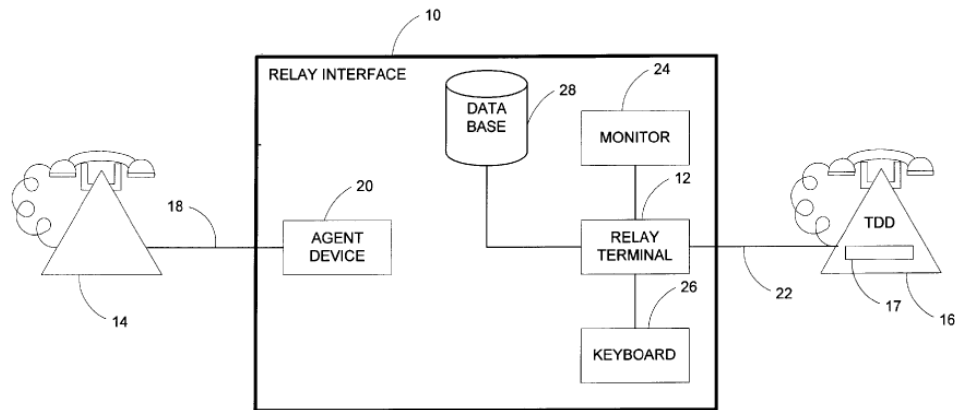


FIG. 1

As shown in Figure 1, Ryan's relay interface 10 includes operator/relay terminal 12 and connects standard telephone set 14 with TDD 16 having associated display 17. *Id.* at 3:43–48. Telecommunications link 18 connects telephone 14 with relay interface 10 through agent device 20, and telecommunications link 22 connects TDD 16 with relay interface 10 through relay terminal 12. *Id.* at 3:48–52. An operator or relay agent typically is responsible for manipulating relay terminal 12 using keyboard 26 to relay messages between telephone 14 and TDD 16. *Id.* at 4:19–21. Ryan indicates, however, that speech recognition software could be used to automate the relay function so that an operator or relay agent would not be required. *Id.* at 4:21–24. Ryan specifically describes using speech recognition software at agent device 20 to interpret a voice message from a caller at telephone 14 and convert the message from a voice format to a data format. *Id.* at 4:24–27. Ryan further indicates:

If the software is specifically designed to recognize the voice of particular relay agents, the accuracy of the relay service may be improved by having one of these agents listen to the caller and

repeat the voice message into a terminal adapted to convert the agent's voice message into a data message.

Id. at 4:33–38.

2. *Ryan is Prior Art*

Ryan issued on September 15, 1998, with a filing date of July 3, 1996, and is entitled to the benefit of the filing date of its parent application, October 18, 1994. Ex. 1004. As explained above, under our claim construction, the effective filing date of claim 7 is September 8, 1997, the filing date of the related '482 patent. *See supra* II.A.2. Thus, Petitioner asserts Ryan is prior art to claim 7 under 35 U.S.C. § 102(e). *See* Reply 2. Patent Owner contends that Ryan is not prior art under § 102(e) because it is not enabled. PO Resp. 15–23.

Under § 102(e), Ryan must be enabled prior to the date of invention of claim 7 of the '578 patent. *See* 35 U.S.C. § 102 (“A person shall be entitled to a patent unless— . . . (e) the invention was described in . . . (2) a patent granted on an application for patent . . . filed in the United States before the invention by the applicant for patent.”). The earliest possible date of invention of claim 7 is presumed to be September 8, 1997.

As an initial matter, we address Patent Owner's assertion of an earlier date of invention for claim 7—June 23, 1997. *See* PO Resp. 22–23. Patent Owner relies on a journal entry from August 5, 1997 indicating “the [call assistant] repeats what voice person says” and two declarations regarding the purchase of commercial software (i.e., IBM ViaVoice). Ex. 2011 ¶¶ 3–4; Ex. 2012 ¶¶ 7–10; Ex. 2013 ¶¶ 7–10. The declarations indicate that IBM ViaVoice was released in August 1997, and the application for the '482 patent was filed shortly thereafter on September 8, 1997. Ex. 2012 ¶¶ 7–10;

Ex. 2013 ¶¶ 7–10. Patent Owner’s earliest proffered evidence dates back only to August 5, 1997, not to June 23, 1997. Moreover, Patent Owner has not attempted to show diligence in reduction to practice.¹¹ Thus, we do not find that Patent Owner has established a date of invention for claim 7 prior to September 8, 1997.

We now turn to whether the portion of Ryan relied on by Petitioner as disclosing “a computer with voice recognition software trained to the voice of the call assistant to create a text stream of the words spoken by the remote user” was enabled at the relevant time. Initially, there is a presumption that a prior art reference is enabled. *See In re Antor Media*, 689 F.3d 1282, 1287–1288 (Fed. Cir. 2012); *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1355 (Fed. Cir. 2003). The parties agree that commercial voice recognition software available from Dragon Systems, called “Naturally Speaking” (and sometimes referred to as “Dragon Naturally Speaking”), enabled the use of voice recognition software by a call assistant to re-voice a remote user’s words to create a text stream. PO Resp. 22 (citing Exs. 2011, 2012, 2013); Reply 4. There is no dispute that Dragon Naturally Speaking was available to the public on June 23, 1997. PO Resp. 22 (citing Exs. 2011, 2012, 2013); Reply 3. Moreover, the ’482 patent, filed on September 8, 1997, and incorporated by reference into the ’578 patent, *see* Ex. 1001, 3:51–53, acknowledged Dragon Naturally Speaking was available commercially. Ex. 1002, 5:51–57 (stating that “a

¹¹ *See Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1577 (Fed. Cir. 1996) (holding that the first to conceive “may date his patentable invention back to the time of its conception, if he connects the conception with its reduction to practice by reasonable diligence on his part, so that they are substantially one continuous act” (internal citation and quotations omitted)).

recently available commercial voice recognition package from Dragon Systems, known as ‘Naturally Speaking,’ is a voice recognition software that will . . . translate to digital text spoken words of a user at the normal speeds of human communication in conversation when operating on conventional modern personal computers”). Weighing the *Wands* factors, we determine that at least the state of the prior art (including commercial availability of Dragon Naturally Speaking), the breadth of the claim language (“a computer with voice recognition computer software trained to the voice of the call assistant to create a text stream of the words spoken by the remote user”), and the predictability of the telecommunications art support a conclusion that Ryan is enabled as of June 23, 1997. *See Wands*, 858 F.2d at 737.

Patent Owner argues that Ryan does not anticipate claim 7 under § 102(e) because Ryan’s disclosure of speech recognition software (Ex. 1004, 4:19–38) was not enabled in 1994, the earliest effective filing date claimed by Ryan. PO Resp. 15–21. We do not agree with Patent Owner that to anticipate under § 102(e), a reference must be enabled as of its earliest claimed priority date. First, “[e]nablement of an anticipatory reference may be demonstrated by a later reference.” *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1379 (Fed. Cir. 2001). An anticipatory reference under § 102(b) is enabled if it can be shown that the claimed subject matter was in possession of the public before the critical date of the challenged patent. *Id.* Based on well-established law that to anticipate under § 102(b) a reference must be enabled by the critical date, rather than the publication date of the reference asserted as prior art, we conclude that to anticipate under § 102(e), a reference must be enabled by the date of invention of the challenged claim. As determined previously,

Ryan is enabled by commercial voice recognition software available to the public on June 23, 1997, which precedes the earliest possible date of invention for claim 7 of the '578 patent. Thus, Ryan is prior art to claim 7. *See* 35 U.S.C. 102(e) (precluding patentability if the invention of the patent was described in “a patent granted on an application for patent . . . filed in the United States before the invention”).

Second, we are not persuaded by Patent Owner’s arguments citing cases concerning (i) the written description requirement of 35 U.S.C. § 112, *In re Wertheim*, 646 F.2d 527 (CCPA 1981), and (ii) the problem of “secret prior art,” *Alexander Milburn Co. v. Davis-Bournonville Co.*, 270 U.S. 390 (1926). Patent law now recognizes “secret prior art” in section 102(e), and the Federal Circuit has observed that “[e]ven the ‘secret prior art’ of § 102(e) is ultimately public in the form of an issued patent before it attains prior art status.” *OddzOn Products, Inc. v. Just Toys, Inc.*, 122 F.3d 1396, 1402 (Fed. Cir. 1997). Further, it is well-settled that the enablement requirement is a separate requirement from the written description requirement. *See, e.g., Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). Moreover, “[t]he enablement requirement is often more indulgent than the written description requirement. The specification need not explicitly teach those in the art to make and use the invention; the requirement is satisfied if, given what they already know, the specification teaches those in the art enough that they can make and use the invention without ‘undue experimentation.’” *Amgen*, 314 F.3d at 1334.

Finally, we are not persuaded by Mr. Ludwick’s testimony addressing the inability of technology in 1994 to implement continuous speech recognition technology. PO Resp. 18 (citing Ex. 2010 ¶¶ 23–30). For the

reasons discussed, Ryan need not be enabled as of 1994 to qualify as prior art to claim 7 of the '578 patent. We have determined that Ryan was enabled as of June 1997 and, therefore, qualifies as prior art to claim 7.

3. *Claim 7*

To support its contention that Ryan anticipates claim 7, Petitioner provides analysis as to how Ryan discloses each claim limitation and relies on declaration testimony of Mr. Occhiogrosso. Pet. 31–32; Reply 4–6 (citing Ex. 1057). Patent Owner responds, relying on declaration testimony by Mr. Ludwick. PO Resp. 23–35 (citing Ex. 2010). Having considered the parties' contentions and supporting evidence, we find that Petitioner has demonstrated by a preponderance of the evidence that Ryan anticipates claim 7.

Ryan discloses the first and last steps of claim 7, “providing words spoken by a remote user to a relay,” and “presenting the text stream to an assisted user via a display.” Ex. 1004, 1:53–59, 2:52–54. Ryan also discloses a call assistant at the relay listening to the words spoken by the remote user. *Id.* at 4:34–36. The dispute between the parties is whether Ryan discloses the remaining limitation—“at the relay, a call assistant . . . re-voicing the words into a computer with voice recognition software trained to the voice of the call assistant to create a text stream of the words spoken by the remote user.”

Petitioner contends this limitation is disclosed by Ryan's relay interface system in which a relay agent is responsible for relaying messages between phone 14 and TDD 16. Pet. 32 (citing Ex. 1004, 4:19–38). Specifically, Petitioner relies on Ryan's description of “speech recognition software . . . employed at [relay agent] device 20 [and] specifically designed

to recognize the voice of particular relay agents” and Ryan’s indication that “the accuracy of the relay service may be improved by having one of these agents listen to the caller and repeat the voice message into a terminal adapted to convert the agent's voice message into a data message.” Pet. 32 (citing Ex. 1004, 4:24–38).

Patent Owner responds with several arguments, none of which we find persuasive. See PO Resp. 23–35. Undergirding some of these arguments is Patent Owner’s focus on the state of the art of voice recognition technology in 1994. See *id.* at 24 (“[S]peech recognition was not actually used at all in the [telecommunications relay service] field in 1994.”); *id.* at 34–35 (asserting that Ryan must be read narrowly in view of the state of the telecommunications relay art in 1994); Ex. 1020 ¶¶ 24–30 (Mr. Ludwick submitting that Ryan does not contain an enabling disclosure based on technology available in 1994). The state of the art of the relevant technology in 1994, however, has limited probative value. Of greater significance is the state of the art of the relevant technology in September 1997, the date of invention of the subject matter of claim 7. See 35 U.S.C. § 102(e). As noted previously, there is no dispute about the state of voice recognition technology as of June 23, 1997, when Dragon Naturally Speaking was released.

Patent Owner contends that Ryan does not disclose the recited “voice recognition software *trained* to the voice of the call assistant” because Ryan’s software is “designed” to recognize the voice of particular relay agents. PO Resp. 23–24. According to Patent Owner, software *designed* in advance of implementation at the source code level is not the same as *trained* software. *Id.* at 24. As discussed previously, see *supra* II.A.3, we

do not agree with Patent Owner that trained voice recognition software, as recited in claim 7, precludes software that is trained during the design phase, which Patent Owner contends is disclosed by Ryan. *See* PO Resp. 25.

Thus, we are not persuaded by Patent Owner's argument, which is premised on an incorrect claim construction. Moreover, Patent Owner relies on Mr. Ludwick's testimony, which we do not find persuasive because it is grounded in the state of the art in 1994, rather than at the time of invention in 1997. *See id.*

Next, relying on Mr. Ludwick's testimony, Patent Owner contends that Ryan does not disclose the recited "voice recognition software trained to the voice of the call assistant," because Ryan's "voice recognition software is written specifically to recognize the voices of a collection or group of people, rather than a particular, individual call assistant." PO Resp. 26 (citing Ex. 2010 ¶ 22). For the reasons discussed previously, we do not agree that the claim language is limited to voice recognition software trained to one, and only one, call assistant. *See supra* II.A.3. Thus, even if Ryan's software is trained to recognize the voices of a group of people rather than an individual call assistant, we are not persuaded by Patent Owner's argument, which is premised on an incorrect claim construction.

Patent Owner also contends that, at most, Ryan is ambiguous as to the disclosure of a call assistant re-voicing the words spoken by the remote user into a computer to create a text stream of those words, and so does not anticipate claim 7. PO Resp. 26–34. In particular, Patent Owner contends that Ryan discloses a relay agent using re-voicing as an error correction mechanism for individual, unrecognized letters of a word. *Id.* at 29–33; *see*

Ex. 1004, Abstract. We do not read Ryan's disclosure so narrowly. *See* Ex. 1004, 4:19–38.

Ryan's technology is intended to “overcome[] the problem associated with existing telecommunications relay services by providing a system and method for correcting mistakes before the message is displayed at the end user's TDD.” *Id.* at 2:35–38 (Summary of the Invention). Ryan describes ways to do so using speech recognition software. *Id.* at 4:19–38. One way is automating the relay function so as to eliminate the need for a human operator. *Id.* at 4:19–24. Ryan describes using speech recognition software to convert the voice message from a caller to text “while providing an error correction feature for words not recognized by the software.” *Id.* at 4:24–28. Ryan further describes the error correction feature as having two forms—phonetic spelling of the unrecognized word by the speech recognition software or prompting the caller to spell the unrecognized word. *Id.* at 4:29–33.

Ryan describes another way to improve the accuracy of a relay system before the text is displayed at the TDD—if the speech recognition software is designed specifically to recognize the voice of particular relay agents, a relay agent “listen[s] to the caller and repeat[s] the voice message into a terminal adapted to convert the agent's voice message into a data message.” *Id.* at 4:33–38. In contrast to Ryan's description of the error correction by the *caller* spelling letters of an unrecognized word, here Ryan unambiguously describes a call agent repeating the voice message of the caller and using speech recognition software designed specifically to recognize the voice of the relay agent to convert the agent's voice message into a data message.

Finally, Patent Owner contends that Ryan does not disclose “voice recognition software trained to the voice of the call assistant” running on the call assistant’s workstation, rather than running remotely or virtually from a server or other computer. PO Resp. 34. Ryan indicates “speech recognition software could be employed at device 20,” which is included in Ryan’s telecommunications relay interface system 10 used by the relay agent. Ex. 1004, 3:43–45; *see also id.* at Fig. 1 (showing agent device 20 within telecommunications relay interface system 10). Ryan goes on to state “[i]f the software is specifically designed to recognize the voice of particular relay agents, the accuracy of the relay service may be improved by having one of these agents listen to the caller and repeat the voice message into a terminal adapted to convert the agent’s voice message into a data message.” *Id.* at 4:33–38. We do not agree with Patent Owner’s assertion that, because that sentence in Ryan refers to “a terminal” (rather than identifying a component shown in Figure 1), Ryan’s voice recognition software could be located somewhere other than on the agent’s workstation.

For these reasons, we find Ryan discloses “at the relay, a call assistant . . . re-voicing the words into a computer with voice recognition software trained to the voice of the call assistant to create a text stream of the words spoken by the remote user,” as recited in claim 7. Accordingly, we find that Petitioner has demonstrated by a preponderance of the evidence that Ryan anticipates claim 7.

E. Asserted Ground of Obviousness over Wycherley and Yamamoto

Petitioner asserts that claim 7 of the ’578 patent is unpatentable under 35 U.S.C. § 103 as obvious over Wycherley and Yamamoto. Pet. 33–37.

Petitioner asserts that both Wycherley and Yamamoto qualify as prior art to claim 7 under 35 U.S.C. § 102(b). Pet. 18, 21. Patent Owner challenges Petitioner's contentions regarding obviousness based on Wycherley and Yamamoto, including whether Yamamoto is prior art. PO Resp. 48–59.

1. Yamamoto is a Printed Publication under 35 U.S.C. § 102(b)

Petitioner asserts that Yamamoto was published in March 1996 and, therefore, qualifies under 35 U.S.C. § 102(b) as prior art to claim 7 of the '578 patent. Pet. 21. Patent Owner contends that Yamamoto is not prior art because Petitioner has not provided sufficient evidence to show that Yamamoto was a publicly accessible printed publication more than one year prior to September 8, 1997, the effective filing date of claim 7.¹² Paper 42 (PO Mot. to Exc. Yamamoto); Paper 63.

a. Evidence of Public Accessibility

We begin with some procedural background to provide context for the evidence relied on by Petitioner. In April 2014, approximately one month after our institution decision, Petitioner served on Patent Owner supplemental evidence in response to Patent Owner's objections regarding the publication date of Yamamoto and, hence, its prior art status. See Paper 18, 4; *see also* Paper 59, 3–4 (detailing procedural history). On May 30, 2014, Patent Owner filed its Patent Owner Response, which did not challenge the sufficiency of Petitioner's evidence demonstrating the public accessibility of Yamamoto, or otherwise contend that Yamamoto is not prior art to the '578 patent under 35 U.S.C. § 102(b). Paper 27; *see* Paper 59, 4. Rather, Patent Owner waited an additional three months, until August 26,

¹² *See supra* II.A.2.

2014, in its Motion to Exclude Evidence, to challenge the sufficiency of Petitioner's evidence regarding the public accessibility of Yamamoto. Paper 42; *see* Paper 59, 4.

Petitioner then moved to submit supplemental information under 37 C.F.R. § 123(b), including a transcript of a videotaped interview with Mr. Seiichi Yamamoto, the first named author of the Yamamoto reference. Paper 48; Ex. 2017 (Videoconference Deposition of Seiichi Yamamoto, Aug. 20, 2014) ("Yamamoto transcript"). We granted the motion, and permitted the parties to file supplemental briefing regarding the public accessibility of Yamamoto, including the admissibility of the Yamamoto transcript. *See* Paper 59, 10–11; Paper 61 (Petitioner's Additional Briefing); Paper 63 (Patent Owner's Response to Additional Briefing); Paper 64 (Petitioner's Reply to Patent Owner's Response to Additional Briefing).

We now consider the evidence regarding the public accessibility of Yamamoto. The first page of Yamamoto indicates it was a paper presented at the Proceedings of the Acoustical Society of Japan Spring 1996 Research Presentation Conference in March 1996. Ex. 1007. In support of its contention that Yamamoto was publicly accessible in March 1996, Petitioner relies primarily on the transcript of the interview with Mr. Yamamoto, in which the parties questioned Mr. Yamamoto regarding the presentation and distribution of the paper at the conference. *See* Ex. 2017. This interview was conducted in connection with the related district court proceeding, *Ultratec, Inc. v. Sorenson Communications, Inc.*, No. 13-CV-00346 (W.D. Wis.). *See* Ex. 2017, 1.

Pursuant to stipulation of the parties, both parties had the opportunity to ask Mr. Yamamoto questions at the interview, an interpreter was present

to translate Mr. Yamamoto's testimony, and a court reporter made a stenographic record of the English portion of the interview. See Ex. 1067 (Stipulation Regarding Seiichi Yamamoto) ¶¶ 1, 3. The parties also stipulated that the stenographic record of the interview would be treated as sworn deposition testimony in the district court proceeding and, "[w]ith respect to other proceedings, the stenographic record will be treated as a sworn deposition taken in Western District of Wisconsin Case Nos. 13-cv-346 and 14-cv-66 at which both parties appeared and had the opportunity to question the witness." *Id.* ¶ 5.

Patent Owner contends the Yamamoto transcript should be excluded as evidence because the parties did not agree it could be used in this proceeding. Paper 63, 5–6. To the contrary, the parties' stipulation provides that "[t]he use and admissibility of the stenographic record in any other proceedings will be governed by the rules in effect with respect to such other proceeding." Ex. 1067 ¶ 5. Thus, the parties agreed that the Yamamoto transcript may be used in this *inter partes* review to the extent permitted by our rules.

Patent Owner argues that Board rules require exclusion of the Yamamoto transcript because Mr. Yamamoto was not sworn and did not sign the transcript, and because Petitioner failed to provide advance notice to the Board of its intent to take a foreign language deposition. Paper 63, 6 (citing 37 C.F.R. § 42.53(a), (e), (f)). The Yamamoto transcript, however, does not run afoul of the rules cited by Patent Owner because Petitioner seeks to admit the transcript as a deposition taken in the district court proceeding, not as deposition testimony taken in this *inter partes* review proceeding. See Paper 64, 1. Moreover, the parties stipulated that the

Yamamoto transcript would be treated as sworn deposition testimony taken in the district court. Ex. 1067 ¶ 5.

Patent Owner further contends that the Yamamoto transcript constitutes inadmissible hearsay under the Federal Rules of Evidence, which apply to this proceeding. Paper 63, 7 (citing 37 C.F.R. § 42.62(a); Fed. R. Evid. 801, 802). Petitioner responds that the Yamamoto transcript is admissible as an exception to the rule against hearsay. Paper 64, 1–3. We agree with Petitioner.

First, Rule 804(b)(1) allows the use of former testimony of an unavailable witness if the testimony “(A) was given as a witness at a trial, hearing, or lawful deposition, whether given during the current proceeding or a different one; and (B) is now offered against a party who had . . . an opportunity and similar motive to develop it by direct, cross-, or redirect examination.” Fed. R. Evid. 804(b)(1). By stipulation of the parties, the interview of Mr. Yamamoto was treated as a lawful deposition in the district court proceeding. Ex. 1067 ¶ 5. Also, both parties had the opportunity to develop Mr. Yamamoto’s testimony and had the same motive as in this proceeding—to determine whether Yamamoto was publicly accessible. See Ex. 1067 ¶ 1; Ex. 2017. As we previously determined, Petitioner reasonably concluded, based on Patent Owner’s Response (Paper 27) filed on May 30, 2014, that Patent Owner no longer was challenging the prior art status of the Yamamoto reference. Paper 59, 7. Petitioner only became aware of Patent Owner’s continued challenge when Patent Owner improperly challenged the sufficiency of the Yamamoto reference in its Motion to Exclude filed on August 26, 2014, well after the time for taking testimony in this proceeding. *Id.* At that point, Petitioner had no reasonable means for obtaining

Mr. Yamamoto's testimony for this proceeding. *See* Paper 48, 3 (Petitioner's Motion for Leave to File Supplemental Evidence Regarding Yamamoto). We determine, therefore, that Mr. Yamamoto was unavailable as a witness, *see* Fed. R. Evid. 804(a), and the Yamamoto transcript is admissible under Rule 804(b)(1).¹³

In addition, the Yamamoto transcript is admissible under Rule 807. First, Mr. Yamamoto's videotaped interview, which was stipulated to be sworn deposition testimony in the district court proceeding, and in which Mr. Yamamoto was subject to cross-examination, "has equivalent circumstantial guarantees of trustworthiness." Fed. R. Evid. 807(a)(1). Also, Petitioner offers the Yamamoto transcript as evidence of a material fact—the public availability of a prior art reference—and it is more probative on that point than any other evidence Petitioner can obtain through reasonable efforts because Mr. Yamamoto co-authored the Yamamoto reference and presented it at a conference of the Acoustical Society of Japan. *See* Fed. R. Evid. 807(a)(2), (3). Finally, admitting the Yamamoto transcript is in the interests of justice, as it provides as complete a record as possible regarding the public accessibility of the Yamamoto reference. *See* Fed. R. Evid. 807(a)(4); *see also* Paper 59, 8 (determining that submission of the Yamamoto transcript is in the interests of justice).

Finally, we are not persuaded by Patent Owner's argument that the Yamamoto transcript should be excluded under Federal Rules of Evidence 602, 603, and 604. Mr. Yamamoto's testimony indicates he was present at

¹³ We note that the parties stipulated, for purposes of the district court proceeding, that Mr. Yamamoto's testimony would be deemed former testimony under Rule 804(b), and Mr. Yamamoto was deemed unavailable under Rule 804(a). Ex. 1067 ¶ 6.

the conference at which his paper was presented and had personal knowledge of the distribution of the paper, as required by Rule 602. *See* Ex. 2017. As for Rules 603 and 604, requiring an oath or affirmation by a witness and interpreter, respectively, they do not require exclusion of the Yamamoto transcript because the parties stipulated that it would be treated as sworn deposition testimony. *See* Ex. 1067 ¶ 5.

b. Yamamoto Was Publicly Accessible in March 1996

Under 35 U.S.C. § 102(b), a person is not entitled to a patent if “the invention was . . . described in a printed publication . . . more than one year prior to the date of the application for patent.” “The statutory phrase ‘printed publication’ has been interpreted to mean that before the critical date the reference must have been sufficiently accessible to the public interested in the art; dissemination and public accessibility are the keys to the legal determination whether a prior art reference was ‘published.’” *In re Cronyn*, 890 F.2d 1158, 1160 (Fed. Cir. 1989) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1568 (Fed. Cir. 1988)). The determination of whether a reference qualifies as a printed publication “involves a case-by-case inquiry into the facts and circumstances surrounding the reference’s disclosure to members of the public.” *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004).

In the present case, based on the circumstances surrounding the presentation and dissemination of the Yamamoto reference, we conclude that Yamamoto was publicly accessible in March 1996, more than one year before September 8, 1997, the effective filing date of claim 7 of the ’578 patent. As indicated on the first page of the reference, the Yamamoto reference was presented at the March 1996 Research Presentation

Conference of the Acoustical Society of Japan. Ex. 1007, 1.

Mr. Yamamoto's testimony, which we find credible, confirms that he gave an oral presentation of the paper at Special Session A of the conference on March 26, 1996. Ex. 2017, 6:8–23, 13:23–14:3. According to Mr. Yamamoto's estimate, 100 to 150 people attended his presentation of the paper. *Id.* at 13:23–14:3.

The Acoustical Society created a book containing all the papers presented at the conference, including the Yamamoto paper. *Id.* at 8:12–23, 12:24–13:10, 15:18–19. Conference attendees were able to purchase a copy of the book at the time of registration. *Id.* at 13:8–10, 14:17–21. Beginning on the first day of the conference, copies of the book were “piled up on the registration desk for purchase, for anyone who wished to purchase.” *Id.* at 15:11–17. According to Mr. Yamamoto, many of his friends who attended the conference purchased a copy of the book. *Id.* at 9:18–10:2, 15:11–17. He also made the paper available to anyone who asked for a copy, and he recalls providing copies to subordinates of Mr. Fujioka, his co-author, though he does not recall the precise timing. *Id.* at 14:8–13, 16:6–14.

The facts of this case are similar to those in *MIT v. AB Fortia*, 774 F.2d 1104 (Fed. Cir. 1985). In that case, our reviewing court concluded that a paper that had been presented orally at a conference attended by 50 to 500 interested persons of ordinary skill in the art, and had been disseminated to at least six persons, was a printed publication for prior art purposes. *Id.* at 1109. Similarly, Mr. Yamamoto orally presented his paper to 100 to 150 persons of ordinary skill in the art, and many conference attendees received a copy of the book containing the paper. Ex. 2017, 9:18–10:2, 13:23–14:3, 15:11–17.

Patent Owner argues that without a detailed analysis of factors such as the length of time the paper was displayed at a conference, the expertise of its target audience, the expectations regarding whether the material would be copied, and the ease with which it could be copied, Yamamoto cannot be considered prior art. Paper 63, 7–8 (citing *Klopfenstein*, 380 F.3d at 1350). Those factors, however, are relevant when determining the public accessibility of a reference that was displayed at a conference without distribution to the public. *Klopfenstein*, 380 F.3d at 1350. In contrast, the Yamamoto reference was included in a book of papers presented at the Acoustical Society conference that was available for purchase by all conference attendees, and actually was purchased by many attendees. Ex. 2017, 9:18–10:2, 12:24–13:10, 15:11–19.

Patent Owner also contends that the distribution of the Yamamoto reference does not show it was publicly accessible because there is no evidence that it occurred among people in the interested public. Paper 63, 8–9. Although Mr. Yamamoto could not recall if the Acoustical Society of Japan’s March 1996 conference was open to non-Society members, Ex. 2017, 7:23–8:11, attendance by at least 100 to 150 Society members is sufficient to show the Yamamoto reference was available to persons interested in the subject matter of the paper, voice recognition applications in communication systems. This case is distinguishable from those cited by Patent Owner, which involve papers posted online for a small, closed group of specialists. See Paper 63, 8–9 (citing *SRI Int’l Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1197 (Fed. Cir. 2008); *Samsung Elecs. Co. v. Rembrandt Wireless Techs., LP*, 2014 WL 4537478, at *5, IPR2014-00515 (PTAB Sept. 9, 2014)).

For these reasons, based on the facts and circumstances regarding the presentation and dissemination of the Yamamoto reference, we determine that Yamamoto was publicly accessible in March 1996. Yamamoto, therefore, qualifies as a printed publication that is available as prior art to claim 7 of the '578 patent.¹⁴

2. *Summary of Wycherley*

Wycherley describes a system for a relay service for establishing a telephone call between a hearing person and a hearing-impaired person. Ex. 1005, 1:6–10. To reduce the amount of time a service attendant is involved in such a telephone call, Wycherley's relay system automates some features by using text-to-speech processing and, on a limited basis, automatic speech recognition. *Id.* at Abstract. Wycherley's relay system includes Automatic Speech Recognition (ASR) units, which may be commercially available software and may be trained using a voice template, enabling the voice processor to recognize words uttered by the speaker in a call. *Id.* at 3:59–60, 4:26–28, 4:35–56. In the event of excessive translation errors by the automated translation of the hearing person's words, Wycherley's relay system transfers the telephone call to a call attendant, who “may request that the speaker repeat the substance of his or her response” and type the words spoken by the hearing person for transmission to the hearing impaired person's TDD terminal. *Id.* at 5:42–47; *see also id.* at 5:1–53.

¹⁴ Because we conclude that Yamamoto was publicly accessible in March 1996, we need not address Petitioner's argument and evidence regarding public accessibility in May 1996, when Petitioner asserts that the book containing Mr. Yamamoto's paper was received by the Japan Science and Technology Agency. *See* Paper 61, 6.

3. *Summary of Yamamoto*

Yamamoto describes tests of voice recognition systems. Ex. 1007, 34–36. Along with other examples, Yamamoto describes a test with an operator assistance system for international calling, noting a preliminary step in an operator assistance system for international calling is “voice recognition of an operator repeating the question from the [international calling] user” to increase efficiency. *Id.* at 35. Yamamoto also describes testing of “a continuous speech recognition system driven by a context-free grammar.” *Id.* at 34.

4. *Claim 7*

To support its contention that claim 7 would have been obvious over Wycherley and Yamamoto, Petitioner provides analysis regarding the teachings of the references and relies on declaration testimony of Mr. Occhiogrosso. Pet. 33–37 (citing Ex. 1030¹⁵). Patent Owner responds, relying on declaration testimony of Mr. Ludwick. PO Resp. 48–59 (citing Ex. 2010). Having considered the parties’ contentions and supporting evidence, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 7 is unpatentable for obviousness over Wycherley and Yamamoto.

Wycherley teaches the first and last steps of claim 7, “providing words spoken by a remote user to a relay,” and “presenting the text stream to

¹⁵ As authorized in our order dated April 9, 2014 (Paper 18), Petitioner filed Exhibit 1030, the correct version of Mr. Occhiogrosso’s Declaration for this proceeding, as a replacement for Exhibit 1018, an incorrect version of Mr. Occhiogrosso’s Declaration originally filed with, and cited in, the Petition. See Ex. 1030, 1. We construe all citations to Exhibit 1018 in the Petition as citations to Exhibit 1030.

an assisted user via a display.” Ex. 1005, 1:13–20, 1:27–37. Wycherley also teaches a call assistant at the relay listening to the words spoken by the remote user. *Id.* at 1:34–37. The dispute between the parties is whether the combination of Wycherley and Yamamoto teaches or suggests the remaining limitation—“at the relay, a call assistant . . . re-voicing the words into a computer with voice recognition software trained to the voice of the call assistant to create a text stream of the words spoken by the remote user.”

As Petitioner states, Wycherley’s relay service uses “caller-specific templates to implement speaker-dependent voice recognition directly on the voice of the unimpaired caller.” Pet. 33 (citing Ex. 1005, 3:43–4:56). Thus, Wycherley teaches using voice recognition software trained to the voice of *the remote user* (rather than the voice of the call assistant, as recited in claim 7) to create a text stream of the words spoken by the remote user, as recited in claim 7. Petitioner also relies on Yamamoto’s description of a call assistance system that uses voice recognition of an operator repeating a question from a caller as teaching or suggesting a computer with voice recognition software trained to the voice of the call assistant. *Id.* (citing Ex. 1007, 35). Petitioner further notes that both Wycherley and Yamamoto “involve the use of voice recognition to increase the efficiency of operator assisted telephone services.” Pet. 34. Accordingly, relying on Mr. Occhiogrosso’s testimony for support, Petitioner concludes “it would have been obvious to incorporate *Yamamoto*’s intermediate re-voicing solution into *Wycherley* during situations where . . . full automation was not practical.” *Id.* (citing Ex. 1030 ¶ 52). For example, Petitioner explains, if a remote user in Wycherley’s system had not created a voice template and a call was transferred to a call attendant, incorporating re-voicing using voice

recognition trained to the call attendant's voice would have allowed the attendant to increase efficiency and make faster speech-to-text translations. *Id.* (citing Ex. 1030 ¶ 52). We credit Mr. Occhiogrosso's testimony and, thus, are persuaded that the combination of Wycherley's relay service, which uses automatic speech recognition on a remote user's voice, with Yamamoto's call assistance system, in which an operator repeats a caller's question into a voice recognition unit, would have taught or suggested to a person of ordinary skill in the art the re-voicing limitation of claim 7.

In addition, Petitioner has articulated sufficient reasoning with some rational underpinning to support the legal conclusion that the subject matter of claim 7 would have been obvious to one of ordinary skill in the art in view of the teachings of Wycherley and Yamamoto as combined in the manner proposed by Petitioner. *See KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). As noted by Petitioner, both references disclose using voice recognition systems to increase the efficiency of operator-assisted telephone services. Pet. 34; *see* Ex. 1005, 3:43–57; Ex. 1007, 35; Ex. 1030 ¶ 52. We agree that, at the time of the invention in 1997, particularly in view of the commercial availability of Dragon Naturally Speaking, it would have been obvious to one skilled in the art to mix and match the teachings of voice recognition systems used in operator-assisted telephone services as a whole to arrive at the claimed invention, because the method of claim 7 predictably uses known elements according to their established functions. *See KSR*, 550 U.S. at 417.

Patent Owner presents several arguments, none of which we find persuasive. *See* PO Resp. 48–57. First, Patent Owner contends that neither Wycherley nor Yamamoto teaches re-voicing using trained voice

recognition software. *Id.* at 48–51. Specifically, Patent Owner contends that Wycherley’s system uses voice recognition software trained to the voice of the remote caller rather than trained to the call assistant’s voice, and Yamamoto does not describe using voice recognition trained to the voice of the operator. *Id.* at 49. Further, Patent Owner contends that Yamamoto does not disclose the call assistant re-voicing the words spoken by the remote user because the operator in Yamamoto rephrases the words spoken by the caller or repeats only key words because the system has a limited vocabulary. *Id.* at 51–52.

Patent Owner’s arguments regarding the teachings of Wycherley and Yamamoto are directed to whether either reference individually teaches a call assistant re-voicing the words into a computer with voice recognition software trained to the voice of the call assistant, as recited in claim 7. The pertinent question, however, is whether the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art in view of the combined teachings of the references. 35 U.S.C. § 103(a); *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981). By unduly focusing on the teachings of the references in isolation, Patent Owner fails to address what the combination of those teachings would have suggested to a person of ordinary skill in the art at the time of invention of claim 7 of the ’578 patent.

We also are unpersuaded by Patent Owner’s arguments that a person of ordinary skill in the art would not have considered Wycherley. *See* PO Resp. 53–55. First, Patent Owner relies on Mr. Ludwick’s testimony regarding the state of the art in 1990, which has little probative value because obviousness is determined as of the time of invention, i.e., 1997. *See id.* at 53 (citing Ex. 2010 ¶¶ 56–57). Second, Patent Owner contends

that a person of ordinary skill in the art would have known that some features of a commercial implementation of Wycherley's relay were "disliked by customers," but does not identify particular aspects that are less desirable. *Id.* at 54. Third, Patent Owner argues that Wycherley's focus on creating a more cost-effective relay by reducing the call assistant's involvement teaches away from a re-voicing relay design. *Id.* This argument is unpersuasive because Patent Owner does not identify where Wycherley criticizes, discredits, or otherwise discourages re-voicing using voice recognition software trained to the voice of a call assistant. *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

Patent Owner further submits that modifying Wycherley so that the relay agent repeats the remote user's words would render Wycherley unsatisfactory for its intended purpose of providing "a more cost effective relay service by reducing or eliminating the need for the relay agent." PO Resp. 55–56. We disagree, because we credit Mr. Occhiogrosso's testimony that providing Wycherley's call assistants with trained voice recognition software would increase their efficiency, and thus help achieve Wycherley's goal of providing a more cost-effective relay service. *See* Ex. 1030 ¶ 52.

Finally, Patent Owner contends that Yamamoto teaches away from the claimed invention because Yamamoto states that "continuous speech and spontaneous speech recognition [was still] not commercially viable." PO Resp. at 57 (citing Ex. 1007, 33; Ex. 2010 ¶ 60). We do not find Patent Owner's argument to be persuasive. First, we do not agree that Yamamoto provides that "recognition of continuous speech and spontaneous speech recognition is not yet commercially viable" in all contexts. Rather, Yamamoto teaches that particular techniques, such as word spotting, are

useful in contexts in which “recognition of continuous speech and spontaneous speech recognition is not yet commercially viable.” Ex. 1007, 33. Yamamoto, however, also indicates that “[v]oice-recognition systems [and] voice recognition software . . . have arrived at a usable state,” and “a variety of voice recognition systems in communication networks are also becoming commercially available.” *Id.* Thus, Yamamoto does not criticize, discredit, or otherwise discourage using voice recognition trained to the voice of a call assistant at a relay.

5. *Secondary Considerations*

Factual inquiries for an obviousness determination include secondary considerations based on evaluation and crediting of objective evidence of nonobviousness. *Graham*, 383 U.S. at 17–18. Notwithstanding what the teachings of the prior art would have suggested to one with ordinary skill in the art at the time of the invention, the totality of the evidence submitted, including objective evidence of nonobviousness, may lead to a conclusion that the challenged claims would not have been obvious to one with ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). Secondary considerations may include any of the following: long-felt but unsolved need, failure of others, unexpected results, commercial success, copying, licensing, and praise. *See Graham*, 383 U.S. at 17; *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

To be relevant, evidence of nonobviousness must be commensurate in scope with the claimed invention. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011). Thus, to be accorded substantial weight, there must be a nexus between the merits of the claimed invention and the evidence of secondary considerations. *GPAC*, 57 F.3d at 1580. “Nexus” is a legally and factually

sufficient connection between the objective evidence and the claimed invention, such that the objective evidence should be considered in determining nonobviousness. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). The burden of showing that there is a nexus lies with the Patent Owner. *Id.*; *Paulsen*, 30 F.3d at 1482.

Patent Owner alleges “substantial praise for the inventions claimed in [Patent Owner’s] patents, including the ’578 Patent, the long-felt but unresolved need of the deaf and hard of hearing community, the commercial success of the products and services embodying the invention, and the failure of others to provide a relay service or other solution that provided the benefits of the claimed inventions.” PO Resp. 58–59. For support, Patent Owner proffers declarations by Ms. Brenda Battat (Ex. 2004) and Ms. Constance Phelps (Ex. 2005) describing general innovations of Patent Owner’s CapTel Service and its CapTel phone and their benefits to the deaf and hard of hearing community. PO Resp. 58–59. In an attempt to establish the requisite nexus, Patent Owner relies on a declaration of Mr. Ludwick (Ex. 2002) asserting that his expert declaration “explain[s], on a feature by feature basis, the nexus between those secondary considerations and the claimed design” and “illustrates, in chart form, that the CapTel system and various models of CapTel phones embody the claims of the present invention.” PO Resp. 59.

Patent Owner’s Response contains no substantive arguments. *Id.* at 58–59. Instead, Patent Owner merely lists various common forms of secondary considerations evidence, without exposition. This does not provide sufficient analysis for us to determine whether Patent Owner has provided adequate evidence of secondary considerations and a nexus

between any such evidence and the merits of the claimed invention. Thus, Patent Owner's broad contentions regarding secondary considerations in its Patent Owner Response do not demonstrate nonobviousness.

Moreover, Patent Owner's declarations fail to establish a nexus between the merits of the claimed invention and the evidence of secondary considerations. To show a nexus, Patent Owner relies on Mr. Ludwick's declaration, which describes his visit to CapTel, Inc.'s relay center in Madison, Wisconsin. Ex. 2002 ¶ 47. Mr. Ludwick's chart presents his conclusions based on personal observation that the CapTel Service meets each claim limitation of the '578 patent. Ex. 2002 ¶ 48 (pp. 31–32). For example, regarding “at the relay, a call assistant listening to the words spoken by the remote user and re-voicing the words into a computer with voice recognition software trained to the voice of the call assistant to create a text stream of the words spoken by the remote user,” recited in claim 7, Mr. Ludwick asserts:

I personally observed that the CapTel Service meets this claim element. I further confirmed this from my own knowledge of CapTel Service. This step of the CapTel Service relay is performed when the service is used with each of the CapTel Phones and has always been included as part of the CapTel Service.

Ex. 2002 ¶ 48 (p. 31).

Because Mr. Ludwick's conclusions are based on personal observations, without sufficient supporting facts or data, his testimony has little probative value. *See Am. Acad. of Sci.*, 367 F.3d at 1368 (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the

declarations.”); *see also* Fed. R. Evid. 702 (providing one may testify in the form of an opinion if the testimony is based on sufficient facts or data). As such, Mr. Ludwick’s conclusory assertions do not provide a sufficient connection between objective evidence and the claimed invention, and so do not establish the requisite nexus between the merits of the claimed invention and the evidence of secondary considerations.

Accordingly, Patent Owner fails to provide sufficient credible evidence to support its allegations of nonobviousness based on secondary considerations. When we balance Petitioner’s evidence of obviousness against Patent Owner’s asserted objective evidence of nonobviousness, we determine that a preponderance of the evidence supports Petitioner’s position that claim 7 would have been obvious over Wycherley and Yamamoto.

F. Asserted Ground of Obviousness over Ryan and McLaughlin

Petitioner contends that claims 7–11 are unpatentable under 35 U.S.C. § 103(a) as obvious over Ryan and McLaughlin, relying on declaration testimony of Mr. Occhiogrosso. Pet. 43–51 (citing Ex. 1030). Patent Owner responds, relying on declaration testimony of Mr. Ludwick. PO Resp. 35–48 (citing Ex. 2010). Having considered the parties’ contentions and supporting evidence, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 8–11, but not claim 7, are unpatentable for obviousness over Ryan and McLaughlin.

1. Summary of McLaughlin

McLaughlin describes a simultaneous voice and data (SVD) modem used in connection with a relay service in which an operator mediates

communications between a hearing person and a hearing-impaired person. Ex. 1009, 30:13–31:63. In one embodiment described in McLaughlin, the hearing-impaired user has an answering device or system, comprising two SVD modems, connected to two communication links, Line A and Line B. *Id.* at 30:59–63, 32:17–19. These communication links may use local area network (LAN), wide area network (WAN), or Internet communications over analog lines or digital lines, such as Integrated Services Digital Network (ISDN) or digital subscriber line (DSL) technology. *Id.* at 30:46–53. When a voice call from the hearing user arrives on Line A, the answering device sets up an SVD link with the relay service on Line B. *Id.* at 31:35–40. Voice sounds received from the hearing user on Line A are sent to the relay operator on Line B. *Id.* at 31:41–43. The relay operator translates the voice sounds into text, which is sent over Line B to appear on the screen of the hearing-impaired user’s answering device. *Id.* at 31:43–47. The hearing-impaired user also types responses back to the relay operator over Line B. *Id.* at 31:47–49. The relay operator voices the text, and the relay operator’s voice sounds are carried on Line B to the hearing-impaired user’s answering device and passed over to Line A to be heard by the hearing user. *Id.* at 31:49–52. Conversation among all three parties is “full duplex,” so that all parties may talk or type simultaneously. *Id.* at 31:55–62.

2. Claim 7

As discussed, claim 7 has an effective filing date of September 8, 1997. McLaughlin issued on January 30, 2001, with a filing date of March 18, 1998. Ex. 1009. Petitioner asserts that McLaughlin is entitled to the benefit of the filing date of its provisional application, March 25, 1997, and, therefore, is prior art to claim 7 under 35 U.S.C. § 102(e). Pet. 26. Patent

Owner responds that, assuming the effective filing date of claim 7 is September 8, 1997, McLaughlin is not prior art because Petitioner has not shown McLaughlin is entitled to claim the benefit of the filing date of its provisional application. PO Resp. 35. In its Reply, Petitioner submits that the burden shifted to Patent Owner to disprove McLaughlin's entitlement to the earlier filing date because Petitioner attached both McLaughlin and its provisional to the Petition. Reply 2.

We agree with Patent Owner that Petitioner has not shown that McLaughlin is prior art to claim 7 under § 102(e). To be entitled to rely on the March 25, 1997, provisional filing date, Petitioner must demonstrate it relies on subject matter that is present in and supported by the provisional. *See In re Giacomini*, 612 F.3d 1380, 1383 (Fed. Cir. 2010). Although Petitioner filed the McLaughlin provisional application, Exhibit 1024, with the Petition, Petitioner has not provided any explanation of how the provisional supports the subject matter relied upon for its asserted obviousness ground. The McLaughlin provisional appears to be an invention disclosure that, on its face, does not resemble the issued patent. *Compare* Ex. 1024 *with* Ex. 1009. Given this lack of resemblance, Patent Owner's challenge to whether Petitioner has shown sufficient support, and Petitioner's failure to identify material in the provisional that provides support for portions of McLaughlin relied upon by Petitioner, we are unable to find that McLaughlin is § 102(e) prior art to claim 7 of the '578 patent. Thus, Petitioner has not shown by a preponderance of the evidence that claim 7 is unpatentable for obviousness over Ryan and McLaughlin.

3. *Claims 8–11*¹⁶

Claims 8–11 depend from independent claim 7. As discussed above, Ryan teaches all of the limitations of claim 7. *See supra* II.D.3. As Petitioner asserts, McLaughlin also teaches two of the limitations of claim 7—providing words spoken by a remote user to a relay, and presenting the text stream to an assisted user via a display. *See* Pet. 46–47 (citing Ex. 1009, 29:20–27, 31:41–47). For the additional limitations in dependent claims 8–11, Petitioner relies on McLaughlin. Pet. 47–51.

Claim 8 recites “receiving the words spoken at a captioned telephone device and transmitting the words spoken from the captioned telephone device to the relay.” Claim 9 depends from claim 8 and further recites “transmitting the text stream from the relay to the captioned telephone device.” We agree with Petitioner that McLaughlin teaches these limitations with its description of an assisted user’s answering device that receives voice sounds from a hearing user on Line A, transmits those sounds to the relay operator on Line B, and receives text from the relay operator on Line B. *See* Pet. 47–49 (citing Ex. 1009, 31:41–47; 32:41–43).

¹⁶ If we treated the preamble of claim 7 as a limitation that requires receiving the remote user’s voice at the assisted user’s location, Petitioner asserts that the effective filing date of claim 7 would be no earlier than February 14, 2001, the filing date of U.S. Patent No. 6,594,346, and McLaughlin would be prior art to claim 7 under 35 U.S.C. § 102(a) and § 102(e). Pet. 14, 26. Patent Owner does not challenge these assertions. Thus, if we construed claim 7 to include the additional limitation, which is recited explicitly in claim 8 (“receiving the words spoken at a captioned telephone device”), the analysis with respect to claim 8 would apply also to claim 7. Our conclusion for claim 7 then would be the same as for claim 8, i.e., that Petitioner has shown by a preponderance of the evidence that claim 7 would have been obvious over the combination of Ryan and McLaughlin.

Patent Owner argues that McLaughlin does not teach a captioned telephone device because (i) McLaughlin's answering device does not play audio of the remote user's voice to the assisted user, and (ii) McLaughlin does not teach a device located at an assisted user's station that performs all the functions of a captioned telephone device. PO Resp. 36–41. We find Patent Owner's arguments unpersuasive. First, the claim language does not require providing audio of the remote user's voice to the assisted user. Rather, claim 8 requires receiving the remote user's voice at a captioned telephone device and transmitting the voice to the relay. Similarly, our construction of "captioned telephone device" only requires a device that receives and transmits voice signals, not one that makes the received voice signals audible to the assisted user. *See supra* II.A.1. Second, McLaughlin teaches an answering device that receives voice on Line A and transmits voice and receives text on line B using SVD modems, and also includes a screen for displaying text to a hearing-impaired user, thereby meeting the requirements of a captioned telephone device as we have construed the term. Ex. 1009, 30:46–48, 30:59–63, 31:41–47; 32:41–52. On this point, based on our review of McLaughlin, we credit the testimony of Petitioner's declarant, Mr. Occhiogrosso, over that of Patent Owner's declarant, Mr. Ludwick. *See* Ex. 1030 ¶¶ 41–44; Ex. 2010 ¶¶ 32–34.

Claims 8 and 9 further require that voice and text be transmitted over a cellular or wireless connection, and claims 10 and 11 require that voice be transmitted to the relay via an Internet Protocol (IP) connection. As Petitioner indicates, McLaughlin states that LAN, WAN, or Internet communications, such as those used in McLaughlin's relay system, may be wireless. Pet. 48 (citing Ex. 1009, 6:44–48, 30:46–53). McLaughlin also

states that Internet communication links conform to a known protocol, such as TCP/IP (Transmission Control Protocol/Internet Protocol). Ex. 1009, 1:31–36. Although McLaughlin does not mention wireless or IP communications specifically in connection with a relay service, we find that the general discussion of communication technologies and protocols applies to all of the embodiments described in McLaughlin, including the relay service, and at the very least suggests to a person of ordinary skill in the art the use of wireless and IP connections.

Petitioner also has articulated sufficient reasoning with some rational underpinning to support the legal conclusion that the subject matter of the claims would have been obvious to one of ordinary skill in the art in view of the teachings of Ryan and McLaughlin as combined in the manner proposed by Petitioner. See *KSR*, 550 U.S. at 418; Pet. 43–44 (citing Ex. 1030 ¶¶ 61–62); Reply 9–10 (citing Ex. 1057 ¶¶ 61–68). McLaughlin teaches most of the limitations of claims 8–11, including a two-line captioned telephone device. McLaughlin, however, does not teach re-voicing the remote user’s words at the relay using voice recognition software trained to the voice of the call assistant, as recited in independent claim 7. Instead, McLaughlin describes a relay service with a call assistant, but also indicates that a relay may use automated equipment. Ex. 1009, 29:20–22. Ryan teaches using speech recognition software to automate the relay function, but further teaches that the accuracy of the relay may be improved if a call assistant re-voices the remote user’s words into voice recognition software designed to recognize the call assistant’s voice. Ex. 1004, 4:33–38. We are persuaded that a person of ordinary skill in the art would have looked to Ryan for ways to automate the relay function in McLaughlin’s system and would have

recognized that Ryan’s intermediate re-voicing solution—using voice recognition software trained to the call assistant’s voice—would perform better than speaker-independent voice recognition applied directly to the remote user’s voice. *See* Pet. 44; Ex. 1030 ¶ 61.

Patent Owner contends that the claims would not have been obvious over Ryan and McLaughlin because combining Ryan and McLaughlin would require a substantial redesign of McLaughlin and change its principle of operation. PO Resp. 46. We disagree and credit the testimony of Mr. Occhigrosso that such a combination would not be difficult for a person of ordinary skill in the art to implement. *See* Reply 10; Ex. 1057 ¶ 61. Moreover, McLaughlin focuses on a network configuration that uses simultaneous voice and data (SVD) modems in conjunction with a relay, not the details of how a relay translates voice to text during a call between a remote user and an assisted user. *See* Ex. 1009, 30:13–31:63. Thus, we are not persuaded that McLaughlin’s principle of operation is “the use of a conventional relay for typed transactions,” as Patent Owner asserts. *See* PO Resp. 46.

Patent Owner also argues that McLaughlin teaches away from the use of trained voice recognition software. *Id.* at 46–47. In particular, Patent Owner submits that McLaughlin explains the shortcomings of automated speech recognition technology. *Id.* (citing Ex. 1009, 26:54–62). McLaughlin’s statement, however, involves the application of speech recognition to voice messages left by callers, not voice recognition software trained to the voice of a call assistant, i.e., speaker-dependent voice recognition. McLaughlin, therefore, does not criticize, discredit, or

discourage the combination of Ryan's re-voicing technique with McLaughlin's system.

As discussed in connection with obviousness based on Wycherley and Yamamoto, Patent Owner has not provided sufficient credible evidence to support its allegations of nonobviousness based on secondary considerations. When we balance Petitioner's evidence of obviousness against Patent Owner's asserted objective evidence of nonobviousness, we determine that a preponderance of the evidence supports Petitioner's position that claims 8–11 would have been obvious over Ryan and McLaughlin.

III. CONCLUSION

Based on the evidence and arguments, Petitioner has demonstrated by a preponderance of the evidence that:

- (1) claim 7 is unpatentable under 35 U.S.C. § 102(e) as anticipated by Ryan;
- (2) claim 7 is unpatentable under 35 U.S.C. § 103(a) as obvious over Wycherley and Yamamoto; and
- (3) claims 8–11 are unpatentable under 35 U.S.C. § 103(a) as obvious over Ryan and McLaughlin.

IV. ORDER

Accordingly, it is:

ORDERED that claims 7–11 of U.S. Patent No. 8,213,578 B2 are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude Mr. Occhiogrosso's testimony is *denied*; and

FURTHER ORDERED that Patent Owner's Motion to Exclude the Yamamoto reference is *denied*.

This is a final decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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