UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

PROMPTU SYSTEMS CORPORATION,
Patent Owner.

_____

Case IPR2018-00344
Patent 7,047,196

_____

PETITIONER'S NOTICE OF APPEAL

Pursuant to 35 U.S.C. §§ 141-142 and 37 C.F.R. § 90.2(a), notice is hereby given that petitioner Comcast Cable Communications, LLC ("Petitioner") appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision of the Patent Trial and Appeal Board entered in IPR2018-00344 on June 28, 2019 (Paper 59), and from all underlying orders, decisions, rulings, and opinions. A copy of the Final Written Decision is attached.

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), Petitioner states that the anticipated issues on appeal may include, but are not necessarily limited to, the following:

1. Whether the Board erred in construing the terms of the challenged claims including, but not necessarily limited to, the following term: "receiving a backchannel to create a received backchannel";

2. Whether the Board erred in determining that claims 1, 2, 4-6, 12, 13, 27, 28, 30-32, and 38-42 are not unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 7,013,283 ("Murdock");

3. Whether the Board erred in determining that claims 1, 2, 4-6, 12, 13, 27, 28, 30-32, and 38-42 are not unpatentable under 35 U.S.C. § 103 over Murdock in view of U.S. Patent No. 6,490,727 ("Nazarathy") or U.S. Patent No. 6,650,624 ("Quigley");

4. Whether the Board erred in determining that claims 5, 6, 31, and 32

are not unpatentable under 35 U.S.C. § 103 over Murdock in view of Nazarathy or Quigley and further in view of U.S. Patent No. 5,477,262 ("Banker") or U.S. Patent No. 6,314,573 ("Gordon");

5. Whether the Board erred in determining that claims 1, 2, 4-6, 12, 13, 27, 28, 30-32, and 38-42 are not unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,513,063 ("Julia") in view of Nazarathy or Quigley;

6. Whether the Board erred in determining that claims 5, 6, 31, and 32 are not unpatentable under 35 U.S.C. § 103 over Julia in view of Nazarathy or Quigley and further in view of Banker or Gordon; and

7. Whether the Board erred in apparently determining that Murdock is not prior art to the challenged claims.

A copy of this Notice of Appeal is being filed with the Patent Trial and Appeal Board. In addition, this Notice of Appeal is being filed, along with the required docketing fees, with the Clerk's Office for the United States Court of Appeals for the Federal Circuit.

Dated: August 9, 2019

Respectfully submitted,

/s/ *James L. Day*

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CERTIFICATE OF FILING AND SERVICE

I hereby certify that on August 9, 2019, in addition to being filed electronically through the Patent Trial and Appeal Board's electronic filing system, the foregoing Notice of Appeal was filed by Federal Express to the Director of the United States Patent and Trademark Office at the following address:

Director of the United States Patent and Trademark Office
c/o Office of the General Counsel
Madison Building East, 10B20
600 Dulany Street
Alexandria, VA 22314-5793

In addition, I hereby certify that on August 9, 2019, the foregoing Notice of Appeal was electronically filed with the Clerk's Office of the United States Court of Appeals for the Federal Circuit.

In addition, I hereby certify that on August 9, 2019, the foregoing Notice of Appeal was served on the Patent Owner's counsel of record via email, as agreed to by Patent Owner, at the following email addresses:

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August 9, 2019
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ATTACHMENT

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Paper 59
Entered: June 28, 2019

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

PROMPTU SYSTEMS CORPORATION,
Patent Owner.

Case IPR2018-00344
Patent 7,047,196 B2

Before JAMESON LEE, ROBERT L. KINDER, and
ALEX S. YAP, *Administrative Patent Judges*

YAP, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a)

I. INTRODUCTION

Petitioner, Comcast Cable Communications, LLC ("Comcast"), filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 of U.S. Patent 7,047,196 B2 (Ex. 1001, "the '196 Patent"). We instituted review of claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 on all grounds asserted in the Petition. Paper 10. Patent Owner, Promptu Systems Corporation. ("Promptu"), filed a Response. Paper 20 ("Resp."). Petitioner filed a Reply (Paper 29 ("Reply")) and Patent Owner filed a Sur-Reply (Paper 38 ("Sur-Reply")). An oral hearing was held on January 28, 2019. A copy of the transcript for the oral hearing has been entered as Paper 56 ("Tr.").

As discussed below, Petitioner has not shown, by a preponderance of the evidence, that any of claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 is unpatentable under any asserted grounds.

A. Related Matter

The '196 Patent is the subject of a pending civil action, *Promptu Systems Corporation v. Comcast Corporation and Comcast Cable Communications, LLC*, Case No. 2:16-cv-06516 (E.D. Pa.). Patent Owner's Mandatory Notices (Paper 5), 2. According to Patent Owner, the pending civil action "has been stayed . . . based on the institution decisions rendered in . . . IPR2018-00344, and IPR2018-00345." Patent Owner's Updated Mandatory Notices (Paper 16), 2. Petitioner states that a related "petition for *inter partes* review of different claims" of the '196 Patent was also filed "along with [its] petition" for this case. Pet. x; *see also* IPR2018-00345,

Paper 1. We are also issuing a final written decision in IPR2018-00345 concurrently.

B. The '196 Patent

The '196 Patent, titled "System and Method of Voice Recognition Near a Wireline Node of a Network Supporting Cable Television and/or Video Delivery," was issued on May 16, 2006. Ex. 1001, [45]. It issued from U.S. Patent Application 09/785,375, filed on February 16, 2001, and claims the benefit of U.S. Provisional Application No. 60/210,440 filed on June 8, 2000. *Id.* at [21], [22], [60]. The '196 Patent generally relates to a "method and system of speech recognition presented by a back channel from multiple user sites within a network." Ex. 1001, Abstract.

According to the Specification, "a centralized wireline node refers to a network node providing video or cable television delivery to multiple users using a wireline physical transport between those users at the node." *Id*. at 1:66–2:2. The Specification states that "the problems of speech recognition at a centralized wireline node in a network supporting video delivery or cable television delivery have not been addressed by [the] prior art." *Id*. at 1:63–66. The Specification describes a "preferred embodiment [of the claimed invention that uses] a back channel containing a multiplicity of identified speech channels from a multiplicity of user sites presented to a speech processing system at a wireline node in a network that supports at least one of cable television delivery and video delivery." *Id*. at Abstract.

Figure 3 of the ’196 Patent is reproduced below.

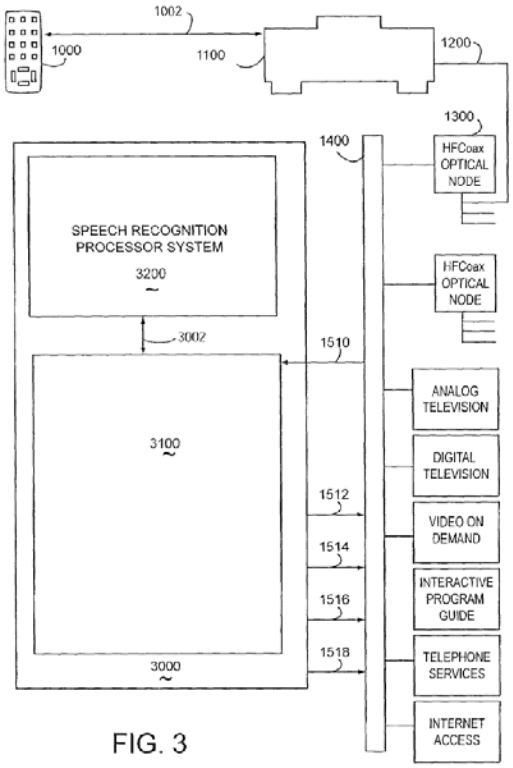


FIG. 3

Figure 3 illustrates:

> a remote control unit 1000 coupled 1002 to set-top apparatus 1100, communicating via a two-stage wireline communications system containing a wireline physical transport 1200 through a distributor node 1300, and through a high speed physical transport 1400, *possessing various delivery points 1510* and entry points 1512–1518 to a tightly coupled server farm 3000, with one or more gateways 3100, and one or more tightly coupled server arrays 3200[.]

Ex. 1001, 7:17–25, emphasis added. Server farm 3000 includes a central “speech recognition processor system 3200” for processing speech signals from user sites, such as from subscribers’ set-top boxes. *Id*. at Fig. 3. The Specification further notes that “[t]he back channel is from a multiplicity of user sites and is presented to a speech processing system at the wireline node in the network.” *Id*. at 22:12–14. Specifically, “[t]he speech signal

transmitted from a subscriber's set-top box, or set-top appliance, 1100[,] is received [at the] 1510 [entry points] by the five to 40 MHz data receiving equipment." *Id*. at 12:21–23, 12:57–58. Figure 10 of the '196 Patent is reproduced below.

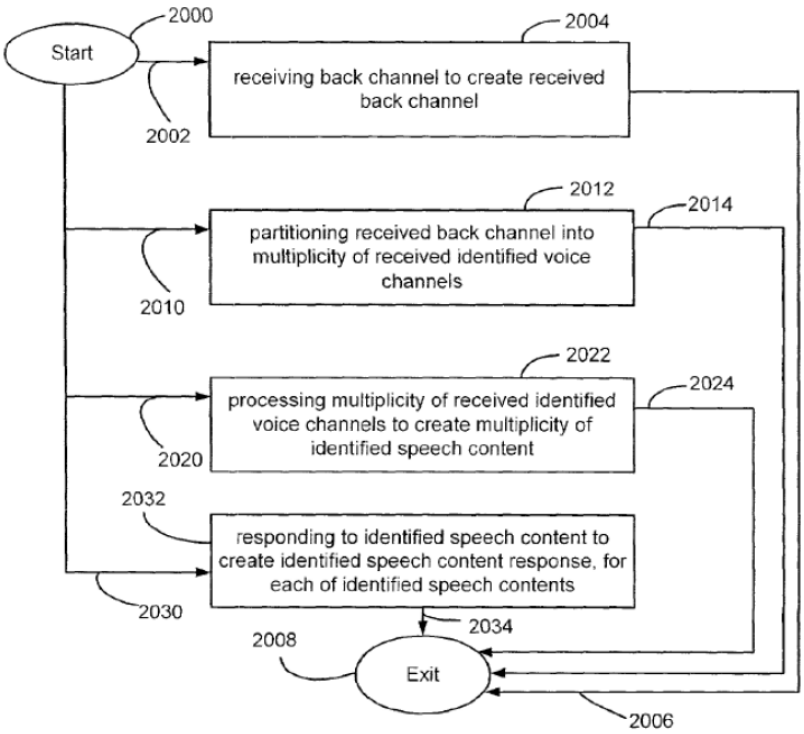


Figure 10 "depicts a flowchart of a method using a back channel from a multiplicity of user sites containing a multiplicity of identified speech channels presented to a speech processing system at a wireline node in a network supporting cable television delivery in accordance with the invention." *Id*. at 7:42–46.

C. Challenged Claims

Claims 1 and 27 are independent. Claim 1 is a method claim "of using a back channel containing a multiplicity of identified speech channels from a multiplicity of user sites presented to a speech processing system at a

wireline node in a network supporting at least one of cable television delivery and video delivery" (*id*. at 50:62–67), while claim 27 is a system claim directed to a "system supporting speech recognition in a network" (*id*. at 55:9–10). Claims 2, 4–6, 12, and 13 depend directly or indirectly from claim 1, while claims 28, 30–32, and 38–42 depend directly or indirectly from claim 27. Independent claims 1 and 27, reproduced below, are illustrative of the challenged claims.

> 1. A method of using a back channel containing a multiplicity of identified speech channels from a multiplicity of user sites presented to a speech processing system at a wireline node in a network supporting at least one of cable television delivery and video delivery, comprising the steps of:
>
> receiving said back channel to create a received back channel;
>
> partitioning said received back channel into a multiplicity of received identified speech channels;
>
> processing said multiplicity of said received identified speech channels to create a multiplicity of identified speech content; and
>
> responding to said identified speech content to create an identified speech content response that is unique, for each of said multiplicity of identified speech contents.

Ex. 1001, 50:62–51:10.

> 27. A system supporting speech recognition in a network, said system comprising:
>
> a speech recognition system coupled to a wireline node in said network for receiving a back channel from a multiplicity of user sites coupled to said network, further comprising
>
> a back channel receiver, for receiving said back channel to create a received back channel;

> a speech channel partitioner, for partitioning said received back channel into a multiplicity of received identified speech channels; and
>
> a processor network executing a program system comprised of program steps residing in memory accessibly coupled to at least one computer in said processor network;
>
> wherein said program system is comprised of the program steps of:
>
> > processing said multiplicity of said received identified speech channels to create a multiplicity of identified speech content;
> >
> > responding to said identified speech content to create an identified speech content response, for each of said multiplicity of said identified speech contents; and
> >
> > wherein said network supports at least one of the collection comprising: cable television delivery to said multiplicity of user sites; and video delivery to said multiplicity of user sites.

Ex. 1001, 55:9–36.

D. References Relied Upon

Petitioner relies on the following references:

Exhibit	Reference
1010	United States Patent No. 7,013,283 B1, issued March 14, 2006 ("Murdock").
1012	United States Patent No. 6,513,063 B1, issued January 28, 2003 ("Julia").
1013	United States Patent No. 6,490,727 B1, issued December 3, 2002 ("Nazarathy").

Exhibit	Reference
1014	United States Patent No. 6,650,624 B1, issued November 18, 2003 ("Quigley").
1015	United States Patent No. 5,477,262, issued December 19, 1995 ("Banker").
1016	United States Patent No. 6,314,573 B1, issued November 6, 2001 ("Gordon").

Pet. 1–2. Petitioner also relies on the Declaration of Christopher Schmandt (Ex. 1019), the Reply Declaration of Christopher Schmandt (Ex. 1029), and on the Declaration of Jeffrey Lau (Ex. 1018).

1. Murdock (Ex. 1010)

Murdock describes a "system and a concomitant method for providing programming content in response to an audio signal." Ex. 1010, Abstract. Figure 1 of Murdock is reproduced below.

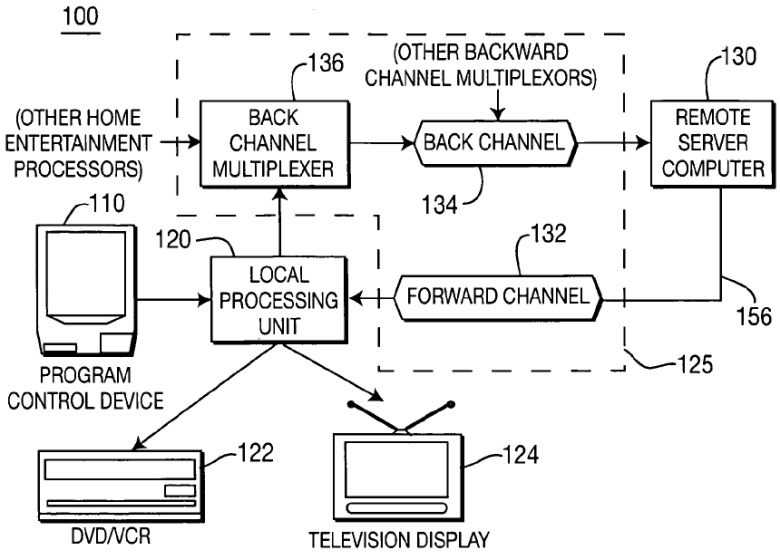


FIG. 1

Figure 1 "depicts a high-level block diagram of a voice control system." Ex. 1010, 1:64–65. The program control device 110 can be "a portable or

hand-held controller." *Id*. at 2:35–36. It can "capture[] the input verbal command signal from the user of the voice activated control system 100." *Id*. at 2:22–24. "Once the input command signal is received, the program control device 110 performs a transmission, *e.g.*, a wireless transmission, of the command signal to the local processing unit 120," which "may include a set top terminal, a cable box, and the like." *Id*. at 2:31–34, 45–47. The input command signal is then transmitted to remote server computer 130 via back channel 134. *Id*. at 3:1–12. Remote server computer 130 "performs speech recognition on the received signal, . . . retrieves the requested program content from a program database, and transmits the retrieved program content via the forward channel 132 to the local processing unit 120." *Id*. at 3:15–36. "Upon receipt of the requested programming content, the local processing unit 120 transmits the received content to the video player 122 or the television recorder 124." *Id*. at 2:61–66.

2. Julia (Ex. 1012)

Julia describes a "navigation of electronic data by means of spoken natural language requests." Ex. 1012, 1:16–18. Figure 1a of Julia is reproduced below.

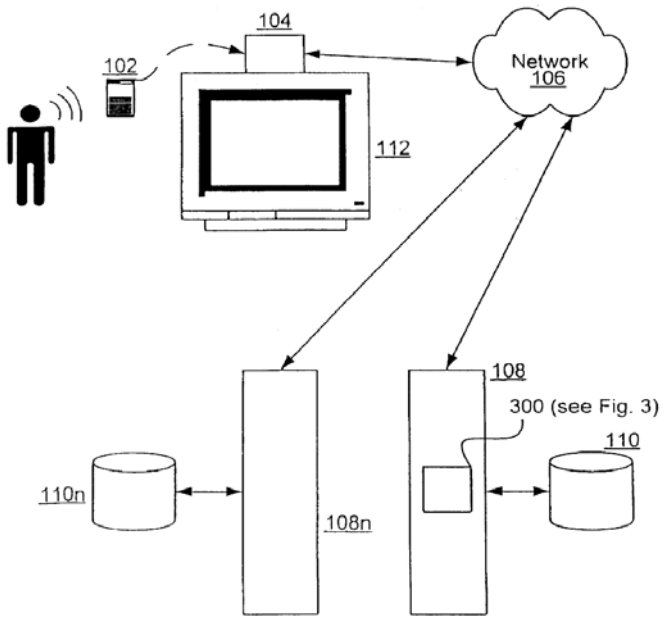


Fig. 1a

Figure 1a "illustrates a system providing a spoken natural language interface for network-based information navigation . . . with server-side processing of requests." *Id*. at 3:6–9. "[A] user's voice input data is captured by a voice input device 102, such as a microphone[, which p]referably [] includes a button or the like that can be pressed or held down to activate a listening mode." *Id*. at 3:39–43. Input device 102 can be also be "a portable remote control device with an integrated microphone, and the voice data is transmitted from device 102 preferably via infrared (or other wireless) link to [a receiver in] communications box 104." *Id*. at 3:46–52. "The voice data is then transmitted across network 106 to a remote server or servers 108." *Id*. at 3:54–55. The voice data "is processed by request processing logic 300 in order to understand the user's request and construct an appropriate query or request for navigation of remote data." *Id*. at 3:61–64. "Once the desired information has been retrieved from data source 110, it is electronically transmitted via network 106 to the user for viewing on client display device

112." *Id*. at 4:18–20. Communications box 104 is used for "receiving and decoding/formatting the desired electronic information that is received across communications network 106." *Id*. at 4:27–30. It is "preferabl[e to use] the same [] communications box 104, but [it] may also be a separate unit) for receiving and decoding/formatting the desired electronic information that is received across communications network 106." *Id*. at 4:25–30.

3. Nazarathy (Ex. 1013)

Nazarathy describes "hybrid fiber coaxial cable networks such as [those] used in cable television where two-way digital communications are desired." Ex. 1013, Abstract. Figure 9 of Nazarathy is reproduced below.

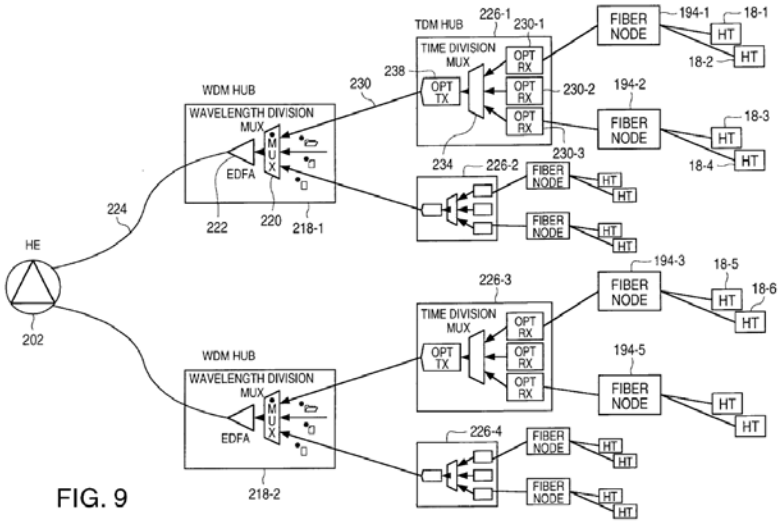


FIG. 9

Figure 9 of Nazarathy illustrates a Wavelength Division Multiplexing ("WDM") and Time Division Multiplexing ("TDM") network showing how data from multiple home terminals, 18-1, . . . 18-n, for example, cable modem or set-top box, is transmitted to the cable headend (HE 202). *Id*. at Fig. 9, 1:21–27, 14:6–8. Nazarathy discloses that "[a]ny operations of TDM and/or WDM multiplexing are undone at the [headend, HE202,] by

corresponding WDM and TDM demultiplexers." *Id*. at 14:62–64, 15:40–46.

4. Quigley (Ex. 1014)

Quigley describes a "number of features for enhancing the performance of a cable transmission system in which data is transmitted between a cable modem termination system at a headend and a plurality of cable modem located [at] different distances from the headend." Ex. 1014, Abstract, 1:32–35. Figure 1 of Quigley is reproduced below.

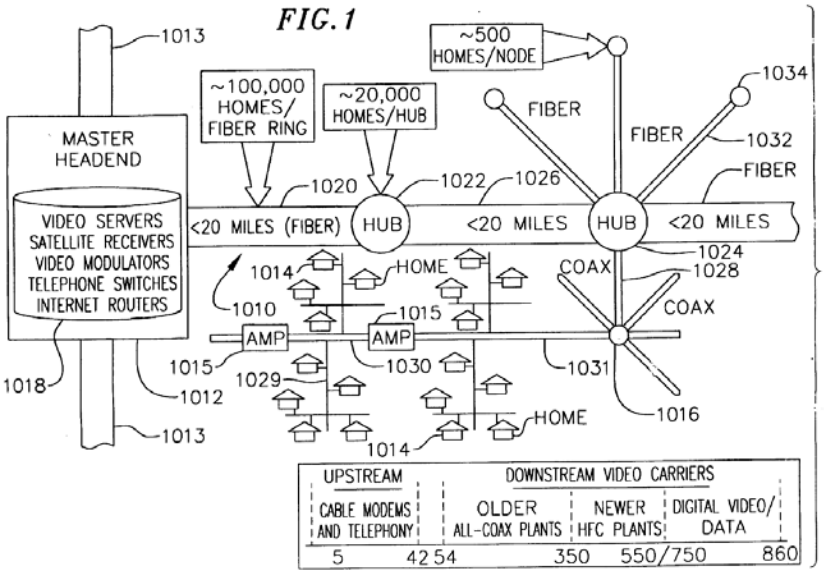
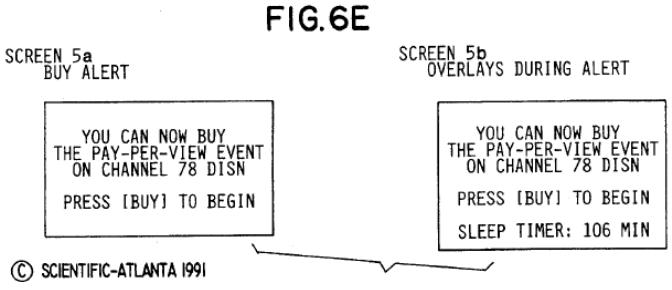


Figure 1 of Quigley "is a schematic diagram of a hybrid fiber coaxial (HFC) network showing typical pathways for data transmission between the headend[,] which contains the cable modem termination system[,] and a plurality of homes[,]each of which contain[s] a cable modem[.]" *Id.* at 3:56–60. In Quigley, "[t]he hybrid fiber coaxial network of a cable modem system utilizes a point-to-multipoint topology to facilitate communication between the cable modem termination system and the plurality of cable modems." *Id.* at 9:1–4. "Frequency domain multiple access (FDMA)/time domain multiple access (TDMA) is used to facilitate communication from

each cable modem to the cable modem termination system, [*i.e.*], in the upstream direction." *Id*. at 9:8–12, 48–52. "The upstream channel 491, is divided into a plurality of time intervals 110." *Id*. at 46:31–34. "The upstream channel 491 is thus partitioned so as to facilitate the definition of time slots, such that each of a plurality of cable modems 12 may transmit data packets to the cable modem termination system 10 without interfering with one another." *Id*. at 46:34–40.

5. Banker (Ex. 1015)

Banker describes an apparatus "for providing a user friendly interface to a subscription television terminal." Ex. 1015, Abstract. Banker describes a number of user interface features such as "messaging, establishing a favorite channel list, pay-per-view, program timing, and terminal control." *Id*.; *see also id.* at 4:1–5, 16–18. Figures 6E and 6F of Banker are reproduced below.



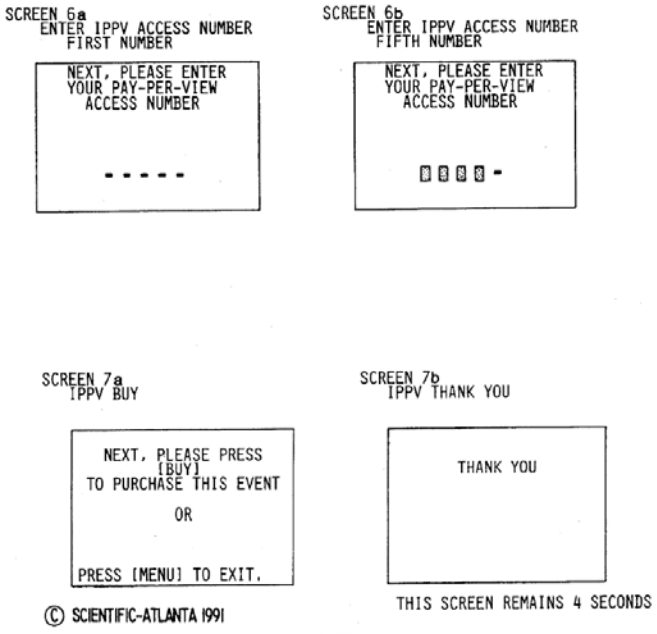


FIG.6F

Figures 6E and 6F illustrate a sequence of screens a user would navigate through in order to purchase a pay-per-view event. *Id.* at 16:54–17:3. Banker also discussed how customers can be billed for using the subscription television terminal. *See id*. at 7:58–8:3, 12:1–15.

6. Gordon (Ex. 1016)

Gordon describes a "method and apparatus for providing subscription-on-demand (SOD) services for a[n] interactive information distribution system, where a consumer may subscribe to packages of on-demand programs for a single price[.]" Ex. 1016, Abstract. Figure 8 of Gordon is reproduced below.

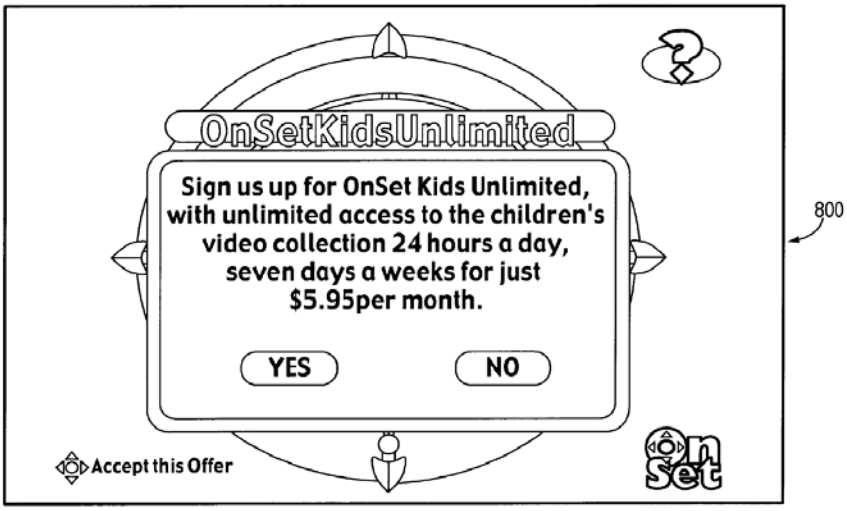


FIG. 8

Figure 8 of Gordon shows "a menu that allows a consumer to subscribe to a selected subscription-on-demand service." *Id*. at 3:40–41. According to Gordon, "through manipulation of the menus, the consumer [can] select[] a programming package [and] become[] a subscriber to that package and [will be] billed accordingly." *Id*. at 2:61–63.

E. Asserted Grounds of Unpatentability

The Board instituted review of claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 of the '196 Patent based on the following grounds of unpatentability set forth in the following table. Paper 10, 20–21, 45.

Ground	Reference(s)	Basis[1]	Claims Challenged
Obviousness Grounds involving Murdock			
1	Murdock alone	§ 103(a)	1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42

[1] The relevant section of the Leahy-Smith America Invents Act ("AIA"),

Ground	Reference(s)	Basis[1]	Claims Challenged
2	Murdock and Nazarathy	§ 103(a)	1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42
3	Murdock and Quigley	§ 103(a)	1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42
4	Murdock, Nazarathy, and Banker	§ 103(a)	5, 6, 31, and 32
5	Murdock, Nazarathy, and Gordon	§ 103(a)	5, 6, 31, and 32
6	Murdock, Quigley, and Banker	§ 103(a)	5, 6, 31, and 32
7	Murdock, Quigley, and Gordon	§ 103(a)	5, 6, 31, and 32
Obviousness Grounds involving Julia			
8	Julia and Nazarathy	§ 103(a)	1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42
9	Julia and Quigley	§ 103(a)	1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42
10	Julia, Nazarathy, and Banker	§ 103(a)	5, 6, 31, and 32
11	Julia, Nazarathy, and Gordon	§ 103(a)	5, 6, 31, and 32
12	Julia, Quigley, and Banker	§ 103(a)	5, 6, 31, and 32
13	Julia, Quigley, and Gordon	§ 103(a)	5, 6, 31, and 32

Pub. L. No. 112–29, took effect on March 16, 2013. Because the application from which the ’196 Patent issued was filed before that date, the pre-AIA statutory framework applies.

II. ANALYSIS

A. Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). In that regard, Petitioner and Mr. Schmandt contend that a person of ordinary skill in the relevant art would have:

> (i) an undergraduate degree (or equivalent) in electrical engineering, computer science, or a comparable subject and *at least* three years of professional work experience in the field of multi-media systems including in particular speech recognition and control technologies; or (ii) an advanced degree (or equivalent) in electrical engineering, computer science, or a comparable subject and *at least* one year of post-graduate research or work experience in the field of multi-media systems including in particular speech recognition and control technologies.

Pet. 6, emphases added; *see also* Ex. 1019 ¶¶ 75–77. Patent Owner does not propose an alternative definition nor does Patent Owner respond to Petitioner's proposal. *See generally* Resp. We adopt, with modification (*e.g.*, removal of the qualifier "at least" which broadens ordinary skill to include expert level knowledge and skill), Petitioner's definition of a person of ordinary skill in the art:

> (i) an undergraduate degree (or equivalent) in electrical engineering, computer science, or a comparable subject and three years of professional work experience in the field of multi-media systems including in particular speech recognition and control

> technologies; or
>
> (ii) a Master's of Science degree (or equivalent) in electrical engineering, computer science, or a comparable subject and one year of post-graduate research or work experience in the field of multi-media systems including in particular speech recognition and control technologies.

We further note that the prior art in the instant proceeding reflects the level of ordinary skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). For example, as reflected in Julia, a person of ordinary skill in the art would have familiarity with using spoken natural language as input into control systems. *See* Ex. 1012, 1:39–48.

B. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b) (2017); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard as the claim construction standard to be applied in an *inter partes* review proceeding). Under the broadest reasonable interpretation standard, claim terms generally are given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposes constructions for three terms: "wireline node," "back channel," and "partitioning said received back channel into a multiplicity of [said] received identified speech channels." Pet. 6–9. The

Patent Owner does not propose alternative constructions but states that "[w]hile Promptu does not agree with these constructions, many of which are disputed in the corresponding litigation, the Board need not construe them here because the [P]etition fails to carry its burden of establishing that the claims are unpatentable even under Petitioner's own proposed claim constructions." *See* Resp. 5–6.

Based on our review of the record before us, we determine that no term, except "receiving a backchannel to create a received backchannel," requires express construction to resolve the controversy regarding the unpatentability of the challenged claims. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that only claim terms that "are in controversy" need to be construed and "only to the extent necessary to resolve the controversy"). The term "receiving a backchannel to create a received backchannel" needs construction, which we will address within the specific patentability analysis below where more context is provided.

C. Obviousness

1. General Principles

A claim is unpatentable under § 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 the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *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 skill in the art; and (4) when in evidence, objective indicia of non-obviousness (*i.e.*, secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

An invention "composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Rather, to establish obviousness, it is petitioner's "burden to demonstrate both that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (quotations omitted); *see KSR*, 550 U.S. at 418. Moreover, a petitioner cannot satisfy this burden by "employ[ing] mere conclusory statements" and "must instead articulate specific reasoning, based on evidence of record" to support an obviousness determination. *Magnum Oil*, 829 F.3d at 1380. Stated differently, there must be "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The "factual inquiry" into the reasons for "combin[ing] references must be thorough and searching, and the need for specificity pervades . . . ." *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381–82 (Fed. Cir. 2016) (quotations omitted). A determination of obviousness cannot be reached where the record lacks "explanation as to *how* or *why* the references would be

combined to produce the claimed invention." *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016); *see Nuvasive*, 842 F.3d at 1382–86 (holding that an obviousness determination cannot be reached where there is no "articulat[ion of] a *reason why* a [person having ordinary skill in the art] would combine" and "modify" the prior art teachings). This required explanation as to how and why the references would be combined avoids an impermissible "hindsight reconstruction," using "the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." *TriVascular*, 812 F.3d at 1066; *In re NTP, Inc.*, 654 F.3d 1279, 1299 (Fed. Cir. 2011). We analyze the asserted grounds based on obviousness with these principles in mind.

2. Obviousness Grounds Involving Julia (Grounds 8–13)

Petitioner contends that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 are unpatentable over Julia in view of Nazarathy (Ground 8) or Quigley (Ground 9), or Julia in view of Nazarathy or Quigley and Banker (Grounds 10 and 12) or Gordon (Grounds 11 and 13) under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Schmandt (Exs. 1019, 1029). Pet. 42–61; *see also* Reply 8–18.

Patent Owner makes numerous arguments regarding how Julia combined with the teaching of Nazarathy or Quigley would not render any of the claims obvious. Resp. 8–27; Sur-Reply 1–4, 9–10.

As discussed below, we determine that Petitioner has not established, by a preponderance of the evidence, that Julia teaches the "receiving said back channel to create a received back channel" limitation of independent

claim 1 and the "for receiving said back channel to create a received back channel" limitation of independent claim 27.[2]

In light of these deficiencies, Petitioner has not persuasively established that any of claims 1 and 27 would have been unpatentable.

Claim 1 recites "receiving said back channel to create a received back channel." Ex. 1001, 51:1–2. Petitioner and its declarant contend that "a person of ordinary skill in the art would recognize that remote server 108 receives the 'back channel to create a received back channel,' as recited in claim 1." Pet. 45 (citing Ex. 1019 ¶¶ 311–312). According to Petitioner, "[a] person of ordinary skill in the art would have known that upstream data transmissions in the cable television network disclosed [in] Julia are transmitted on the 'back channel' (*i.e.*, 'upstream communication channel delivering signals from multiple user sites to a central wireline node')." Pet. 44 (citing Ex. 1019 ¶¶ 307, 311). Petitioner does not present any analysis with regard to the "to create a received back channel" portion of the limitation at issue. It appears that according to Petitioner, this portion of the limitation is met if the transmission on the back channel has been received.

Patent Owner argues that this limitation of claim 1 "requires two parts: '***receiving***' a first element ('said back channel') '***to create***' a second element ('a received back channel')[, but the P]etition's two paragraphs discussing the receiving element [] never address how any of the references, Julia, Nazarathy, or Quigley, creates a received back channel." Resp. 10. According to Patent Owner, Petitioner cannot "rely on the purported

[2] The parties analyze these claim limitations together. We will address this limitation of claim 1 as representative of the corresponding limitation in claim 27.

knowledge of a [person of ordinary skill in the art] in combination with Julia to meet the 'create a received back channel' claim limitation, because such knowledge cannot form the basis of an IPR ground under 35 U.S.C. § 311(b)." Resp. 12.

Petitioner, however, states that "[w]hen the remote server receives these voice requests [from the back channel], it is creating the 'received back channel.'" Reply 9 (citing Pet. at 44–45, Ex. 1019 ¶¶ 307, 311–312; Ex. 1029 ¶ 5). Specifically, Petitioner clarified during the oral hearing that the two parts of the limitation at issue is referring to the same thing with the difference being the labeling:

> MR. DAY: . . . The dispute here is that Patent Owner is saying that this receiving step requires two different things, you receive the back channel and then you do this second thing, you create some new thing called receive back channel. And that's not what the claim means, and in our reply declaration, Dr. Schmandt addresses why that's not a claim. Let me explain. What it's saying is you receive the back channel, that's all of these voice commands coming over the back channel that are received by the remote server, that is the receiving step. And now we're going to refer to that as the received back channel, as opposed to some other back channel.
>
> JUDGE KINDER: So it's more timing. Is that right?
>
> MR. DAY: I think it's more labeling.

Tr. 7:23–8:9. According to Petitioner, Patent Owner "does not propose any construction of the terms, explain how they allegedly differ, or identify any support in the patent showing that the 'received back channel' is a distinct network element from the 'back channel' [because t]here is no such support." Reply 9–10 (citing Ex. 1029 ¶¶ 6–7).

Petitioner, however, does not provide persuasive evidence to support its contention that the elements "receiving said back channel" and "to create

a received back channel" should be interpreted to be the same thing. Petitioner cites to column 22, lines 47 to 50 of the '196 Patent, which states that "[t]he received identified speech channels are based upon a received back channel at the wireline node from multiple user sites coupled to the network. The network supports video delivery to the user sites and/or cable television delivery to the user sites." The cited portion of the '196 Patent merely states that the "received identified speech channels *are based upon* a received back channel." It does not support Petitioner's contention that "receiving said back channel" and "to create a received back channel" should be interpreted to be the same thing.

We are similarly not persuaded by Petitioner's contention that "the received back channel is created in the sense that it has been received by the speech processing system[, because i]t's not creating some new thing, [and] there's no support for that in the specification, [and] there's nothing described as the received back channel that's somehow different." Tr. 8:17–25. Based on a facial reading, the "to create a received back channel" portion of the limitation at issue (*i.e.*, "receiving said back channel to create a received back channel") possibly can be read as superfluous on the basis that after receiving a channel that channel can be referred to as a received channel. However, we do not agree that that is the case here. First, regarding a portion of the claim as superfluous is generally disfavored. *Stumbo v. Eastman Outdoors, Inc.*, 508 F.3d 1358, 1362 (Fed. Cir. 2007) (denouncing claim constructions that render phrases in claims superfluous); *Elektra Instruments S.A. v. O.U.R. Scientific Int'l, Inc.*, 214 F.3d 1302, 1305, 1307 (Fed. Cir. 2000) (claims are interpreted with an eye toward giving effect to all terms in the claim). Second, the next step of the claim (*i.e.*,

"partitioning said received back channel into a multiplicity of received identified speech channels") acts on "*said received back channel*." It is difficult to regard the same communication link to be, at once, both a back channel and a received back channel. Petitioner would have us apply two different time frames when reading the same claim element. That is atypical and Petitioner has not pointed to support for that reading from the Specification of the '196 patent. Third, we agree with Patent Owner that the Specification indicates that "back channel" and "received back channel" are different elements, e.g., communication paths, and that the latter is downstream of the former. Tr. 71:6–74:2. Figure 7 of the '196 Patent is reproduced below.

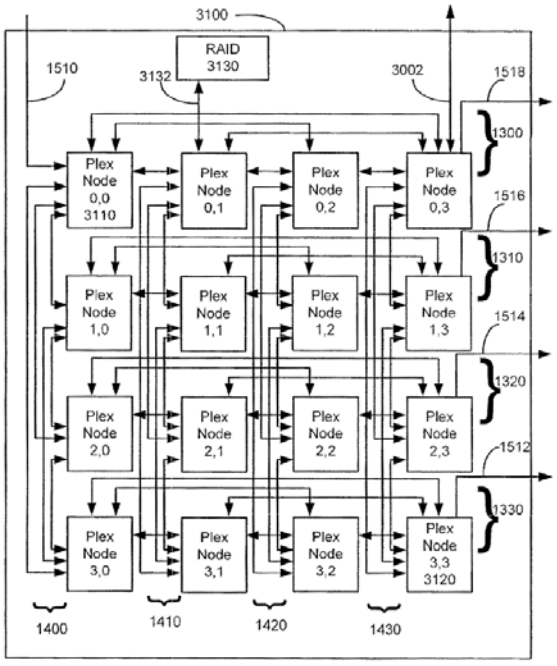


Fig. 7

Figure 7, which is an embodiment of the claimed invention, "depicts a gateway 3100 of FIG. 3 implemented in a two-dimensional plex communication network with N=4 plex nodes in each of two orthogonal

directions of the node array." Ex. 1001, 7:32–35. Figure 7 shows the receiving of a back channel (*i.e.*, upstream signal 1510) by speech content gateway 3100 and the creation of a "received back channel" (*e.g.*, double ended arrows connecting plex node 003110 to plex node 0,1) leading eventually to the creation of a received identified speech channel 1518. Ex. 1001, 20:57–65, 40:64–41:7; *see also* Tr. 71:14–74:2. For the foregoing reasons, we determine that Petitioner's contention that "back channel" and "received back channel" are met by the same element is not reasonable.

Petitioner states that "a person of ordinary skill in the art would recognize that remote server 108 receives the 'back channel to create a received back channel,' as recited in claim 1." Pet. 45. Petitioner's declarant (Mr. Schmandt) explains that, in Julia, remote server 108 "'receives' the back channel to 'create a received back channel.'" Ex. 1019 ¶ 311; Pet. 44–45. Mr. Schmandt, however, does not explain how Julia teaches creation of a "received back channel" separate from the "back channel." Instead, he concludes, without explaining how, "Julia discloses remote server 108 receiving a 'back channel to create a received back channel,' as recited in claim 1." *Id*. at ¶ 312; Pet. 44–45. Petitioner and Mr. Schmandt have, at most, shown how Julia teaches "receiving said back channel" (signals transmitted over network 106 (*i.e.*, "back channel") by remote server 108) but not the creation of a separate "received back channel." Accordingly, because neither the Petition nor Mr. Schmandt shows how Julia teaches a received back channel separate from the back channel, we determine that Petitioner has not established, by a preponderance of the evidence, that Julia teaches "receiving said back channel *to create a received back channel*."

3. Obviousness Grounds Involving Murdock (Grounds 1–7)

Petitioner contends that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 are unpatentable over Murdock alone (Ground 1), Murdock in view of Nazarathy (Ground 2) or Quigley (Ground 3), or Murdock in view of Nazarathy or Quigley and Banker (Grounds 4 and 5) or Gordon (Grounds 6 and 7) (collectively, "Murdock Grounds") under 35 U.S.C. § 103(a), relying on the supporting testimony (Exs. 1019, 1029) of Mr. Schmandt. Pet. 14–42.

The '196 Patent issued from an application that has a filing date of February 16, 2001, and that claims the benefit of priority to a provisional application with a filing date of June 8, 2000. Ex. 1001, at [22], [60]; Pet. 4. Murdock was filed on November 16, 2000, after the effective filing date of the '196 Patent, but claims the benefit of priority to the filing date of Provisional Application No. 60/166 010 (Ex. 1011, the "Murdock Provisional"), which was filed on November 17, 1999. Ex. 1010, at [22], [60]. Petitioner argues that Murdock is 35 U.S.C. § 102(e) prior art to the '196 Patent because Murdock is entitled to the benefit of priority to the filing date of the Murdock Provisional. Pet. 10.

In *Ex Parte Mann*, the Board held that "under *Dynamic Drinkware*, a non-provisional child can be entitled to the benefit of a provisional application's filing date if the provisional application provides sufficient support for at least one claim in the child." 2016 WL 7487271, at *6 (PTAB Dec. 21, 2016) (discussing whether *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378, requires "support in the provisional . . . for *all* claims, *any* claim, or something in between"). The Board further held that "the [party claiming priority] also must [also] show that the subject

matter relied upon in the non-provisional is sufficiently supported in the provisional application [and that t]his subject matter test is in addition to the comparison of claims required by *Dynamic Drinkware*." *Id*. at *5.

> Recognizing these requirements, Petitioner asserts that
>
> > Petitioner's expert Christopher Schmandt shows in his supporting declaration that at least claim 1 of Murdock is supported by the disclosure in the [Murdock P]rovisional application. Schmandt Decl. ¶¶ 99–113. In addition, ... Petitioner's expert witness confirms that the Murdock [P]rovisional application meets this requirement, too. Schmandt Decl. ¶¶ 135–293 (showing that the provisional application discloses the challenged claims and also showing that the provisional application discloses the same subject matter); . . . .
>
> Pet. 10.

Patent Owner, however, contends that Petitioner fails to establish that Murdock is prior art and thus cannot establish a reasonable likelihood of prevailing on the Murdock grounds because the Petition omits the analysis necessary to establish Murdock as prior art, and instead relies on incorporating "more than 150 paragraphs of essential analysis from the declaration into the [P]etition, particularly when the [P]etition was only twenty words under the word limit, is improper." Response, 7.

We agree with Patent Owner that Petitioner's barebones analysis, in its Petition, is insufficient to support its contention that Murdock is entitled to the filing date of the Murdock Provisional. Specifically, while there is no requirement to rewrite every word or example from an expert declaration into a petition, Petitioner's two sentences concluding that "at least claim 1 of Murdock is supported by the disclosure in the [Murdock P]rovisional application" and that "the [Murdock P]rovisional . . . provide[s] support for the subject matter relied upon," are insufficient to establish Murdock as prior

art. "Arguments must not be incorporated by reference from one document into another document." 37 C.F.R. § 42.6(a)(3). Here, the Petitioner cites to over 170 paragraphs (Ex. 1019 ¶¶ 99–113, 135–293), spanning more than 80 pages in the Schmandt Declaration. No reasonable application of 37 C.F.R. § 42.6(a)(3) to the circumstance of this case results in a conclusion that Petitioner complied with the rule. The Petition should provide reasonable notice to the Patent Owner as to how the Murdock Provisional provides support for the subject matter relied upon. In this proceeding, we initially determined that the Petition offered only an insufficient conclusory statement as to the Murdock Provisional. Paper 10, 25–27. Nonetheless, pursuant to *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018) and Patent Office practice, we instituted review of all grounds, including the grounds based on Murdock. *Id.* at 2, 45.

Petitioner now attempts to remedy its deficient Petition in its later Reply briefing. Reply, 3–8. Petitioner contends that, in any event, Murdock still constitutes applicable prior art because Murdock predates the actual filing date of the '196 patent and because it was incumbent on Patent Owner to establish entitlement to an earlier effective filing date, which Patent Owner did not do. *Id.* at 2. Patent Owner contends that these are "new argument[s] and [they] should not be considered." Sur Reply 7.

We need not decide this issue because, even *assuming arguendo* that Murdock is prior art to the '196 Patent, Petitioner's arguments with regard to the alleged grounds of obviousness over Murdock are not persuasive. They are premised on the same interpretation of "receiving said back channel to create a received back channel" that we have rejected in connection with Petitioner's arguments based on Julia. *See* Pet. 16–17, 26–27; Ex. 1019

¶¶ 140–141, 223. Specifically, the Petition states that "[t]he remote server computer receives back channel 134, which constitutes the claimed 'received back channel.' Schmandt Decl. ¶¶ 140–141; Murdock at 3:15–17 ("the remote serve[r] computer 130 receives the multiplexed signal from the back channel 134")." Pet. 17. Mr. Schmandt explains that "Figure 1 of Murdock illustrates the combined signals transmitted from multiple different users over back channel 134 to remote server computer 130, which receives the back channel." Ex. 1019 ¶ 141. Mr. Schmandt, however, does not explain how Julia teaches creation of a "received back channel" separate from the "back channel." Instead, he concludes, without explaining how, "Murdock discloses remote server computer 130 receiving a "back channel to create a received back channel," as recited in claim 1." *Id*. Petitioner and Mr. Schmandt have, at most, shown how Murdock teaches "receiving said back channel" (signals transmitted over back channel 134 (*i.e.*, "back channel") by remote server computer 130) but not the creation of a "received back channel." Accordingly, because neither the Petition nor Mr. Schmandt shows how Murdock teaches a received back channel separate from the back channel, we also determine that Petitioner has not established, by a preponderance of the evidence, that Murdock teaches "receiving said back channel *to create a received back channel*."

4. Secondary Considerations of Non-obviousness

Patent Owner also contends that secondary considerations further demonstrate non-obviousness of the challenged claims. Resp. 33–41. We need not, however, consider or discuss the objective evidence of nonobviousness, because even assuming the absence of any evidence of

nonobviousness there is not sufficient evidence of obviousness to support a conclusion that any challenged claim is unpatentable.

D. Motions to Exclude

1. Petitioner's Motion to Exclude

Petitioner files a Motion to Exclude Evidence seeking to exclude Exhibits 2001–2003, 2009–2011, 2015, 2021, 2024, and 2032 as inadmissible hearsay evidence. Paper 37; *see also* Papers 45 (Patent Owner's Opposition to Petitioner's Motion to Exclude Evidence), 49 (Petitioner's Reply in Support of its Motion to Exclude Evidence). These exhibits relate to Patent Owner's support for its secondary considerations arguments. Resp. 33–41. Because we do not reach the issue of secondary considerations, we dismiss Petitioner's motion as moot.

2. Patent Owner's Motion to Exclude

Patent Owner files a Motion to Exclude seeking to exclude portions of Mr. Cook's testimony (Ex. 1024) "as containing hearsay and/or hearsay within hearsay, as well as for containing testimony outside the scope of the IPR depositions." Paper 40, 2. According to Patent Owner, the portions of Mr. Cook's testimony it is seeking to exclude are used by Petitioner for the following purposes:

> (1) to support its assertion that the AgileTV product wasn't successful (Paper 29[,] 1 (citing Ex. 1024[,] 206:2–17));
>
> (2) as a purported admission that the Diva Systems video-on-demand system provided pay-per-view (Paper 29[,] 15 (citing Ex. 1024[,] 22:2–13, 249:6–17));
>
> (3) as evidence that Comcast rejected Promptu's product (Paper 29[,] 21 (citing Ex. 1024[,] 215:13–217:7));

> (4) as evidence that the AgileTV product employed voice recognition processing provided by a third-party vendor (Paper 29[,] 23 n.5 (citing Ex. 1024[,] 250:15–253:14, 255:22–258:21, 316:4–6));
>
> (5) as evidence that Comcast's payment to Promptu was a loan that Promptu later repaid in full, that Promptu offered a paid-up license to its patents, and that Promptu dropped its television product and shifted to an automotive product (Paper 29[,] 23–24 (citing Ex. 1024[,] 106:20–107:9, 117:12–118:7, 135:4–5, 156:5–12, 160:20–161:2, 215:13–218:13)); and
>
> (6) as evidence that Promptu received substantial funding to develop an automobile product (Paper 29[,] 24 (citing Ex. 1024[,] 217:22–219:18)).

Id. at 2–3. Patent Owner argues that "the Board should exclude all of Mr. Cook's testimony cited in Comcast's reply relying on the above-noted portions" of Mr. Cook's testimony. *Id*. at 3. These portions of Mr. Cook's testimony, however, relate to Patent Owner's secondary considerations arguments. Resp. 33–41. Because we do not reach the issue of secondary considerations, we dismiss Patent Owner's motion as moot.

III. CONCLUSION

Petitioner has not established, by a preponderance of the evidence, that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 would have been obvious over Julia and Nazarathy;

Petitioner has not established, by a preponderance of the evidence, that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 would have been obvious over Julia and Quigley;

Petitioner has not established, by a preponderance of the evidence, that claims 5, 6, 31, and 32 would have been obvious over Julia, Nazarathy, and Banker;

Petitioner has not established, by a preponderance of the evidence, that claims 5, 6, 31, and 32 would have been obvious over Julia, Nazarathy, and Gordon;

Petitioner has not established, by a preponderance of the evidence, that claims 5, 6, 31, and 32 would have been obvious over Julia, Quigley, and Banker;

Petitioner has not established, by a preponderance of the evidence, that claims 5, 6, 31, and 32 would have been obvious over Julia, Quigley, and Gordon;

Petitioner has not established, by a preponderance of the evidence, that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 would have been obvious over Murdock;

Petitioner has not established, by a preponderance of the evidence, that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 would have been obvious over Murdock and Nazarathy;

Petitioner has not established, by a preponderance of the evidence, that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 would have been obvious over Murdock and Quigley;

Petitioner has not established, by a preponderance of the evidence, that claims 5, 6, 31, and 32 would have been obvious over Murdock, Nazarathy, and Banker;

Petitioner has not established, by a preponderance of the evidence, that claims 5, 6, 31, and 32 would have been obvious over Murdock, Nazarathy, and Gordon;

Petitioner has not established, by a preponderance of the evidence, that claims 5, 6, 31, and 32 would have been obvious over Murdock, Quigley, and Banker; and

Petitioner has not established, by a preponderance of the evidence, that claims 5, 6, 31, and 32 would have been obvious over Murdock, Quigley, and Gordon.

IV. ORDER

For the foregoing reasons, it is hereby:

ORDERED that Petitioner has not shown, by a preponderance of the evidence, that any of claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 is unpatentable;

FURTHER ORDERED that Petitioner's Motion to Exclude is *dismissed*;

FURTHER ORDERED that Patent Owner's Motion to Exclude is *dismissed*; and

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

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