APPENDIX

APPENDIX A

NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

COMCAST CABLE COMMUNICATIONS, LLC,
Appellant

v.

PROMPTU SYSTEMS CORPORATION,
Appellee

ANDREI IANCU, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2019-1947, 2019-1948

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2018-00340, IPR2018-00341.

Decided: January 4, 2021

MARK ANDREW PERRY, Gibson, Dunn & Crutcher LLP, Washington, DC, for appellant. Also represented by JESSICA A. HUDAK, Irvine, CA; JAMES L. DAY, JR., Farella Braun Martel LLP, San Francisco, CA.

JACOB ADAM SCHROEDER, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Palo Alto, CA, for appellee. Also represented by JOSHUA GOLDBERG, Washington, DC.

DANIEL KAZHDAN, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for intervenor. Also represented by THOMAS W. KRAUSE, FRANCES LYNCH, FARHEENA YASMEEN RASHEED.

Before LOURIE, SCHALL, and MOORE, *Circuit Judges*.

MOORE, *Circuit Judge*.

Comcast Cable Communications, LLC, appeals two *inter partes* review final-written decisions,[1] in which the Patent Trial and Appeal Board held that Comcast failed to prove claims 1–7, 17–24, 33–35, 37, and 40–41 (the challenged claims) of U.S. Patent No. 7,260,538 would have been obvious. For the following reasons, we affirm.

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[1] Consistent with the parties' briefing, we do not differentiate between the two FWDs (IPR2018-00340, IPR2018-00341), and only cite the -340 decision.

BACKGROUND

Comcast petitioned for IPR of the '538 patent, arguing the challenged claims would have been obvious in light of two primary references—U.S. Patent No. 6,513,063 (Julia) or U.S. Patent No. 7,013,283 (Murdock)—alone or in combination with U.S. Patent No. 5,774,859 (Houser). Review was instituted, and the Board issued a final-written decision in each IPR. It rejected Comcast's reading of the claimed "command function" term as unreasonably broad.[2] J.A. 53800031–33; *see, e.g.*, '538 patent at 9:35–36, 13:54–56. Because Comcast's arguments had been predicated on its rejected construction, the Board held that Comcast had failed to show the challenged claims would have been obvious over Julia alone or Murdock alone. Likewise, because the Board found no motivation to combine Houser with either primary reference, it held that Comcast's remaining grounds failed. Separately, the Board held that Comcast had failed to prove obviousness for means-plus-function claim 18 because it had not identified the structure corresponding to the recited function for one of the claim's elements. Comcast appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

Comcast raises a panoply of arguments challenging the Board's final-written decisions. Primarily, it claims the Board erred by rejecting its construction of "command function" as overly broad and by finding no

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[2] Consistent with the parties' usage, we treat the "set-top-box-compatible instruction" limitation in claims 34 and 40–41 interchangeably with the "command function" limitation in claims 1, 2, and 18.

motivation to combine Houser with the primary references. We do not agree.

I

"We review the Board's constructions based on intrinsic evidence de novo and its factual findings based on extrinsic evidence for substantial evidence." *HTC Corp. v. Cellular Commc'ns Equip., LLC*, 877 F.3d 1361, 1367 (Fed. Cir. 2017). Because Comcast filed its petitions before November 13, 2018, we construe claims in the unexpired '538 patent according to their "broadest reasonable interpretation in light of the specification." 37 C.F.R. § 42.100(b) (2017).

We see no reversible error in the Board's rejection of Comcast's construction of "command function" as overly broad. As claimed, "command" is an adjective modifying "function," limiting that noun to functions that "command." *See* Appellant Br. at 39 (arguing "command" modifies "function"). The plain language of the claim, therefore, unambiguously limits the claimed command function to functions that command an action to be taken. Yet Comcast argues that "command function" includes functions that merely cause an action. That is an unreasonably broad construction: a function may ***cause*** (*i.e.*, lead to) an action without ***commanding*** (*i.e.*, directing) it. *See* J.A. 53800031–32 ("For instance, a function may be performed upon the satisfaction of a condition, *e.g.*, when A happens, then do B. Although B is performed as a result of A occurring, A is not a command to perform B."). Nothing in the written description shows the patentee intended to deviate from the plain meaning of "command." *See, e.g.*, '538 patent at 7:10–12 ("The

command functions are used ***to control*** remote control functions such as the gain control." (emphasis added)); *see also* J.A. 53800894 (Tr. of Oral Arg. before the Board) (counsel for Comcast stating that "[t]he patent uses that phrase basically to mean what you would think. It's a function that tells the set-top box what to do."). Thus, the claims' broadest reasonable interpretation cannot support functions that merely cause an action. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1373 (Fed. Cir. 2014) ("[T]o deviate from the plain and ordinary meaning of a claim term . . . the patentee must, with some language, indicate a clear intent to do so in the patent."). Comcast's arguments fail to persuade us otherwise.

II

"The Board's motivation to combine finding is reviewed for substantial evidence." *Outdry Techs. Corp. v. Geox S.p.A.*, 859 F.3d 1364, 1368 (Fed. Cir. 2017). "A finding is supported by substantial evidence if a reasonable mind might accept the evidence to support the finding." *Allied Erecting & Dismantling Co. v. Genesis Attachments, LLC*, 825 F.3d 1373, 1380 (Fed. Cir. 2016).

Substantial evidence supports the Board's finding that Comcast failed to show a motivation to combine Houser with Julia or Murdock. The Board found that "the record lack[ed] 'explanation as to *how* or *why* the reference would be combined to produce the claimed invention.'" J.A. 53800026 (quoting *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016)). It did not supplant *KSR's* flexible test, as Comcast argues. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). Instead, the Board simply found that

Comcast's conclusory, threadbare arguments were not enough to establish motivation to combine. *See TQ Delta, LLC v. CISCO Sys., Inc.*, 942 F.3d 1352, 1359 (Fed. Cir. 2019) ("[A] conclusory assertion with no explanation is inadequate to support a finding that there would have been a motivation to combine."). Specifically, it found Comcast had not proven a motivation to combine because it merely (1) alleged the references came from the same field of study and address the same problem; and (2) recited boilerplate legal conclusions untethered to any claim language. We hold those findings are supported by substantial evidence.

CONCLUSION

We have considered Comcast's remaining arguments and find them unpersuasive.[3] Because Comcast has not identified reversible error in the Board's final-written decisions, we affirm.

AFFIRMED

[3] We need not reach Comcast's arguments regarding claim 18.

APPENDIX B

NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

COMCAST CABLE COMMUNICATIONS, LLC,
Appellant

v.

PROMPTU SYSTEMS CORPORATION,
Appellee

ANDREI IANCU, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2019-2287, 2019-2288

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2018-00344, IPR2018-00345.

Decided: January 4, 2021

MARK ANDREW PERRY, Gibson, Dunn & Crutcher LLP, Washington, DC, for appellant. Also represented by JESSICA A. HUDAK, Irvine, CA; JAMES L. DAY, JR., Farella Braun Martel LLP, San Francisco, CA.

JACOB ADAM SCHROEDER, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Palo Alto, CA, for appel-lee. Also represented by JOSHUA GOLDBERG, Washington, DC.

DANIEL KAZHDAN, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for intervenor. Also represented by THOMAS W. KRAUSE, FRANCES LYNCH, FARHEENA YASMEEN RASHEED.

Before LOURIE, SCHALL, and MOORE, *Circuit Judges*.

MOORE, *Circuit Judge*.

Comcast Cable Communications, LLC, appeals two *inter partes* review final-written decisions, in which the Patent Trial and Appeal Board held that Comcast failed to prove claims 1, 2, 4–6, 12–15, 17–19, 25–28, 30–32, 38–42, 53–55, 61, 62, 64–66 (the challenged claims) of U.S. Patent No. 7,047,196 would have been obvious. For the following reasons, we affirm-in-part, vacate-in-part, and remand.

BACKGROUND

The '196 patent relates to a "method and system of speech recognition presented by a back channel from multiple user sites within a network." '196 patent at Abstract. Representative claims 1 and 14 recite:

> 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 sup-porting 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.
>
> . . .

14. A program system controlling at least part of ***a speech recognition system coupled to a wireline node*** in a network, said program system comprising the program steps of:

processing a multiplicity of 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 to each of said multiplicity of identified speech contents;

wherein said speech recognition system is provided said multiplicity of received identified speech channels based upon a received back channel at said wireline node from a multiplicity of user sites coupled to said network;

wherein each of said program steps reside in memory accessibly coupled to at least one computer included in said speech recognition system; wherein said at least one computer communicatively couples through said wireline node to said multiplicity of user sites; 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.

'196 patent at 50:62–51:10, 52:65–53:21 (emphases added).

Comcast petitioned for two IPRs of the '196 patent, arguing the challenged claims would have been obvious in light of two primary references—U.S. Patent No. 6,513,063 (Julia) or U.S. Patent No. 7,013,283 (Murdock)—individually or combined with additional references. Review was instituted, and the Board issued final-written decisions in both IPRs. In IPR2018-00345, the Board determined that the "speech recognition system" and "wireline node" in claim 14's preamble are different elements. Because Com-cast mapped the "speech recognition system" and the "wireline node" to a single element, the Board held Comcast failed to show claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 were unpatentable. The Board also declined to consider Comcast's new mapping of the "speech recognition system" in reply. In IPR2018-00344, the Board determined the "back channel" and "received back channel" in claim 1 are distinct elements, rather than a relabeling of one element. Because Comcast failed to allege any reference teaches the "received back channel," the Board held that Comcast failed to show claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 were unpatentable. Comcast appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

"We review the Board's constructions based on intrinsic evidence de novo and its factual findings based on extrinsic evidence for substantial evidence." *HTC Corp. v. Cellular Commc'ns Equip.*, LLC, 877 F.3d 1361, 1367 (Fed. Cir. 2017). Because Comcast filed its petitions before November 13, 2018, we construe claims in the unexpired '196 patent according to their "broadest reasonable interpretation in light of the

specification." 37 C.F.R. § 42.100(b) (2017). "Decisions related to compliance with the Board's procedures," like considering new arguments raised in reply, "are reviewed for an abuse of discretion." *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016).

I

For IPR2018-00345, Comcast argues the Board erred by determining that claim 14's "speech recognition system" and "wireline node" are different elements. It also argues the Board erred by not considering its new mapping in reply. We do not agree.[1]

We see no reversible error in the Board's construction requiring that the "speech recognition system" and "wire-line node" be distinct elements. Claim 14 recites "a speech recognition system ***coupled to*** a wireline node." By listing the elements separately and by using the word "coupled," claim 14 strongly indicates the "speech recognition system" is distinct from the "wireline node." *See Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) ("Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct components of the patented invention." (cleaned up)). While the '196 patent's written description contains an embodiment where a speech recognition sys-tem is "in" a wireline node, it also describes an embodiment with a speech recognition system "near" a wireline node. *See* '196

[1] We need not reach Comcast's arguments regarding Murdock's status as prior art.

patent at 5:11–15. Thus, the written description does not show a "clear intent" to depart from the claim's plain language. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1373 (Fed. Cir. 2014). The broadest reason-able interpretation of "coupled to" requires that the "speech recognition system" and "wireline node" are distinct components.

Nor do we see any abuse of discretion in declining to consider Comcast's new mapping raised for the first time in reply. "It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify with particularity the evidence that supports the grounds for the challenge to each claim." *Intelligent Bio-Sys.*, 821 F.3d at 1369 (internal quotation omitted). The Board correctly identified Comcast's mapping for the "speech recognition system" raised in reply as absent from Comcast's petition. *Compare* J.A. 19604521 & 19604524–25 *with* J.A.19604823–25. And Comcast has not come forward with a sufficient justification to excuse that failure. Thus, the Board acted within its broad discretion in declining to consider Comcast's new reply arguments. *See Intelligent Bio-Sys.*, 821 F.3d at 1369–70.

We have considered Comcast's remaining arguments regarding the IPR2018-00345 final-written decision and find them unpersuasive. Therefore, we affirm that decision, which held that Comcast failed to show claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 were unpatentable.

II

For IPR2018-00344, Comcast challenges the Board's claim construction. It contends the Board erred in construing "received back channel" in claim 1. To Comcast, the "received back channel" is merely a relabeled "back channel." Under the broadest reasonable interpretation standard, we agree.

Comcast's posed construction is broader than the Board's adopted construction and is consistent with the specification. The Board required Comcast to prove an additional element, "to create a received back channel." But, as Comcast argues, the broadest reasonable interpretation of "receiving said back channel to create a received back channel" is not so limited. One may read the "received back channel" as merely the "back channel" after being received. Under such a reading, the phrase "to create a received back channel" describes the result of "receiving" the "back channel." Nothing in the claim's plain language forecloses such a reading. Nor does the written description narrow the claim's plain language; in fact, the specification treats the "back channel" and "received back channel" as interchangeable. *Compare* '196 patent at 40:1–2 (discussing partitioning the "back channel") *with id*. at 51:3–4 (claiming portioning the "received back channel"). Although atypical and inartful, it is not unreasonable for the patentee to apply two different time frames to the same claim element, a "back channel" before receipt and a "received back channel" after receipt. And this construction does not result in surplusage because every claimed term, including "to create" and "received," has meaning. *See Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) ("[C]laims are interpreted with an eye toward giving

effect to all terms in the claim."). Ultimately, the broadest reasonable interpretation of "received back channel" is a "back channel that has been received."

Because the IPR2018-00344 final-written decision is predicated on the Board's erroneous construction, we vacate and remand for the Board to consider the parties' arguments under the correct construction.

CONCLUSION

Based on the foregoing, we affirm-in-part, vacate-in-part, and remand.

AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED

COSTS

No costs

APPENDIX C

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 IPR2018-00340
Patent 7,260,538 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 1–7, 17–24, and 33 of U.S. Patent 7,260,538 B2 (Ex. 1001, "the '538 Patent"). We instituted review of claims 1–7, 17–24, and 33 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) and Patent Owner filed a Sur-Reply (Paper 37). An oral hearing was held on January 28, 2019. A copy of the transcript for the oral hearing has been entered as Paper 55 ("Tr.").

As discussed below, Petitioner has not shown, by a preponderance of the evidence, that any of claims 1–7, 17–24, and 33 is unpatentable under any asserted grounds.

A. Related Matters

The '538 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 6), 2. Another petition for *inter partes* review has been filed by Petitioner on this patent in IPR2018-00341, which is pending before the Board. Pet. xii; *see also* IPR2018-00341, Paper 1. According to Patent Owner, the District Court stayed the pending civil action after the Board instituted trial in this matter. Patent Owner's Updated Mandatory Notice (Paper 16), 2.

B. The '538 Patent

The '538 Patent, titled "Method and Apparatus for Voice Control of a Television Control Device," was issued on August 21, 2007. Ex. 1001, [45]. It issued from U.S. Patent Application 10/338,591, filed on January 7, 2003, and claims the benefit of U.S. Provisional Application No. 60/346,899 filed on January 8, 2002. *Id.* at [21], [22], [60]. The '538 Patent generally relates to a "method and apparatus [] for remotely processing voice commands for controlling a television." Ex. 1001, Abstract. Figure 1 of the '538 Patent is reproduced below.

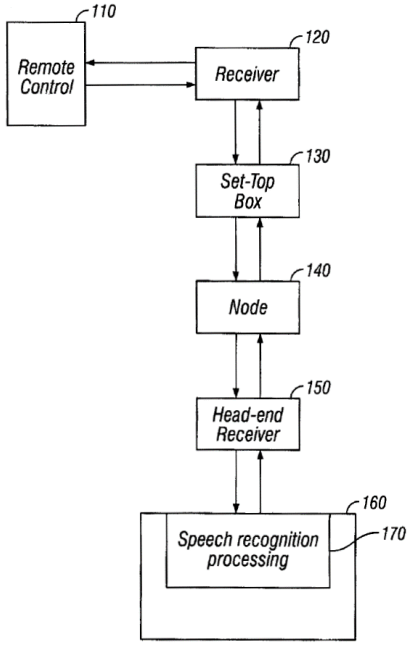

FIG. 1

Figure 1 "is a diagram illustrating elements of the voice control television system according to the invention." *Id.* at 2:52–53. According to the Specification, a "problem with the prior art voice recognition systems is that they require a sophisticated voice recognition system in close proximity to the user, requiring individual units[,] which is quite costly." *Id.* at 1:59–62. The Specification discloses "method and apparatus [] for remotely processing voice commands," purportedly solving one of the alleged problems in prior art systems. *Id.* at Abstract. A user's voice command "is received by a microphone contained in a [] remote control." *Id.* at 2:23–25. The microphone in the remote control "is activated by the depression of a push-to-talk (PTT) button or by word activation." *Id.* at 2:41–42. "The voice command is modulated and wirelessly transmitted to a wireless receiver connected to the set-top box." *Id.* at 2:25–26. "The voice command is then transmitted, for example, to a central processing station located at a cable television head-end unit[, which] processes the voice command for voice command recognition." *Id.* at 2:29–33. "Once the voice command is determined a command function is created [and] transmitted back to the set-top box where the set-top box performs the command function." *Id.* at 2:33–37.

C. Challenged Claims

Claims 1, 2, 18, and 19 are independent. Claims 1 and 2 are method claims "for providing voice recognition processing at a cable television head-end unit." *Id.* at 9:20–21, 41–42. Claims 18 and 19 are apparatus claims directed to apparatus "for providing voice recognition processing at a cable television head-end

unit" (*id.* at 11:26–27, 56–57). Claims 3–7 and 17 depend directly or indirectly from claim 2. Claims 20–24 and 33 depend directly or indirectly from claim 19. Independent claims 1 and 18, reproduced below, are illustrative of the challenged claims.

> 1. A method for providing voice recognition processing at a cable television head-end unit for a plurality of voice controlled television cable set-top boxes in a cable television network, comprising the steps of:
>
> a television remote control receiving user-activated indication of a voice command;
>
> receiving said voice command through a microphone associated with said television remote control;
>
> said television remote control wirelessly transmitting a signal representing said voice command to a cable set-top box;
>
> said cable set-top box transmitting a signal representing said voice command via cable television link to a remotely located head-end unit;
>
> processing said voice command at said head-end unit;
>
> the head-end unit deriving a set-top-box-compatible command function corresponding to said voice command;
>
> the head-end unit transmitting said command function to said cable set-top box via the cable television link;

performing said command function at said cable set-top box.

Ex. 1001, 9:20–40.

18. An apparatus for providing voice recognition processing at a cable television head-end unit for a plurality of voice controlled television cable set-top boxes in a cable television network, comprising:

a television remote control including: activation means for receiving user-activated indication of a voice command, microphone means for receiving the voice command, and transmission means for wirelessly transmitting a signal representing the voice command to a cable television controller;

a cable television controller including receiver means for receiving the signal representing the voice command from the television remote control and transmitter means for transmitting a signal representing the voice command via cable television link to a remotely located head-end unit;

a head-end unit including processing means for deriving cable-television-controller-compatible command functions corresponding to signals representing the voice commands received from the cable television controllers, and transmission means for transmitting signals representing the command functions back to respective cable television controllers;

> where the cable television controller additionally includes second receiver means for receiving the signals representing the command functions from the head-end unit via the cable television link, and where the cable television controller includes means responsive to receipt of the command functions for executing the command functions.

Ex. 1001, 11:26–55.

D. References Relied Upon

Petitioner relies on the following references:

Exhibit	Reference
1017	United States Patent No. 6,513,063 B1, filed March 14, 2000 ("Julia").
1018	United States Patent No. 7,013,283 B1, filed November 16, 2000 ("Murdock").
1019	United States Patent No. 5,774,859, issued June 30, 1998 ("Houser").

Pet. 2–3. Petitioner also relies on the Declaration of Anthony Wechselberger (Ex. 1022, "Wechselberger Declaration"), the Reply Declaration of Anthony Wechselberger (Ex. 1032), and the Declaration of Daniel C. Callaway (Ex. 1021).

1. Julia (Ex. 1017)

Julia describes a "navigation of electronic data by means of spoken natural language requests." Ex. 1017, 1:16–18. Figure 1a of Julia is reproduced below.

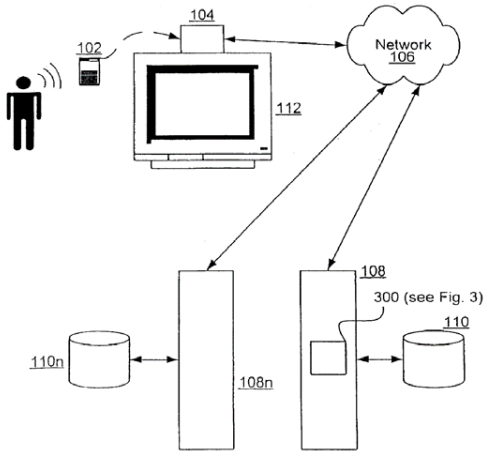

Fig. 1a

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.

2. Murdock (Ex. 1018)

Murdock describes a "system and a concomitant method for providing programming content in response to an audio signal." Ex. 1018, Abstract. Figure 1 of Murdock is reproduced below.

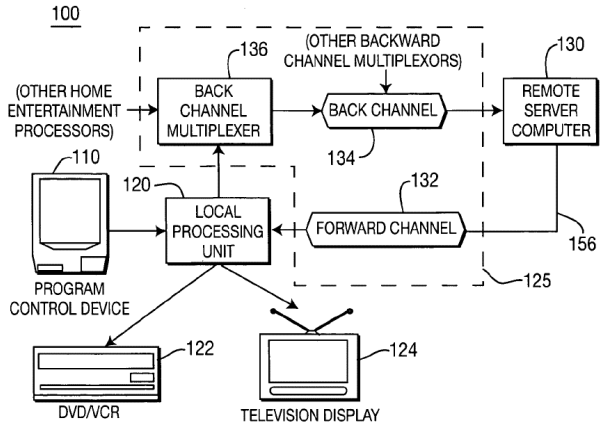

FIG. 1

Figure 1 "depicts a high-level block diagram of a voice control system." Ex. 1018, 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.

3. Houser (Ex. 1019)

Houser describes a "system for controlling a device such as a television and for controlling access to broadcast information such as video, audio, and/or text information." Ex. 1019, Abstract. Figure 1 of Houser is reproduced below.

FIG. 1

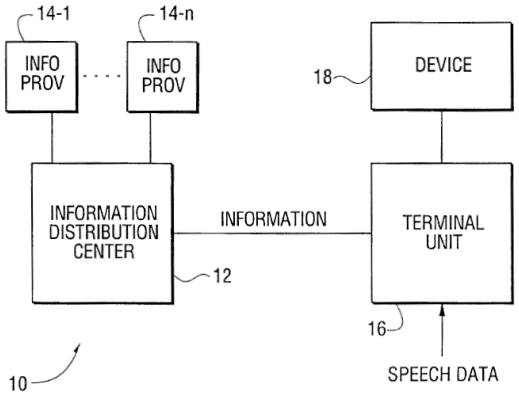

Figure 1 of Houser "is a generalized block diagram of an information system in accordance with" the claimed invention. Ex. 1019, 4:60–61. A remote control, which includes a microphone, captures "sounds or words spoken by a user" and transmits the sound data signals to terminal unit 16. *Id.* at 6:33–7:24. "Terminal unit 16 includes a processor for executing a speech recognition algorithm . . . to recognize, for example, commands for controlling device 18 or commands for accessing information transmitted by information distribution center 12." *Id.* at 5:62–5:67. The information is then retrieved from "information distribution center 12[,] which receives information from

one or more remotely located information providers 14-1, . . . 14-n[,] and supplies or broadcasts this information to a terminal unit 16." *Id.* at 5:39–44. "Terminal unit 16 then [] generates a command for controlling device 18." *Id*. at 5:67–6:2. "Device 18 may be any device [that] is capable of being operated in response to user supplied commands." *Id.* at 7:27–29.

E. Asserted Grounds of Unpatentability

Petitioner challenges claims 1–7, 17–24, and 33 of the '538 Patent based on the asserted grounds of unpatentability set forth in the following table. Pet. 1–3, 17–58.

Ground	Reference(s)	Basis[1]	Claims Challenged
1	Julia	§ 103(a)	1–7, 17–24, and 33
2	Julia and Houser	§ 103(a)	1–7, 17–24, and 33
3	Murdock	§ 103(a)	1–7, 17–24, and 33
4	Murdock and Houser	§ 103(a)	1–7, 17–24, and 33

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

[1] The relevant section of the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, took effect on March 16, 2013. Because the application from which the '538 Patent issued was filed before that date, the pre-AIA statutory framework applies.

"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. Wechselberger 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 work experience in the field of analog and digital television systems with exposure to interactive networks and associated 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 same field.

Pet. 7, emphases added; *see also* Ex. 1022 ¶¶ 101–102.

Quoting Petitioner's proposal for the level of ordinary skill to be applied in connection with the reviews of related patents, Patent Owner contends 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 equiv-

> alent) 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***.

Resp. 7 (quoting *Comcast Cable Commc'ns, LLC v. Promptu Sys. Corp.*, IPR2018-00342, Pet. at 8–9 (PTAB Dec. 19, 2017) (Paper 1)); *see also* Resp. 7–9 (asserting the level of ordinary skill as proposed by Petitioner in related IPR proceedings is appropriate for this case); Ex. 2033 ¶¶ 22–29 (same). As Patent Owner explains, its proposed definition is the same as that proposed by Petitioner in Case Nos. IPR2018-00342, IPR2018-00343, IPR2018-00344, and IPR2018-00345 ("other Comcast IPR proceedings"), which differs from Petitioner's proposed definition in this proceeding in that the proposed definition in those other Comcast IPR proceedings includes a further requirement that the person of ordinary skill in the art at the time of the invention must also have experience in the field of multi-media systems "*including in particular speech recognition and control technologies*." Resp. 6–9. Patent Owner explains that Petitioner's proposed definition in this proceeding "would not necessarily include expertise with voice recognition technology, at least because 'interactive networks and associated control technologies' at the time of the invention for analog and digital television systems would not have included voice control, which was not commercially available (or well known) for television systems." *Id.* at 8–9. Patent Owner also points out that "Promptu's patents[, in this proceeding and the other Comcast IPR proceedings,] all relate to

the same technology and claim various aspects of television voice command recognition and processing." *Id*. at 6.

We agree with Petitioner that the definitions for a person of ordinary skill in the art involving unrelated patents in different proceedings need not be the same in each proceeding. Reply 2–4. Although the patents in each proceeding before us are issued to the same assignee and have some of the same inventors, the specific goal of each patent differ between proceedings. We also agree with Mr. Wechselberger that "[w]hile the '538 Patent discloses a system that includes voice recognition processing," it discusses voice recognition technology only as a component part of the system, and expertise in voice recognition technology was not required to understand the '538 Patent because it does not discuss any particular voice recognition techniques or algorithms. Ex. 1032 ¶¶ 6–7. Therefore, we agree with Mr. Wechselberger that a practitioner would have understood how to implement existing voice recognition products in a cable television network without having special knowledge or experience with voice recognition algorithms. *Id.* ¶¶ 5–7.

For the foregoing reasons, we credit the testimony of Mr. Wechselberger regarding the person of ordinary skill in the art and adopt, with modification (*e.g.*, removing the words "at least" from Petitioner's proposed definition), 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 work

> experience in the field of analog and digital television systems with exposure to interactive networks and associated 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 same field.

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 a spoken natural language as an input into control systems. *See* Ex. 1017, 1:39–48.

B. Claim Construction

1. General Principles

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);[2] *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest rea-

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[2] A recent amendment to this rule does not apply here, because the Petition was filed before November 13, 2018. *See* "Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board," 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (to be codified at 37 C.F.R. pt. 42).

sonable 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).

Construction of a "means-plus-function" limitation under 35 U.S.C. § 112, sixth paragraph, involves two steps: first identifying the function explicitly recited in the claim, and then identifying the corresponding structure set forth in the written description that performs the particular function set forth in the claim. *Asyst Techs, Inc. v. Empak, Inc.*, 268 F.3d 1364, 1369–70 (Fed. Cir. 2001).

Petitioner proposes constructions for several terms in claim 18, including "activation means for receiving user-activated indication of a voice command," "transmission means for wirelessly transmitting a signal representing the voice command to a cable television controller," "processing means for deriving cable-television-controller-compatible command functions . . . ," and "means responsive to receipt of the command functions." Pet. 8–11. Patent Owner takes no position as to any of these terms. *See generally* Resp. Petitioner acknowledges, and we are persuaded on the record before us, that these are means-plus-function limitations that should be construed in accordance with 35 U.S.C. § 112, ¶ 6. *See id*.

2. "activation means for receiving user-activated indication of a voice command"

Petitioner proposes the following construction for "activation means for receiving user-activated indication of a voice command":

- Function: "receiving user-activated indication of a voice command";
- Structure: "push to talk (PTT) button" or "a word recognition unit" and equivalents.[3]

Pet. 8 (citing Ex. 1022 ¶¶ 106–108; Ex. 1001 4:36–40, 7:37–40, Fig. 2). Patent Owner does not propose an alternative construction nor does Patent Owner respond to Petitioner's proposal. *See generally* Resp. Based on our review of the record before us, we partially adopt Petitioner's proposed construction for the recited function but find the corresponding structure to be: "'push to talk (PTT) button' or 'a voice processor and a buffer' and equivalents." Specifically, we replace "a word recognition unit" in the proposed corresponding structure with "a voice processor and a buffer" because "word recognition unit" is a functional recitation and does not identify any particular structure. The Specification refers to the "word recognition unit [a]s typically constructed of a voice processor and a buffer." *See* Ex. 1001, 7:42–44.

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[3] We read "equivalents" in Petitioner's proposed constructions for means plus function elements as referring to equivalents of the identified corresponding structure.

3. "transmission means for wirelessly transmitting a signal representing the voice command to a cable television controller"

Petitioner proposes the following construction for "transmission means for wirelessly transmitting a signal representing the voice command to a cable television controller":

- Function: "wirelessly transmitting a signal representing the voice command to a cable television controller";
- Structure: "transmitter 224," which can be a "radio frequency (RF) transmitter" or an "infrared transmitter," and equivalents.

Pet. 8–9 (citing Ex. 1022 ¶¶ 113–115; Ex. 1001, 2:54–56, 2:62–64, 4:37–40, 4:51–55, 11:33–35, Fig. 2). Patent Owner does not propose an alternative definition nor does Patent Owner respond to Petitioner's proposal. *See generally* Resp. Based on our review of the record before us, we adopt Petitioner's proposed construction for this term.

4. "processing means for deriving cable-television-controller- compatible command functions . . ."

Petitioner proposes the following construction for "processing means for deriving cable-television-controller-compatible command functions . . .":

- Function: "deriving cable-television-controller- compatible command functions corresponding to signals representing the voice commands received from the cable television controllers";

- Structure: "speech recognition processor 670" and equivalents.

Pet. 9 (citing Ex. 1022 ¶¶ 124–126; Ex. 1001, 5:46–56). Patent Owner does not propose an alternative definition nor does Patent Owner respond to Petitioner's proposal. *See generally* Resp. Based on our review of the record before us, we adopt Petitioner's proposed construction for this term.

5. "means responsive to receipt of the command functions for executing the command functions"

Petitioner proposes the following construction for "means responsive to receipt of the command functions for executing the command functions":

- Function: "executing the command functions";
- Structure: "a processor" and equivalents.

Pet. 10–11 (citing Ex. 1022 ¶¶ 136–138; Ex. 1001, 3:51–52, 4:20–24, 11:53–55). First, regarding the recited function, claim 18 includes the recitation "responsive to receipt of the command functions." That is, the recited function is "responsive to receipt of the command functions for executing the command functions." Neither Petitioner nor its expert explains why it is appropriate to remove "responsive to receipt of the command functions for" from the recited function. Pet. 10–11; Ex. 1022 ¶ 137.

Next, Petitioner is required to identify "the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function." 37 C.F.R. § 42.104(b)(3). As the Federal Circuit has noted, "'structure disclosed in the specification is "corresponding" structure only if the

specification or prosecution history clearly links or associates that structure to the function recited in the claim. This duty to link or associate structure to function is the *quid pro quo* for the convenience of employing § 112, ¶ 6.'" *Saffran v. Johnson & Johnson*, 712 F.3d 549, 562 (Fed. Cir. 2013) (quoting *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)). We are not persuaded that Petitioner has identified sufficient corresponding structure for this means-plus-function limitation.

Here, Petitioner contends that the corresponding structure for performing the recited function is "'a processor' and equivalents." Pet. 11. Petitioner's expert further opines that "the patent identifies the Motorola DCT-2000 set-top box ('538 Patent[,] 3:51–52), and a person of ordinary skill in the art would have known that the DCT-2000 includes a processor that executes command functions from the cable head-end." Ex. 1022 ¶ 138. However, for means-plus-function limitations,

> [i]f special programming is required for a general-purpose computer to perform the corresponding claimed function, then the default rule requiring disclosure of an algorithm applies. It is only in the rare circumstances where any general-purpose computer without any special programming can perform the function that an algorithm need not be disclosed.

Ergo Licensing, LLC v. CareFusion 303, Inc., 673 F.3d 1361, 1365 (Fed. Cir. 2012); *see also Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1352 (Fed. Cir. 2015) (en banc) ("In cases . . . involving a claim limitation

that is subject to § 112, para. 6 that must be implemented in a special purpose computer, this court has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor[; it must] disclose an algorithm for performing the claimed function.") (citations omitted); *Aristocrat Techs. Austl. Party Ltd. vs. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

We decline to adopt Petitioner's proposed construction because Petitioner has not explained sufficiently that the recited function for this term ("responsive to receipt of the command functions for executing the command functions") is a basic computer function that would not require a special purpose computer, nor has Petitioner directed us to any portion of the Specification sufficient to link a structure (*i.e.*, an algorithm)[4] to the recited function. The reference to "a processor" without specifying the algorithm is too generic to identify any specific structure. In *Aristocrat*, the Federal Circuit stated that "the corresponding structure for a § 112 ¶ 6 claim for a computer-implemented function is *the algorithm disclosed in the specification*." *Id.*, emphasis added. As the Federal Circuit explained, "a general purpose computer programmed to carry out a particular algorithm creates a 'new machine' because a general purpose computer 'in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.'" 521 F.3d at 1333 (quoting *Harris Corp. v. Ericsson Inc.*, 417

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[4] We do not opine on whether the Specification contains such an algorithm.

F.3d 1241, 1249 (Fed. Cir. 2005)); *see also WMS Gaming, Inc. v. Int'l Game Techs.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). Consequently, the specification must disclose enough of a specific algorithm to provide the necessary structure under § 112, sixth paragraph. *Finisar Corp. v. DirectTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008). Allowing a computer programmed to perform a specialized function to be claimed without disclosure of the algorithm used for that programming would exhibit the same type of impermissible overbreadth of purely functional claims. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1367 (Fed. Cir. 2008).

> If special programming is required for a general-purpose computer to perform the corresponding claimed function, then the default rule requiring disclosure of an algorithm applies. It is only in the rare circumstances where any general-purpose computer without any special programming can perform the function that an algorithm need not be disclosed.

Ergo Licensing, LLC v. CareFusion 303, Inc., 673 F.3d 1361, 1365 (Fed. Cir. 2012).

Here, by simply noting that "a processor" can perform the recited function of "responsive to receipt of the command functions for executing the command functions," Petitioner has not identified the underlying algorithm to perform the recited function. Petitioner has not made the case that this falls within the narrow exception explained in *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1316 (Fed. Cir. 2011), where the function recited is generic

and can be performed by any general-purpose computer without special programming, *e.g.*, "processing," "receiving," "storing." Petitioner makes no explanation as to why the recited function would be so basic that it could be performed by "a processor" without any special programming. Accordingly, Petitioner has not identified corresponding structure, described in the Specification of the '538 Patent, that causes a computer to perform the recited function of "responsive to receipt of the command functions for executing the command functions."

6. Other Terms Containing "means for"

Petitioner proposes that the following terms, in claim 18, containing the words "means for" should not be construed as means-plus-function terms: "microphone means for . . . ," "receiver means for . . . ," "transmitter means for . . . ," and "second receiver means for . . . ." Pet. 11 (citing to Ex. 1022 ¶¶ 109–112, 116–119, 120–123, 131–135). Patent Owner does not propose any alternative definitions nor does Patent Owner respond to Petitioner's proposal. *See generally* Resp.

The use of the term "means" triggers a rebuttable presumption that § 112, ¶ 6 applies. *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259 (Fed. Cir. 2008). One way in which this presumption can be overcome is if "the claim recites sufficient structure for performing the described functions in their entirety." *Id.* To determine if the claim recites sufficient structure, "it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class

of structures and even if the term identifies the structures by their function." *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1359–60 (Fed. Cir. 2004).

Here, for each limitation, the claim recites sufficient structure for performing the described functions. For example, a microphone is sufficient structure "for receiving the voice command" (Ex. 1022 ¶ 109) and a transmitter is sufficient structure for "transmitting a signal representing the voice command via cable television link to a remotely located head-end unit" (*id.* ¶ 120). *See also id.* ¶¶ 110–112, 116–119, 121–123, 131–135. Therefore, based on our review of the record before us, we are persuaded by Petitioner that these terms do not invoke 35 U.S.C. § 112, ¶ 6.

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*, 550 U.S. at 418. Rather, to establish obviousness, petitioner bears the "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) (internal 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) (internal quotations and brackets 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; *see also 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. Claim 18

As discussed above, Petitioner fails to identify the structure corresponding to the recited function "responsive to receipt of the command functions for executing the command functions" within the means-plus-function element "means responsive to receipt of the command functions for executing the command functions" of claim 18. As such, we determine that Petitioner has not established, by a preponderance of the evidence, the unpatentability of claim 18 in *any* of the asserted grounds (Grounds 1 to 4).

3. Combination Grounds – Obviousness over Julia in view of Houser and Obviousness over Murdock in view of Houser

Patent Owner contends that "Petitioner's combinations fail because [Petitioner] did not articulate a sufficient motivation to combine the features of the prior art to yield the claimed invention." Resp. 12–13. According to Patent Owner, "[t]he entirety of the [P]etition's discussion of a motivation to combine Julia with Houser (or Murdock with Houser) falls within a mere two paragraphs of each ground." *Id*. at 13–15.

Petitioner notes that a person of ordinary skill in the art would have been motivated to combine Julia with Houser and Murdock with Houser because the references "all relate to the field of interactive television systems specifically including cable television networks" (*i.e.*, analogous art) and that they all "also address the same problem of providing voice control capability in such an interactive television system." Pet. 44–45, 70–71. Petitioner also states that "a person of ordinary skill in the art would have recognize[d] the benefits of combining" the references and that such a combination "would have been no more than combining prior art elements according to known methods to yield predictable results." *Id.*

Petitioner's conclusory rationale for the combinations, however, is untethered to any claim limitations. *See* Pet. 44–45, 70–71 (citing to Ex. 1022 ¶¶ 375–380, 382–383, 493–497, 499–500). For example, when discussing the combination of the references for a particular limitation, Petitioner starts with a discussion of either Julia or Murdock, followed by a discussion of Houser, and then provides a conclusory assertion that the combination would disclose the limitation at issue. *See, e.g.*, Pet. 24–26 ("In Julia . . . . In addition to the disclosures in Julia, the Houser prior art patent also discloses . . . . Thus, Julia alone or combined with Houser discloses . . . ."), 27–28 ("As explained above, Julia discloses . . . . In addition, Houser also discloses . . . . Thus, Julia alone or combined with Houser discloses . . . ."). These discussions do not articulate, with respect to any specific limitation, or for any claim as a whole, why or how Julia or Murdock can and should be combined with Houser.

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*, 812 F.3d at 1066. The Petitioner also states that "a skilled artisan would have been capable of combining the teaching[s] of [the prior art references because such] combination[s] would have been no more than combining prior art elements according to known methods to yield predictable results." However, this discussion is similarly untethered to any claim element, or to the claim as a whole. Pet. 45, 72 (citing to Ex. 1022 ¶¶ 382–383;[5] 499–500.) And, again, we are not informed what teaching of one reference is proposed to be combined with what teaching of the other reference, or why and how the combination would have been made. To the extent Petitioner's position is that once it establishes that two prior art references are within the same field and are directed to solving the same problem, then all features within one reference can be used within the other, and vice versa, without need for further explanation, it cites no authority to support that broad position and we are aware of none.

Therefore, we determine that Petitioner has not established, by a preponderance of the evidence, that claims 1–7, 17, 19–24, and 33 would have been obvious over Julia in view of Houser or Murdock in view of Houser.

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[5] The Petition cites, erroneously, to paragraphs 382 to 383 of the Wechselberger Declaration. Pet. 45. We assume Petitioner intends to cite to paragraphs 322 to 323 of the Wechselberger Declaration.

4. Single Reference Obviousness Grounds – Obvious over Julia alone or Obvious over Murdock Alone

a. Claims 1–7, 17, 19–24, and 33

Petitioner contends that claims 1–7, 17, 19–24, and 33 are unpatentable over Julia alone or Murdock alone under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Wechselberger (Exs. 1022, 1032). Pet. 18–35, 40–61, 66–70; *see also* Reply 4–12.

Patent Owner makes numerous arguments regarding how Julia or Murdock fails to "renders obvious several specific claim features" of claims 1–7, 17, 19–24, and 33. Resp. 22–50; Sur-Reply 9–19; *see also* Resp. 15–22 (discussing the Petition's alleged deficiency in its *Graham* analysis); Sur-Reply 8–9 (same).

As discussed below, we determine that Petitioner has not established, by a preponderance of the evidence, that either Julia alone or Murdock alone teaches "the head-end unit deriving a set-top-box-compatible command function corresponding to said voice command" limitation of independent claims 1 and 2 or "a head-end unit to derive set-top-box-compatible command functions corresponding to signals representing voice commands" limitation of independent claim 19.

In light of these deficiencies, Petitioner has not persuasively established that any of claims 1–7, 17, 19–24, and 33 would have been unpatentable. Because the above issue is dispositive, we exercise our discretion to not reach all other arguments raised by Patent Owner regarding the non-obviousness of these claims.

Petitioner and its declarant cite to three examples to show how Julia teaches the limitation "the head-end unit deriving a set-top-box-compatible command function corresponding to said voice command," as recited in claim 1 and similarly recited in claims 2 and 19.[6] Pet. 24–26.

(1) Decoding / Formatting

Petitioner, citing to various portions of Julia and the testimony of Mr. Wechselberger, explains that after the "remote server performs speech recognition processing[, it] then constructs a query to obtain the requested content." Pet. 24 (citing Ex. 1017, 3:61–64). The desired content is then searched and retrieved. *Id.* According to Petitioner's expert, "[i]n the case of an on-demand video (and other types of content), the information must be decoded and formatted by the set-top box before being displayed." Ex. 1022 ¶ 178 (citing to Julia, Ex. 1017, 4:25–30 ("display device 112 is coupled to or integrated with a communications box (which is preferably the same as communications box 104, but may also be a separate unit) for receiving and decoding/formatting the desired electronic information that is received across communications network 106"), emphasis omitted).

Patent Owner and its declarant, Mr. Tinsman, disagree. Resp. 29–31; Ex. 2033 ¶¶ 41–43. Patent Owner points out that "Petitioner does not explain why decoding/formatting video content requires the claimed command" and contends that a "POSITA

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[6] The parties analyze these claim limitations together. We will address this limitation of claim 1 as representative of the corresponding limitations in claims 2 and 19.

would know that decoding and formatting content data does not require that a command be derived by a head-end unit in response to a user's query and then sent to the set-top box." Resp. 29 (citing Ex. 2033 ¶¶ 41–43). According to Patent Owner's declarant, Mr. Tinsman, Petitioner "has not shown that that information includes a set-top box compatible command function" because "while the references' disclosures broadly indicate that their set-top boxes receive some information from a remote network location," the information does not require a command to be sent for decoding or formatting. Ex. 2033 ¶ 43.

Specifically, Mr. Tinsman testifies:

> Cable digital television content is typically transmitted as compressed data that must be decompressed by the set-top box for display on a television. Such content information is generally comprised of the compressed video data accompanied by metadata describing the content data to the set-top box, including, *e.g.*, details of the data's format. A POSITA would know that a set-top box does not need to receive specific instructions to perform a function every time it receives content data. Instead, the video decoder in the set top box automatically decodes the incoming data for display on a television without needing specific instructions to do so from the head-end unit.

Id. We credit the above-quoted testimony of Mr. Tinsman, and find it to be persuasive. Patent Owner also points out that Mr. Wechselberger admitted that decoding and formatting information does not neces-

sarily require a command to be sent. Resp. 29–30 (citing Ex. 2034, 50:20–24 ("Q Is it your opinion that decoding and formatting information necessarily requires a command to be sent from the head end to the set top box? A No.")); *see also* Ex. 2034, 50:25–52:20.

In contrast, we do not credit the conclusory testimony of Mr. Wechselberger that "[a] person of ordinary skill in the art would know that remote server 108 would send a 'set-top-box-compatible command function' to the communications box 104 ('set-top box') as a prerequisite to permit it to decode and format the video signal for display on display device 112." Ex. 1022 ¶ 178. This conclusory statement is not supported by persuasive evidence, and is inconsistent with Mr. Wechselberger's admission that decoding and formatting information does not necessarily require a command to be sent. *See* Ex. 2034, 50:20–24.

Petitioner also contends that:

> Patent Owner's argument is based on an unstated, narrow construction of the term "set-top-box-compatible instructions" [and] Patent Owner is unable to do so because the '538 Patent does not specifically define or use the term, except in the claims, *and instead refers broadly to derived voice commands that cause the user's set-top box to display video content or otherwise perform a function*.

Reply 8, emphasis added.[7] Petitioner's counsel argued during the oral hearing that a "command function"

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[7] Petitioner appears to be referring to "set-top-box-compatible command function" (in claims 1, 2, 19) and "set-top-box-compatible instructions" (claims 34 and 41) interchangeably.

can simply be information as long as it causes the set-top box to perform a function:

> JUDGE YAP: So a command can be a head end unit sending an instruction or sending something akin to "display this pop up box on the screen?" Or it can also be, according to you, a movie, just basically the name of a movie, just information about the movie, and it just displays it, and that would also be a command. Is that right?
>
> MR. DAY: I think that's right. There's nothing in -- well, yes, Your Honor. There's nothing in the patent that requires a narrower reading of what's happening here. The invention is not -- these command functions are not part of the invention here. The patent doesn't talk about command functions and say, oh, we have this really neat thing, we're going to send command functions. What it talks about is the user can speak a voice command into their remote, it's going to be interpreted -- whatever they ask for is going to happen. That's what the patent is about.
>
> And so these command functions just are not defined in a narrow way to be anything other than what you just said. *Yes, sending information, sending data. If it causes the set top box to perform a function, then it's a set top box compatible command function.*

Tr. 23:18–24:12, emphasis added; *see also* Ex. 1032 ¶ 18.

We are not persuaded that a command function can be any kind of information or data that causes the set-top box to perform a function. Petitioner's reading of the term "command function" is unreasonably broad.[8] The claim requires "the head-end unit [to] deriv[e] a set-top-box-compatible command function corresponding to said voice command." Ex. 1001, 9:35–36. Petitioner's construction of "command function" would essentially read the term out of the claim. Importantly, the term "command function" should at least include a "command" to perform a function. The Specification also does not describe "command function" as simply information or data. *See, e.g.*, Ex. 1001 2:35–39 ("The command function is transmitted back to the set-top box where the set-top box *performs the command function*. Alternatively, the set-top box just passes on the command and the head end performs or carries out the command."), emphasis added; 4:19–23 ("After the voice command is processed, the central processing station 160 sends a corresponding command function to the cable set-top box 130 or other system component where *the command is then performed*."), emphasis added.

Petitioner has not established that everything that leads to performing a function is a command. For instance, a function may be performed upon the satisfaction of a condition, *e.g.*, when A happens, then do B. Although B is performed as a result of A occurring, A is not a command to perform B.

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[8] The parties do not offer any explicit claim construction for this term.

Petitioner also contends that "Patent Owner not only fails to disclose and support its narrow construction of the term 'set-top-box-compatible command function,' it abandons its construction when mapping the challenged claims to its own product" in Patent Owner's attempt to show a nexus between its product (AgileTV) to the challenged claims. Reply 8–11. This argument is not persuasive because, as the Patent Owner points out, "Ex. 2008, which Mr. Tinsman relied on in forming his opinion, expressly states that the system issued '***appropriate action commands*** to the set-top box as speech requests are recognized.'" Sur-Reply 15.

Petitioner also argues that "Patent Owner's declarant and former CTO David Chaiken testified that the similar term 'set-top-box-compatible command function' refers broadly to anything causing the set-top box to show video content or perform a function." Reply 9 n.3 (citing Ex. 1027, 17:21–18:24, 19:12–20:4). Petitioner's reliance on Dr. Chaiken's testimony is not persuasive because, although Dr. Chaiken was discussing his understanding of the AgileTV system and how it was an embodiment of the challenged claims, he is not an inventor of the '538 Patent nor was he opining on the definition of the term as would have been understood by a person of ordinary skill in the art. Reply 9, n.3; Sur-Reply 13–14.

For the foregoing reasons, we determine that Petitioner's construction of "command function" is unreasonably broad . Accordingly, we determine that Petitioner has not established that a person of ordinary skill in the art would have understood from Julia's disclosure that "'set-top-box-compatible command function' [would be sent] to the communications

box 104 ('set-top box') as a prerequisite to permit it to decode and format the video signal for display on display device 112," as Mr. Wechselberger opines. Ex. 1022 ¶ 178.

(2) Authorization and Security Information

In addition, Petitioner, relying on Mr. Wechselberger's testimony, states that "[a] skilled artisan would also know that the head-end unit sends authorization and security information to the user's set-top box to permit it to display the movie[, and that s]uch conditional authorization and security information also constitutes a 'set-top box compatible command function.'" Pet. 25; *see* Ex. 1022 ¶ 179. Patent Owner and its declarant, Mr. Tinsman, disagree. Resp. 31–33; Ex. 2033 ¶¶ 41–43. Patent Owner points out that Petitioner does not explain why "authorization and security information requires deriving and transmitting a set-top box compatible command" and contends that a "POSITA would know that conditional authorization and security information does not need to be a command." Resp. 31 (citing Ex. 2033 ¶¶ 44–46). Particularly, Patent Owner's declarant, Mr. Tinsman, explains that:

> 45. A POSITA would know that conditional authorization and security information does not need to be a command. Premium channels such as HBO may be encrypted. Security information delivered to a set-top box can include the digital key data needed to decrypt a given channel. But such keys are not themselves commands; they simply provide data necessary to view a program in the event a user chooses to do so. Like receiving a key for

> a physical door, receiving the encryption key data provides the ability—but not the affirmative instruction—to unlock the content. In my view, the mere receipt of authorization and security information does not require that the head-end unit send the set-top box a command function, and Comcast has thus not explained how Julia or Murdock render obvious this claim feature.
>
> 46. A POSITA would also know that authorization and security information does not always need to be sent in response to a user's query. As an example, when a user first subscribes to HBO, the cable company sends the set-top box information allowing it to display HBO on the television. But once the set-top box is configured to enable a user access to a particular channel, the cable company does not need to send authorization information to the set-top box every time the user asks the voice remote to play the channel. The delivery of the channel could thus occur as a direct result of a user's voice command to find a specific film or program, without any authorization or security information being sent in response to the user's command. Consequently, it is incorrect to conclude that the delivery of any needed entitlements to view a program is a direct result of the claimed voice request.

Ex. 2033 ¶¶ 45–46; *see also* Resp. 31–32. We find Mr. Tinsman's testimony to be well-explained and well-reasoned, and we therefore afford it substantial weight. In contrast, we do not credit the conclusory

testimony of Mr. Wechselberger that "[a] skilled artisan would also know that the head- end unit sends authorization and security information to the user's set-top box to permit it to display the movie[, and that s]uch conditional authorization and security information also constitutes a 'set-top box compatible command function.'" Pet. 25; *see* Ex. 1022 ¶ 179. Petitioner also relies on the claim construction argument, as discussed above. Accordingly, for the same reasons discussed above, we determine that Petitioner has not established that a person of ordinary skill in the art would have understood that conditional authorization and security information also constitutes a "set-top box compatible command function." *Id.*; *see also* Reply 8–11.

(3) Displaying Interactive Menu

Petitioner provides a third example of how Julia teaches "the head-end unit deriving a set-top-box-compatible command function corresponding to said voice command" limitation. Petitioner notes that "[i]n addition to providing video and other content to the user, Julia also discloses utilizing voice commands to return control information such as an interactive list of available on-demand movies." Pet. 24–25. According to Petitioner:

> [T]he user can say, for example, "I want to see that movie starring and directed by Clint Eastwood." Julia at 11:31–32. The remote server would query the data source and then return instructions to the user's set-top box to display the list of movies satisfying the query. *Id*. at 11:32–49. The system would then display an interactive menu of options for the

> user, who would respond with a further voice command (*e.g.*, "Let's see Unforgiven") to select a particular on-demand movie. *Id.* at 11:57–67.

Id. at 24. Petitioner then, relying on its declarant's testimony, concludes that "[t]he interactive menu information transmitted to the set-top box [also] constitutes a 'set-top-box-compatible command function . . . corresponding to said voice command,' as claimed." *Id.* at 24–25 (citing Ex. 1022 ¶ 181). Patent Owner disagrees and points out that "Petitioner fails to explain how displaying a menu on a television screen *requires* that a command be derived and sent to the set-top box" and that Mr. Wechselberger's "conclusory testimony should not be given weight." Resp. 34–35, emphasis omitted.

We agree with Mr. Tinsman that Mr. Wechselberger "does not explain why" a person of ordinary skill in the art "would recognize that the 'list of film titles' displayed to the user is based on a command function" (Ex. 2033 ¶ 49 (citing Ex. 1022 ¶ 181)), and therefore we do not credit the testimony of Mr. Wechselberger. As noted above, Petitioner's argument (*see* Reply 8–11) and the conclusory testimony of Mr. Wechselberger (Ex. 1022 ¶ 181) rely on an overly broad construction of "command function" that we have rejected. We also agree with and credit Mr. Tinsman's testimony that:

> Even if that is true, a POSITA would recognize that if the head-end "generates an interactive menu" that is then sent to the set-top box to be displayed on the screen, then the

> head-end would appear to simply prepare information based on a user's query, not a command for the set-top box to do something. Mr. Wechselberger's statement that the menu is "executed" by the cable set-top box could be accomplished by the set-top box simply performing a pre-programmed function when it receives a certain type of information, and does not explain how either of Julia or Murdock alone teaches deriving a command function. In my opinion, a POSITA would not view mere information sent to the set-top box from the head-end unit (that the set-top box uses to generate a menu) as a "command function."

Ex. 2033 ¶ 49. We, therefore, determine that Petitioner has not established that "[a person of ordinary skill in the art] would recognize that the 'list of film titles' displayed to the user is based on a command function."

b. Secondary Considerations of Non-obviousness

Patent Owner also contends that secondary considerations further demonstrate non-obviousness of the challenged claims. Resp. 50–63. 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.

c. Single-Reference Obviousness Conclusions

For the foregoing reasons, we determine that Petitioner has not established, by a preponderance of the

evidence, that claims 1–7, 17, 19–24, and 33 would have been obvious over Julia.

Petitioner's arguments with regard to the alleged ground of obviousness over Murdock are premised on the same overly broad interpretation of "command functions" that we have rejected in connection with Petitioner's arguments based on Julia. *See* Pet. 51–52 ("A person of ordinary skill in the art would have known that 'command functions' would be transmitted along with the programming content (*e.g.*, formatting and display instructions, authorization information, etc.). Wechselberger Decl. ¶¶ 341–342."). Therefore, for the same reasons explained above in connection with Petitioner's arguments based on Julia, we also determine that Petitioner has not established, by a preponderance of the evidence, that claims 1–7, 17, 19–24, and 33 would have been obvious over Murdock.

D. Motions to Exclude

1. Petitioner's Motion to Exclude

Petitioner filed a Motion to Exclude Evidence seeking to exclude Exhibits 2001–2003, 2009–2011, 2015, 2021, 2024, and 2032 as inadmissible hearsay evidence. Paper 35; *see also* Papers 44 (Patent Owner's Opposition to Petitioner's Motion to Exclude Evidence), 49 (Petitioner's Reply in Support of its Motion to Seal). These exhibits relate to Patent Owner's support for its secondary considerations arguments. Resp. 50–63. 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 filed a Motion to Exclude seeking to exclude Dr. Chaiken's testimony in response to two questions that purportedly exceeded the scope of permissible cross-examination. Paper 39 (citing Ex. 1027, 17:21–18:24, 19:12–20:4). According to Patent Owner, Dr. Chaiken, in his declaration (Ex. 2032) "offered no opinion regarding the construction of 'command function' or about the application of the claims of the '538 Patent to the AgileTV device. Rather, Dr. Chaiken's declaration simply stated that 'the architecture and solution described in the '538 patent accurately reflect the AgileTV solution in 2002.'" Paper 39, 1 (citing Ex. 2032 ¶ 16). Patent Owner argues that "Comcast's questions regarding the meaning of 'set-top-box-compatible command function' therefore fell outside the scope of Dr. Chaiken's direct testimony" and should be excluded because "they exceeded the proper scope of cross-examination." *Id.* at 1–2.

Petitioner contends that "Dr. Chaiken's testimony regarding the term 'command function' is relevant [because i]n his declaration, Dr. Chaiken primarily addresses Patent Owner's arguments regarding purported secondary considerations of non-obviousness." Paper 47, 1. Specifically, according to Petitioner, "[b]y relying on Dr. Chaiken's testimony in an effort to establish a nexus between the challenged claims and the AgileTV product, Patent Owner put his understanding of the challenged claims at issue[, hence, h]is testimony regarding his understanding of the claim term 'command function' is therefore relevant" and within the scope of cross-examination. *Id.* at 2. Patent Owner disagrees, arguing that Dr. Chaiken, a fact witness, "never mapped the AgileTV system to the

claims, and his testimony truly had nothing to do with the claims or any potential interpretation of them." Paper 48, 1. According to Patent Owner, "Dr. Chaiken presented testimony as a fact witness regarding the development of Promptu's AgileTV system in the early 2000s that was previously licensed by Comcast and successfully installed in Comcast's cable network system" and his testimony "answers were based on his memory of how the Promptu system worked and not on a legal interpretation of the invention described in the '538 Patent or the proper scope of the claims." *Id.* at 2–3 (citing Ex. 2032, 113:17–115:1).

Patent Owner's argument concerns subject matter that is not properly raised in a Motion to Exclude. As we have noted in our Scheduling Order, a "Motion to Exclude shall only raise admissibility issues under the Federal Rules of Evidence, and not be used as additional briefing on any other topic, subject, or issue, for example, any assertion that *a certain brief or evidentiary submission exceeds the proper scope for such brief or submission*." Paper 11, 7, emphasis added. Moreover, "[i]n case of an issue based on exceeding the proper scope of a submission, the parties must raise the matter by initiating a conference call with the Board." *Id.* Therefore, because Patent Owner's motion concerns the *scope* of permissible cross-examination, Patent Owner should have raised the matter with the Board by initiating a conference call rather than raising this issue in a Motion to Exclude.[9]

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[9] Furthermore, as discussed above, Petitioner has not shown unpatentability even if we were to consider the evidence Patent Owner seeks to exclude. Thus, in any event, it is not necessary to rule on the Motion to Exclude because it is moot.

Accordingly, Patent Owner's Motion to Exclude is *dismissed*.

III. CONCLUSION

Petitioner has not established, by a preponderance of the evidence, that claims 1–7, 17–24, and 33 would have been obvious over Julia;

Petitioner has not established, by a preponderance of the evidence, that claims 1–7, 17–24, and 33 would have been obvious over Julia and Houser;

Petitioner has not established, by a preponderance of the evidence, that claims 1–7, 17–24, and 33 would have been obvious over Murdock;

Petitioner has not established, by a preponderance of the evidence, that claims 1–7, 17–24, and 33 would have been obvious over Murdock and Houser.

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 1–7, 17–24, and 33 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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APPENDIX D

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 IPR2018-00341
Patent 7,260,538 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 34, 35, 37, 40, and 41 of U.S. Patent 7,260,538 B2 (Ex. 1001, "the '538 Patent"). We instituted review of claims 34, 35, 37, 40, and 41 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) and Patent Owner filed a Sur-Reply (Paper 37). An oral hearing was held on January 28, 2019. A copy of the transcript for the oral hearing has been entered as Paper 55 ("Tr.").

As discussed below, Petitioner has not shown, by a preponderance of the evidence, that any of claims 34, 35, 37, 40, and 41 is unpatentable under any asserted grounds.

A. Related Matters

The '538 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 6), 2. Another petition for *inter partes* review has been filed by Petitioner on this patent in IPR2017-00340, which is pending before the Board. Pet. xi; *see also* IPR2018-00340, Paper 1. According to Patent Owner, the District Court stayed the pending civil action after the Board instituted trial in this matter. Patent Owner's Updated Mandatory Notice (Paper 16), 2.

B. The '538 Patent

The '538 Patent, titled "Method and Apparatus for Voice Control of a Television Control Device," was issued on August 21, 2007. Ex. 1001, [45]. It issued from U.S. Patent Application 10/338,591, filed on January 7, 2003, and claims the benefit of U.S. Provisional Application No. 60/346,899 filed on January 8, 2002. Id. at [21], [22], [60]. The '538 Patent generally relates to a "method and apparatus [] for remotely processing voice commands for controlling a television." Ex. 1001, Abstract. Figure 1 of the '538 Patent is reproduced below.

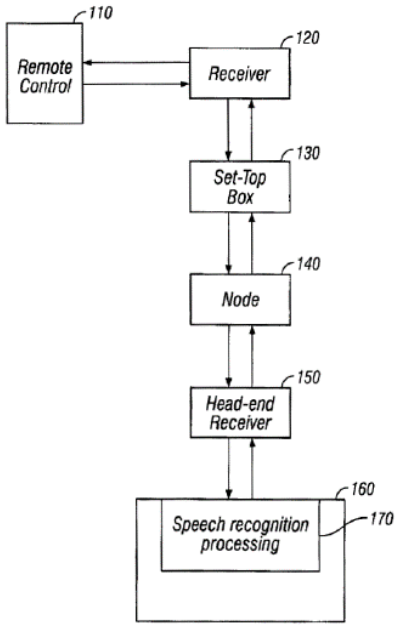

FIG. 1

Figure 1 "is a diagram illustrating elements of the voice control television system according to the invention." *Id*. at 2:52–53. According to the Specification, a "problem with the prior art voice recognition systems is that they require a sophisticated voice recognition system in close proximity to the user, requiring individual units[,] which is quite costly." *Id*. at 1:59–62. The Specification discloses "method and apparatus [] for remotely processing voice commands," purportedly solving one of the alleged problems in prior art systems. *Id*. at Abstract. A user's voice command "is received by a microphone contained in a [] remote control." *Id.* at 2:23–25. The microphone in the remote control "is activated by the depression of a push-to-talk (PTT) button or by word activation." *Id.* at 2:41–42. "The voice command is modulated and wirelessly transmitted to a wireless receiver connected to the set-top box." *Id.* at 2:25–26. "The voice command is then transmitted, for example, to a central processing station located at a cable television head-end unit[, which] processes the voice command for voice command recognition." *Id.* at 2:29–33. "Once the voice command is determined a command function is created [and] transmitted back to the set-top box where the set-top box performs the command function." *Id.* at 2:33–37.

C. Challenged Claims

Claims 34, 40, and 41 are independent. Claims 34 and 40 are system claims directed to "[a] centralized multi-user voice operated television control system" (*id*. at 13:37–61, 14:37–64), while claim 41 is a method claim directed to "[a] method for operating a centralized multi-user voice operated television control system that includes . . . ." (*id*. at 14:65–16:14). Claims

35 and 37 depend directly from claim 34. Independent claims 34, 40, and 41, reproduced below, are illustrative of the challenged claims.

> 34. A centralized multi-user voice operated television control system, comprising:
>
> > television remote controls configured to directly and wirelessly control television sets and additionally to television remote controls configured to directly and wirelessly control television sets and additionally to receive user voice input and wirelessly transmit first output representative of the voice input to television set-top boxes;
> >
> > television set top boxes configured to receive television input signals via cable television link and provide television output signals compatible with television sets, the set top boxes additionally responsive to receiving the first output from the television remote controls to transmit representative second output to a central processing station via the cable television link;
> >
> > a centralized processing station configured to receive and process second output from a multitude of television set top boxes by applying voice recognition to the second output to identify user-intended voice commands, to derive set-top-box-compatible instructions to carry out the identified voice commands, and returning signals representing the instructions to

respective top boxes via the cable television link;

where the set top boxes are further responsive to receiving the signals representing the instructions from the central processing station to execute the instructions.

Ex. 1001, 13:37–61.

40. A centralized multi-user voice operated television control system, comprising:

a plurality of television remote control means each for directly and wirelessly controlling television sets and additionally receiving user voice input and wirelessly transmitting first output representative of the voice input to a television set-top box means;

a plurality of television set top box means each for receiving television input signals via cable television link and providing television output signals compatible with television sets, and responsive to receiving the first output from one of the television remote control means to transmit representative second output to a central processing station via the cable television link;

a centralized processing station configured to receive and process second output from a multitude of television set top box means by applying voice recognition

to the second output to identify user-intended voice commands, to derive set-top-box-means-compatible instructions to carry out the identified voice commands, and returning signals representing the instructions to respective set top box means via the cable television link;

where each set top box means is further responsive to receiving the signals representing the instructions from the central processing station to execute the instructions.

Ex. 1001, 14:37–64.

41. A method for operating a centralized multi-user voice operated television control system that includes a multitude of television remote controls situated at various television viewing sites, a multitude of set top boxes situated at the television sites to receive television input signals via cable television link and provide television output signals compatible with television sets at the television viewing sites, and a centralized processing station remote from the television viewing sites and coupled to the set top boxes via the cable television link, the method comprising operations of:

operating the television remote controls to perform additional operations including receiving user voice input and wirelessly transmitting first output representative of the voice input to set-top boxes;

> operating the set top boxes to perform additional operations including, responsive to receiving the first output from the television remote controls, transmitting representative second output to a central processing station via the cable television link;
>
> operating the centralized processing station to receive and process second output from a multitude of set top boxes by applying voice recognition to the second outputs to identify user-intended voice commands, to derive set-top-box compatible instructions to carry out the identified voice commands, and to return signals representing the instructions to the set top boxes via the cable television link;
>
> operating the set top boxes to perform further operations including, responsive to receiving the signals representing the instructions from the central processing station, executing the instructions.

Ex. 1001, 14:65–16:14.

D. References Relied Upon

Petitioner relies on the following references:

Exhibit	Reference
1017	United States Patent No. 6,513,063 B1, filed March 14, 2000 ("Julia").
1018	United States Patent No. 7,013,283 B1, filed November 16, 2000 ("Murdock").

1019	United States Patent No. 5,774,859, issued June 30, 1998 ("Houser").

Pet. 2–3. Petitioner also relies on the Declaration of Anthony Wechselberger (Ex. 1022, "Wechselberger Declaration"), the Reply Declaration of Anthony Wechselberger (Ex. 1032), and the Declaration of Daniel C. Callaway (Ex. 1021).

1. Julia (Ex. 1017)

Julia describes a "navigation of electronic data by means of spoken natural language requests." Ex. 1017, 1:16–18. Figure 1a of Julia is reproduced below.

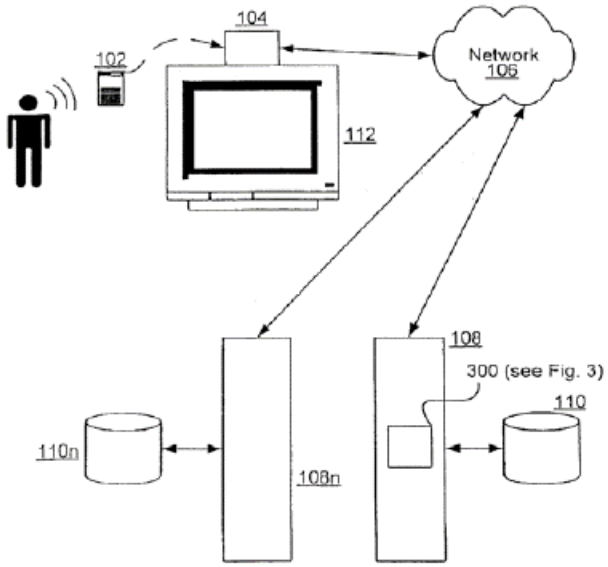

Fig. 1a

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.

2. Murdock (Ex. 1018)

Murdock describes a "system and a concomitant method for providing programming content in response to an audio signal." Ex. 1018, Abstract. Figure 1 of Murdock is reproduced below.

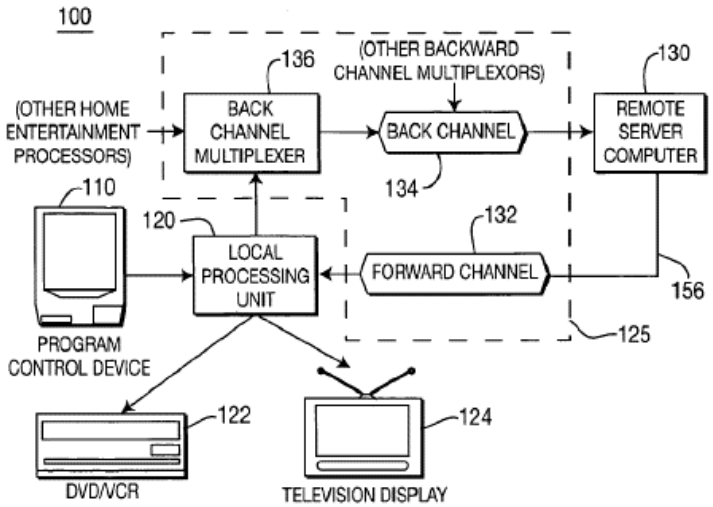

FIG. 1

Figure 1 "depicts a high-level block diagram of a voice control system." Ex. 1018, 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.

3. Houser (Ex. 1019)

Houser describes a "system for controlling a device such as a television and for controlling access to broadcast information such as video, audio, and/or text information." Ex. 1019, Abstract. Figure 1 of Houser is reproduced below.

FIG. 1

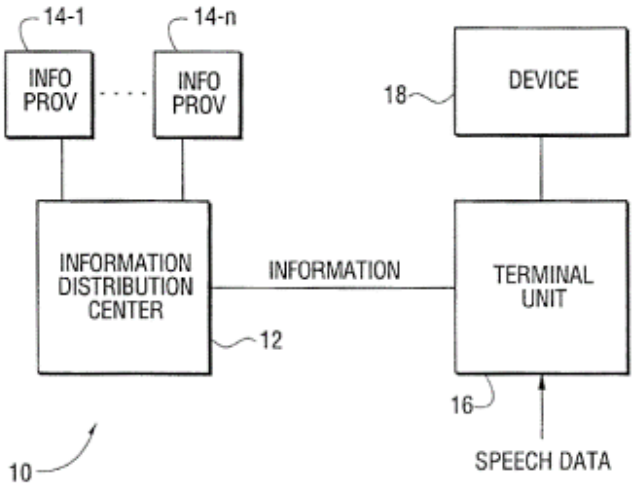

Figure 1 of Houser "is a generalized block diagram of an information system in accordance with" the claimed invention. Ex. 1019, 4:60–61. A remote control, which includes a microphone, captures "sounds

or words spoken by a user" and transmits the sound data signals to terminal unit 16. *Id*. at 6:33–7:24. "Terminal unit 16 includes a processor for executing a speech recognition algorithm . . . to recognize, for example, commands for controlling device 18 or commands for accessing information transmitted by information distribution center 12." *Id*. at 5:62–5:67. The information is then retrieved from "information distribution center 12[,] which receives information from one or more remotely located information providers 14-1, . . . 14-n[,] and supplies or broadcasts this information to a terminal unit 16." *Id*. at 5:39–44. "Terminal unit 16 then [] generates a command for controlling device 18." *Id*. at 5:67–6:2. "Device 18 may be any device [that] is capable of being operated in response to user supplied commands." *Id*. at 7:27–29.

E. Asserted Grounds of Unpatentability

Petitioner challenges claims 34, 35, 37, 40, and 41 of the '538 Patent based on the asserted grounds of unpatentability set forth in the following table. Pet. 1–3, 17–71.

Ground	Reference(s)	Basis[1]	Claims Challenged
1	Julia	§ 103(a)	34, 35, 37, 40, and 41
2	Julia and Houser	§ 103(a)	34, 35, 37, 40, and 41

[1] The relevant section of the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, took effect on March 16, 2013. Because the application from which the '538 Patent issued was filed before that date, the pre-AIA statutory framework applies.

3	Murdock	§ 103(a)	34, 35, 37, 40, and 41
4	Murdock and Houser	§ 103(a)	34, 35, 37, 40, and 41

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. Wechselberger 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 work experience in the field of analog and digital television systems with exposure to interactive networks and associated 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 same field.

Pet. 8, emphases added; *see also* Ex. 1022 ¶¶ 101–102.

Quoting Petitioner's proposal for the level of ordinary skill to be applied in connection with the reviews of related patents, Patent Owner contends 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***.

Resp. 7 (quoting *Comcast Cable Commc'ns, LLC v. Promptu Sys. Corp.*, IPR2018-00342, Pet. at 8–9 (PTAB Dec. 19, 2017) (Paper 1)); *see also* Resp. 7–9 (asserting the level of ordinary skill as proposed by Petitioner in related IPR proceedings is appropriate for this case); Ex. 2033 ¶¶ 22–29 (same). As Patent Owner explains, its proposed definition is the same as that proposed by Petitioner in Case Nos. IPR2018-00342, IPR2018-00343, IPR2018-00344, and IPR2018-00345 ("other Comcast IPR proceedings"), which differs from Petitioner's proposed definition in this proceeding in that the proposed definition in those other Comcast IPR proceedings includes a further requirement that the person of ordinary skill in the art at the time of the invention must also have experience in the field of multi-media systems "*including in particular speech recognition and control technologies*." Resp. 6–9. Patent Owner explains that Petitioner's proposed definition in this proceeding "would not necessarily include expertise with voice recognition technology, at least because 'interactive

networks and associated control technologies' at the time of the invention for analog and digital television systems would not have included voice control, which was not commercially available (or well known) for television systems." *Id*. at 8–9. Patent Owner also points out that "Promptu's patents[, in this proceeding and the other Comcast IPR proceedings,] all relate to the same technology and claim various aspects of television voice command recognition and processing." *Id*. at 6.

We agree with Petitioner that the definitions for a person of ordinary skill in the art involving unrelated patents in different proceedings need not be the same in each proceeding. Reply 2–4. Although the patents in each proceeding before us are issued to the same assignee and have some of the same inventors, the specific goal of each patent differ between proceedings. We also agree with Mr. Wechselberger that "[w]hile the '538 Patent discloses a system that includes voice recognition processing," it discusses voice recognition technology only as a component part of the system, and expertise in voice recognition technology was not required to understand the '538 Patent because it does not discuss any particular voice recognition techniques or algorithms. Ex. 1032 ¶¶ 6–7. Therefore, we agree with Mr. Wechselberger that a practitioner would have understood how to implement existing voice recognition products in a cable television network without having special knowledge or experience with voice recognition algorithms. *Id*. ¶¶ 5–7.

For the foregoing reasons, we credit the testimony of Mr. Wechselberger regarding the person of ordinary

skill in the art and adopt, with modification (*e.g.*, removing the words "at least" from Petitioner's proposed definition), 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 work experience in the field of analog and digital television systems with exposure to interactive networks and associated 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 same field.

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 a spoken natural language as an input into control systems. *See* Ex. 1017, 1:39–48.

B. Claim Construction

1. General Principles

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);[2] *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).

Construction of a "means-plus-function" limitation under 35 U.S.C. § 112, sixth paragraph, involves two steps: first identifying the function explicitly recited in the claim, and then identifying the corresponding structure set forth in the written description that performs the particular function set forth in the claim. *Asyst Techs, Inc. v. Empak, Inc.*, 268 F.3d 1364, 1369–70 (Fed. Cir. 2001).

2. Terms Containing "means . . . for" and "means [each] for"

Petitioner proposes that the following terms, in claim 40, containing the words "means . . . for" should not be construed as means-plus-function terms: "a plurality of television remote control means each for . . . ," "receiver means for . . . ," "transmitter means for . . . ," and "a plurality of television set top box means

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[2] A recent amendment to this rule does not apply here, because the Petition was filed before November 13, 2018. *See* "Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board," 83 Fed. Reg. 51,340 (Oct. 11, 2018) amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (to be codified at 37 C.F.R. pt. 42).

each for . . . ." Pet. 8–10 (citing to Ex. 1022 ¶¶ 139, 143). Patent Owner does not propose any alternative definitions nor does Patent Owner respond to Petitioner's proposal. *See generally* Resp.

The use of the term "means" triggers a rebuttable presumption that § 112, ¶ 6 applies. *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259 (Fed. Cir. 2008). One way in which this presumption can be overcome is if "the claim recites sufficient structure for performing the described functions in their entirety." *Id*. To determine if the claim recites sufficient structure, "it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function." *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1359–60 (Fed. Cir. 2004).

Here, for each limitation, the claim recites sufficient structure for performing the described functions. For example, a television remote control is sufficient structure "for directly and wirelessly controlling television sets and additionally receiving user voice input and wirelessly transmitting first output representative of the voice input to a television set-top box means" (Ex. 1022 ¶ 139) and a television set-top box is sufficient structure for "receiving television input signals via cable television link and providing television output signals compatible with television sets, and responsive to receiving the first output from one of the television remote control means to transmit representative second output to a central processing station via the cable television link." (*id*. ¶ 143). Therefore, based on our review of the record before us, we

are persuaded by Petitioner that these terms do not invoke 35 U.S.C. § 112, ¶ 6.

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*, 550 U.S. at 418. Rather, to establish obviousness, petitioner bears the "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) (internal 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) (internal quotations and brackets 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; *see also 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. Combination Grounds – Obviousness over Julia in view of Houser and Obviousness over Murdock in view of Houser

Patent Owner contends that "Petitioner's combinations fail because [Petitioner] did not articulate a sufficient motivation to combine the features of the prior art to yield the claimed invention." Resp. 12–13. According to Patent Owner, "[t]he entirety of the [P]etition's discussion of a motivation to combine Julia with Houser (or Murdock with Houser) falls within a mere three paragraphs of each ground." *Id*. at 13–15.

Petitioner notes that a person of ordinary skill in the art would have been motivated to combine Julia with Houser and Murdock with Houser because the references "all relate to interactive television systems with voice recognition capabilities" (*i.e.*, analogous art) and that they all "have numerous similarities to each other and the challenged patent." Pet. 35–36, 56. Petitioner also states that "a person of ordinary skill in the art would have recognize[d] the benefits of combining" the references and that such a combination "would have been no more than combining prior art elements according to known methods to yield predictable results." Pet. 36–38, 57–58.

Petitioner's conclusory rationale for the combinations, however, is untethered to any claim limitations. *See* Pet. 35–38, 56–58 (citing to Ex. 1022 ¶¶ 226–229, 232–234; 299–300, 304–306). For example, when discussing the combination of the references for a particular limitation, Petitioner starts with a discussion of either Julia or Murdock, followed by a discussion of Houser, and then provides a conclusory assertion that the combination would disclose the limitation at issue.

See, e.g., Pet. 24–25 ("Julia also discloses . . . . In addition, Houser discloses . . . . Thus, Julia alone or combined with Houser discloses . . ."), 26–27 ("As explained above, Julia discloses . . . . In addition, Houser also discloses . . . . Thus, Julia alone or combined with Houser discloses . . ."). These discussions do not articulate, with respect to any specific limitation, or for any claim as a whole, why or how Julia or Murdock can and should be combined with Houser.

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*, 812 F.3d at 1066. The Petitioner also states that "a skilled artisan would have been capable of combining the teaching[s] of [the prior art references because such] combination[s] would have been no more than combining prior art elements according to known methods to yield predictable results." However, this discussion is similarly untethered to any claim element, or to the claim as a whole. Pet. 37–38, 58 (citing to Ex. 1022 ¶¶ 233, 306–307.) And, again, we are not informed what teaching of one reference is proposed to be combined with what teaching of the other reference, or why and how the combination would have been made. To the extent Petitioner's position is that once it establishes that two prior art references are within the same field and are directed to solving the same problem, then all features within one reference can be used within the other, and vice versa, without need for further explanation, it cites no authority to support that broad position and we are aware of none.

Therefore, we determine that Petitioner has not established, by a preponderance of the evidence, that

claims 34, 35, 37, 40, and 41 would have been obvious over Julia in view of Houser or Murdock in view of Houser.

3. Single Reference Obviousness Grounds – Obvious over Julia alone or Obvious over Murdock Alone

a. Claims 34, 35, 37, 40, and 41

Petitioner contends that claims 34, 35, 37, 40, and 41 are unpatentable over Julia alone or Murdock alone under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Wechselberger (Exs. 1022, 1032). Pet. 17–56; *see also* Reply 4–13.

Patent Owner makes numerous arguments regarding how Julia or Murdock fails to "renders obvious several specific claim features" of claims 34, 35, 37, 40, and 41. Resp. 23–44; Sur-Reply 9–17; *see also* Resp. 16–23 discussing the Petition's alleged deficiency in its *Graham* analysis); Sur-Reply 6–8 (same).

As discussed below, we determine that Petitioner has not established, by a preponderance of the evidence, that either Julia alone or Murdock alone teaches the "to derive set-top-box-compatible instructions to carry out the identified voice commands" limitation of independent claims 34 and 41 and the "to derive set-top-box-means-compatible instructions to carry out the identified voice commands" limitation of independent claim 40.

In light of these deficiencies, Petitioner has not persuasively established that any of claims 34, 40, and 41 would have been unpatentable. Because the above issue is dispositive, we exercise our discretion to not

reach all other arguments raised by Patent Owner regarding the non-obviousness of these claims.

Petitioner and its declarant cite to three examples to show how Julia teaches the limitation "to derive set-top-box-compatible instructions to carry out the identified voice commands," as recited in claim 34 and similarly recited in claims 40 and 41.[3] Pet. 21–25.

(1) Decoding / Formatting

Petitioner, citing to various portions of Julia and the testimony of Mr. Wechselberger, explains that after the "remote server performs speech recognition processing[, it] then constructs a query to obtain the requested content." Pet. 22 (citing Ex. 1017, 3:61–64). The desired content is then searched and retrieved. *Id*. According to Petitioner's expert, "[i]n the case of an on-demand video (and other types of content), the information must be decoded and formatted by the set-top box before being displayed." Ex. 1022 ¶ 176 (citing to Julia, Ex. 1017, 4:25–30 ("display device 112 is coupled to or integrated with a communications box (which is preferably the same as communications box 104, but may also be a separate unit) for receiving and decoding/formatting the desired electronic information that is received across communications network 106"), emphasis omitted).

Patent Owner and its declarant, Mr. Tinsman, disagree. Resp. 31–32; Ex. 2033 ¶¶ 41–43. Patent Owner points out that "Petitioner does not explain why decoding/formatting video content requires the

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[3] The parties analyze these claim limitations together. We will address this limitation of claim 34 as representative of the corresponding limitations in claims 40 and 41.

claimed instructions" and contends that a "POSITA would know that decoding and formatting content data does not require that an instruction be derived by a centralized processing station in response to a user's query and then sent to the set-top box." Resp. 31 (citing Ex. 2033 ¶¶ 42). According to Patent Owner's declarant, Mr. Tinsman, Petitioner "has not shown that that information includes set-top box compatible instructions" because "while the references' disclosures broadly indicate that their set-top boxes receive some information from a remote network location," the information does not require an instruction to be sent for decoding or formatting. Ex. 2033 ¶ 43. Specifically, Mr. Tinsman testifies:

> Cable digital television content is typically transmitted as compressed data that must be decompressed by the set-top box for display on a television. Such content information is generally comprised of the compressed video data accompanied by metadata describing the content data to the set-top box, including, *e.g.*, details of the data's format. A POSITA would know that a set-top box does not need to receive specific instructions to perform a function every time it receives content data. Instead, the video decoder in the set top box automatically decodes the incoming data for display on a television without needing specific instructions to do so from the head-end unit.

Id. We credit the above-quoted testimony of Mr. Tinsman, and find it to be persuasive. Patent Owner also points out that Mr. Wechselberger admitted that decoding and formatting information does not neces-

sarily require an instruction to be sent.[4] Resp. 31 (citing Ex. 2034, 50:20–24 ("Q Is it your opinion that decoding and formatting information necessarily requires a command to be sent from the head end to the set top box? A No.")); *see also* Ex. 2034, 50:25–52:20.

In contrast, we do not credit the conclusory testimony of Mr. Wechselberger that "[a] person of ordinary skill in the art would know that remote server 108 would send a 'set-top-box-compatible instruction' to the communications box 104 ('set-top box') as a prerequisite to permit it to decode and format the video signal for display on display device 112." Ex. 1022 ¶ 176. his conclusory statement is not supported by persuasive evidence, and is inconsistent with Mr. Wechselberger's admission that an instruction be sent. *See* Ex. 2034, 50:20–24.

Petitioner also contends that:

> Patent Owner's argument is based on an unstated, narrow construction of the term "set-top-box-compatible instructions" [and] Patent Owner is unable to do so because the '538 Patent does not specifically define or use the term, except in the claims, *and instead refers broadly to derived voice commands that cause the user's set-top box to display video content or otherwise perform a function*.

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[4] The parties appear to be referring to "set-top-box-compatible command function" (in claims 1, 2, 19) and "set-top-box-compatible instructions" claims 34 and 41) interchangeably.

Reply 8–9, emphasis added. Petitioner's counsel argued during the oral hearing that a "command function" can simply be information as long as it causes the set-top box to perform a function:

> JUDGE YAP: So a command can be a head end unit sending an instruction or sending something akin to "display this pop up box on the screen?" Or it can also be, according to you, a movie, just basically the name of a movie, just information about the movie, and it just displays it, and that would also be a command. Is that right?
>
> MR. DAY: I think that's right. There's nothing in -- well, yes, Your Honor. There's nothing in the patent that requires a narrower reading of what's happening here. The invention is not -- these command functions are not part of the invention here. The patent doesn't talk about command functions and say, oh, we have this really neat thing, we're going to send command functions. What it talks about is the user can speak a voice command into their remote, it's going to be interpreted -- whatever they ask for is going to happen. That's what the patent is about.
>
> And so these command functions just are not defined in a narrow way to be anything other than what you just said. *Yes, sending information, sending data. If it causes the set top box to perform a function, then it's a set top box compatible command function.*

Tr. 23:18–24:12, emphasis added; *see also* Ex. 1032 ¶ 18.

We are not persuaded that an instruction can be any kind of information or data that causes the set-top box to perform a function. Petitioner's reading of the term "instructions" is unreasonably broad.[5] The claim requires "to derive set-top-box-compatible instructions to carry out the identified voice commands." Ex. 1001, 13:54–56. Petitioner's construction of "instruction" would essentially read the term out of the claim. Importantly, the term "instruction" should at least include a command or instruction to perform the identified voice command. The Specification also does not describe "instruction" as simply information or data. *See, e.g.*, Ex. 1001 2:35–39 ("The command function is transmitted back to the set-top box where the set-top box *performs the command function*. Alternatively, the set-top box just passes on the command and the head end performs or carries out the command."), emphasis added; 4:19–23 ("After the voice command is processed, the central processing station 160 sends a corresponding command function to the cable set-top box 130 or other system component where *the command is then performed*."), emphasis added.

Petitioner has not established that everything that leads to performing an identified voice command is an instruction. For instance, an identified voice command may be performed upon the satisfaction of a condition, *e.g.*, when A happens, then do B. Although B is performed as a result of A occurring, A is not a command to perform B.

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[5] The parties do not offer any explicit claim construction for this term.

Petitioner also contends that "Patent Owner not only fails to disclose and support its narrow construction of the term 'set-top-box-compatible instruction,' it abandons its construction when mapping the challenged claims to its own product" in Patent Owner's attempt to show a nexus between its product (AgileTV) to the challenged claims. Reply 9–11. This argument is not persuasive because, as the Patent Owner points out, "Ex. 2008, which Mr. Tinsman relied on in forming his opinion, expressly states that the system issued '***appropriate action commands*** to the set-top box as speech requests are recognized.'" Sur-Reply 15.

Petitioner also argues that "Patent Owner's declarant and former CTO David Chaiken testified that the similar term 'set-top-box-compatible command function' refers broadly to anything causing the set-top box to show video content or perform a function." Reply 9 n.3 (citing Ex. 1027, 17:21–18:24, 19:12–20:4). Petitioner's reliance on Dr. Chaiken's testimony is not persuasive because, although Dr. Chaiken was discussing his understanding of the AgileTV system and how it was an embodiment of the challenged claims, he is not an inventor of the '538 Patent nor was he opining on the definition of the term as would have been understood by a person of ordinary skill in the art. Reply 9 n.3; Sur-Reply 14–15.

For the foregoing reasons, we determine that Petitioner's construction of "instruction" is unreasonably broad. Accordingly, we determine that Petitioner has not established that a person of ordinary skill in the art would have understood from Julia's disclosure that "'set-top-box-compatible instruction' [would be sent] to the communications box 104 ('set-top box') as

a prerequisite to permit it to decode and format the video signal for display on display device 112," as Mr. Wechselberger opines. Ex. 1022 ¶ 176.

(2) Authorization and Security Information

In addition, Petitioner, relying on Mr. Wechselberger's testimony, states that "[a] skilled artisan would also know that the head-end unit sends authorization and security information to the user's set-top box to permit it to display the movie[, and that s]uch conditional authorization information and security information also constitutes a 'set-top-box compatible command function.'" Pet. 23; *see* Ex. 1022 ¶ 177. Patent Owner and its declarant, Mr. Tinsman, disagree. Resp. 32–35; Ex. 2033 ¶¶ 44–46. Patent Owner points out that Petitioner does not explain why "authorization and security information requires deriving and transmitting [a] set-top box compatible command" and contends that a "POSITA would know that conditional authorization and security information does not need to be an instruction." Resp. 32–33 (citing Ex. 2033 ¶¶ 44–46). Particularly, Patent Owner's declarant, Mr. Tinsman, explains that:

> 45. A POSITA would know that conditional authorization and security information does not need to be a command. Premium channels such as HBO may be encrypted. Security information delivered to a set-top box can include the digital key data needed to decrypt a given channel. But such keys are not themselves commands; they simply provide data necessary to view a program in the event a user chooses to do so. Like receiving a key for a physical door, receiving the encryption key

> data provides the ability—but not the affirmative instruction—to unlock the content. In my view, the mere receipt of authorization and security information does not require that the head-end unit send the set-top box a command function, and Comcast has thus not explained how Julia or Murdock render obvious this claim feature.
>
> 46. A POSITA would also know that authorization and security information does not always need to be sent in response to a user's query. As an example, when a user first subscribes to HBO, the cable company sends the set-top box information allowing it to display HBO on the television. But once the set-top box is configured to enable a user access to a particular channel, the cable company does not need to send authorization information to the set-top box every time the user asks the voice remote to play the channel. The delivery of the channel could thus occur as a direct result of a user's voice command to find a specific film or program, without any authorization or security information being sent in response to the user's command. Consequently, it is incorrect to conclude that the delivery of any needed entitlements to view a program is a direct result of the claimed voice request.

Ex. 2033 ¶¶ 45–46; *see also* Resp. 32–35. We find Mr. Tinsman's testimony to be well-explained and well-reasoned, and we therefore afford it substantial weight. In contrast, we do not credit the conclusory testimony of Mr. Wechselberger that "[a] skilled arti-

san would also know that the head-end unit sends authorization and security information to the user's set-top box to permit it to display the movie[, and that s]uch conditional authorization and security information also constitutes a 'set-top box compatible command function.'" Pet. 23; *see* Ex. 1022 ¶ 177. Petitioner also relies on the claim construction argument, as discussed above. Accordingly, for the same reasons discussed above, we determine that Petitioner has not established that a person of ordinary skill in the art would have understood that conditional authorization and security information also constitutes a "set-top box compatible instructions." *Id.*; *see also* Reply 8–11.

(3) Displaying Interactive Menu

Petitioner provides a third example of how Julia teaches the "to derive set-top-box-compatible instructions to carry out the identified voice commands" limitation. Petitioner notes that "[i]n addition to providing video and other content to the user, Julia also discloses utilizing voice commands to return control information such as an interactive list of available on-demand movies." Pet. 22–23. According to Petitioner:

> [T]he user can say, for example, "I want to see that movie starring and directed by Clint Eastwood." Julia at 11:31–32. The remote server would query the data source and then return instructions to the user's set-top box to display the list of movies satisfying the query. *Id*. at 11:32–49. The system would then display an interactive menu of options for the user, who would respond with a further voice

> command (*e.g.*, "Let's see Unforgiven") to select a particular on-demand movie. *Id*. at 11:57–67.

Id. Petitioner then, relying on its declarant's testimony, concludes that "[t]he interactive menu information transmitted to the set-top box [also] constitutes a 'set-top-box-compatible command function . . . corresponding to said voice command,' as claimed." Pet. 23 (citing Ex. 1022 ¶ 179). Patent Owner disagrees and points out that "Petitioner fails to explain how displaying a menu on a television screen *requires* that instructions be derived and sent to the set-top box" and that Mr. Wechselberger's "conclusory testimony should not be given weight." Resp. 36, emphasis omitted.

We agree with Mr. Tinsman that Mr. Wechselberger "does not explain why" a person of ordinary skill in the art "would recognize that the 'list of film titles' displayed to the user is based on a command function" (Ex. 2033 ¶ 49 (citing Ex. 1022 ¶ 179)), and therefore we do not credit the testimony of Mr. Wechselberger. As noted above, Petitioner's argument (*see* Reply 8–11) and the conclusory testimony of Mr. Wechselberger (Ex. 1022 ¶ 179) rely on an overly broad construction of "instruction" that we have rejected. We also agree with and credit Mr. Tinsman's testimony that:

> Even if that is true, a POSITA would recognize that if the head-end "generates an interactive menu" that is then sent to the set-top box to be displayed on the screen, then the head-end would appear to simply prepare in-

> formation based on a user's query, not a command for the set-top box to do something. Mr. Wechselberger's statement that the menu is "executed" by the cable set-top box could be accomplished by the set-top box simply performing a pre-programmed function when it receives a certain type of information, and does not explain how either of Julia or Murdock alone teaches deriving instructions based on a voice command. In my opinion, a POSITA would not view mere information sent to the set-top box from the head-end unit (that the set-top box uses to generate a menu) as "set-top-box-compatible instructions to carry out the identified voice commands."

Ex. 2033 ¶ 49. We, therefore, determine that Petitioner has not established that "[a person of ordinary skill in the art] would recognize that the 'list of film titles' displayed to the user is based on a command function."

b. Secondary Considerations of Non-obviousness

Patent Owner also contends that secondary considerations further demonstrate non-obviousness of the challenged claims. Resp. 45–58. 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.

c. Single-Reference Obviousness Conclusions

For the foregoing reasons, we determine that Petitioner has not established, by a preponderance of the

evidence, that claims 34, 35, 37, 40, and 41 would have been obvious over Julia.

Petitioner's arguments with regard to the alleged ground of obviousness over Murdock are premised on the same overly broad interpretation of "instructions" that we have rejected in connection with Petitioner's arguments based on Julia. *See* Pet. 44–46; Ex. 1022 ¶¶ 251–255. Therefore, for the same reasons explained above in connection with Petitioner's arguments based on Julia, we also determine that Petitioner has not established, by a preponderance of the evidence, that claims 34, 35, 37, 40, and 41 would have been obvious over Murdock.

D. Motions to Exclude

1. Petitioner's Motion to Exclude

Petitioner filed a Motion to Exclude Evidence seeking to exclude Exhibits 2001–2003, 2009–2011, 2015, 2021, 2024, and 2032 as inadmissible hearsay evidence. Paper 35; *see also* Papers 44 (Patent Owner's Opposition to Petitioner's Motion to Exclude Evidence), 49 Petitioner's Reply in Support of its Motion to Seal). These exhibits relate to Patent Owner's support for its secondary considerations arguments. Resp. 45–58. 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 filed a Motion to Exclude seeking to exclude Dr. Chaiken's testimony in response to two questions that purportedly exceeded the scope of permissible cross-examination. Paper 39 (citing Ex. 1027, 17:21–18:24, 19:12–20:4). According to Patent

Owner, Dr. Chaiken, in his declaration (Ex. 2032) "offered no opinion regarding the construction of 'command function' or about the application of the claims of the '538 Patent to the AgileTV device. Rather, Dr. Chaiken's declaration simply stated that 'the architecture and solution described in the '538 patent accurately reflect the AgileTV solution in 2002.'" Paper 39, 1 (citing Ex. 2032 ¶ 16). Patent Owner argues that "Comcast's questions regarding the meaning of 'set-top-box-compatible command function' therefore fell outside the scope of Dr. Chaiken's direct testimony" and should be excluded because "they exceeded the proper scope of cross-examination." *Id*. at 1–2.

Petitioner contends that "Dr. Chaiken's testimony regarding the term 'command function' is relevant [because i]n his declaration, Dr. Chaiken primarily addresses Patent Owner's arguments regarding purported secondary considerations of non-obviousness." Paper 47, 1. Specifically, according to Petitioner, "[b]y relying on Dr. Chaiken's testimony in an effort to establish a nexus between the challenged claims and the AgileTV product, Patent Owner put his understanding of the challenged claims at issue[, hence, h]is testimony regarding his understanding of the claim term 'command function' is therefore relevant" and within the scope of cross-examination. *Id*. at 2. Patent Owner disagrees, arguing that Dr. Chaiken, a fact witness, "never mapped the AgileTV system to the claims, and his testimony truly had nothing to do with the claims or any potential interpretation of them." Paper 48, 1. According to Patent Owner, "Dr. Chaiken presented testimony as a fact witness regarding the development of Promptu's AgileTV system in the early 2000s that was previously licensed by Comcast

and successfully installed in Comcast's cable network system" and his testimony "answers were based on his memory of how the Promptu system worked and not on a legal interpretation of the invention described in the '538 Patent or the proper scope of the claims." *Id.* at 2–3 (citing Ex. 2032, 113:17–115:1).

Patent Owner's argument concerns subject matter that is not properly raised in a Motion to Exclude. As we have noted in our Scheduling Order, a "Motion to Exclude shall only raise admissibility issues under the Federal Rules of Evidence, and not be used as additional briefing on any other topic, subject, or issue, for example, any assertion that *a certain brief or evidentiary submission exceeds the proper scope for such brief or submission*." Paper 11, 7, emphasis added. Moreover, "[i]n case of an issue based on exceeding the proper scope of a submission, the parties must raise the matter by initiating a conference call with the Board." *Id.* Therefore, because Patent Owner's motion concerns the *scope* of permissible cross-examination, Patent Owner should have raised the matter with the Board by initiating a conference call rather than raising this issue in a Motion to Exclude.[6]

Accordingly, Patent Owner's Motion to Exclude is *dismissed*.

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[6] Furthermore, as discussed above, Petitioner has not shown unpatentability even if we were to consider the evidence Patent Owner seeks to exclude. Thus, in any event, it is not necessary to rule on the Motion to Exclude because it is moot.

III. CONCLUSION

Petitioner has not established, by a preponderance of the evidence, that claims 34, 35, 37, 40, and 41 would have been obvious over Julia;

Petitioner has not established, by a preponderance of the evidence, that claims 34, 35, 37, 40, and 41 would have been obvious over Julia and Houser;

Petitioner has not established, by a preponderance of the evidence, that claims 34, 35, 37, 40, and 41 would have been obvious over Murdock;

Petitioner has not established, by a preponderance of the evidence, that claims 34, 35, 37, 40, and 41 would have been obvious over Murdock and Houser.

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 34, 35, 37, 40, and 41 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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APPENDIX E

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 Matters

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:

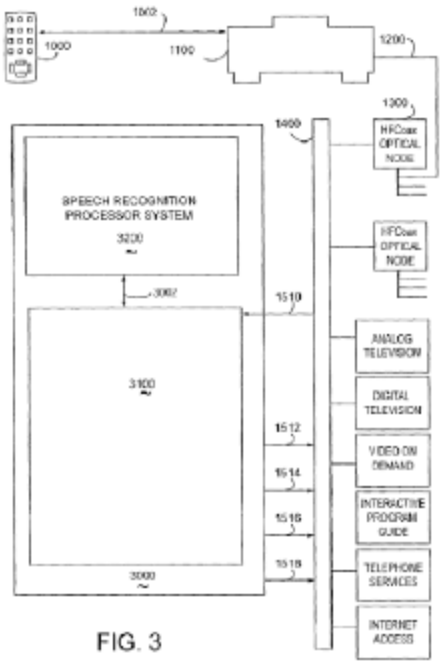


FIG. 3

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.

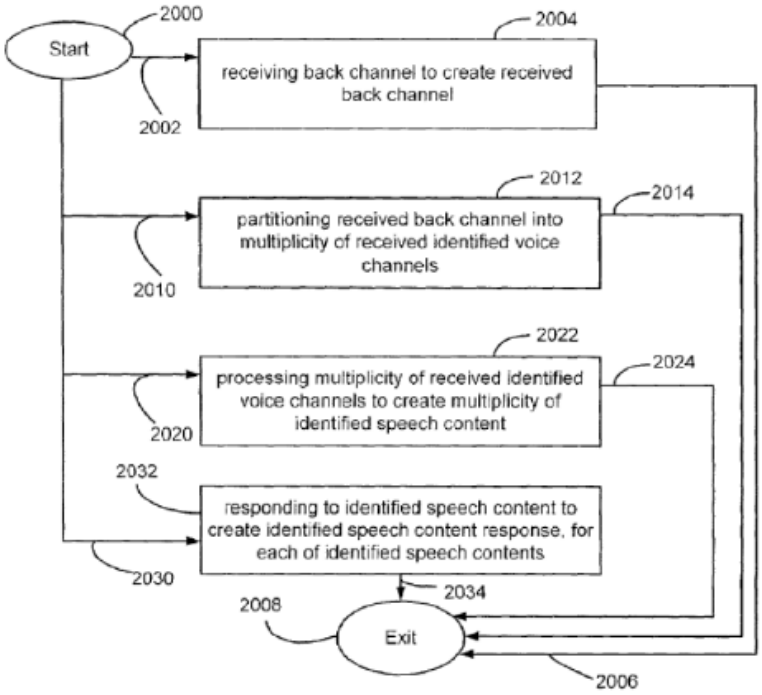


Figure 10 "depicts a flowchart of a method using a back channel from a multiplicity of user sites containing a multiplicity of identified speech channels presented to a speech processing system at a wireline node in a network supporting cable television delivery in accordance with the invention." *Id.*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

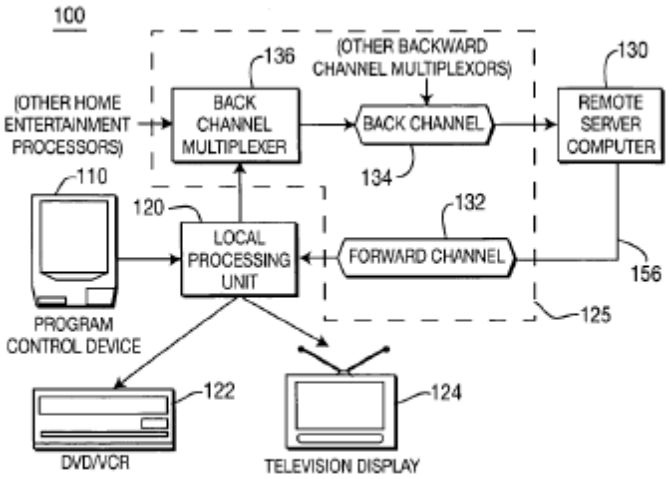


FIG. 1

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 con-

trol 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.

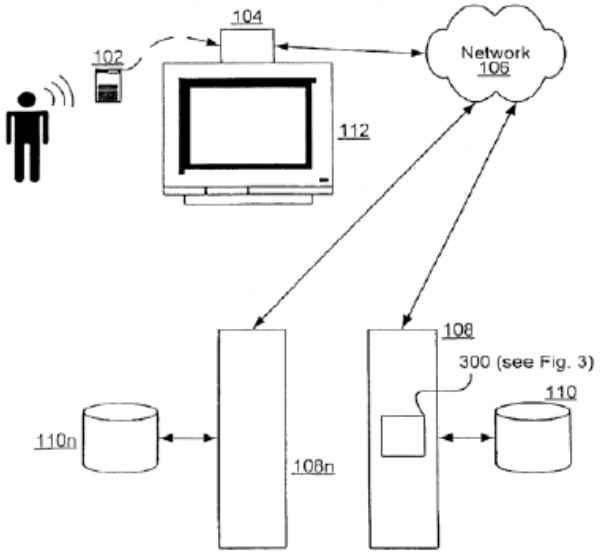


Fig. 1a

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.

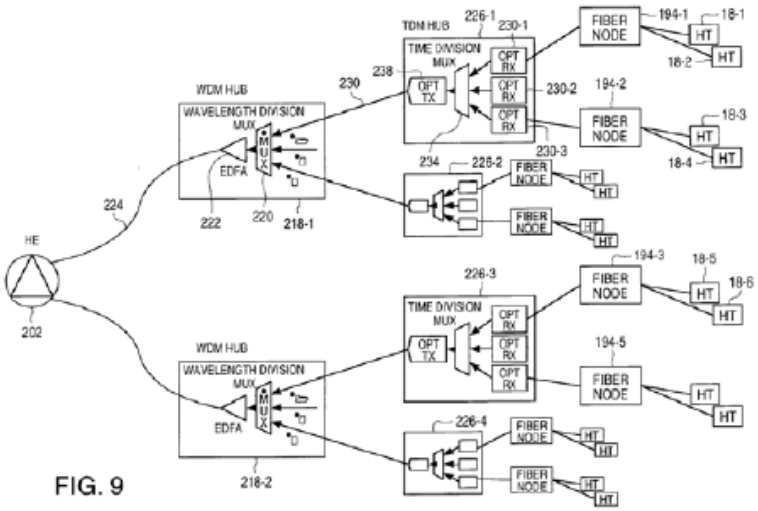


FIG. 9

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.

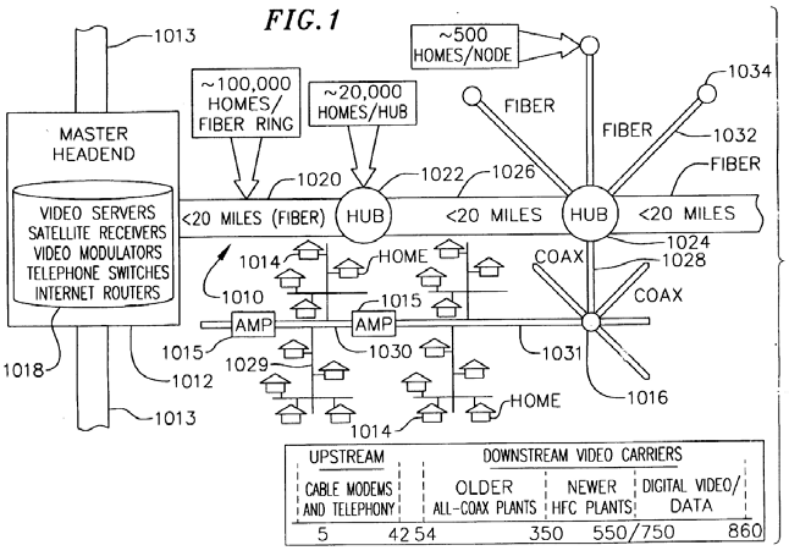


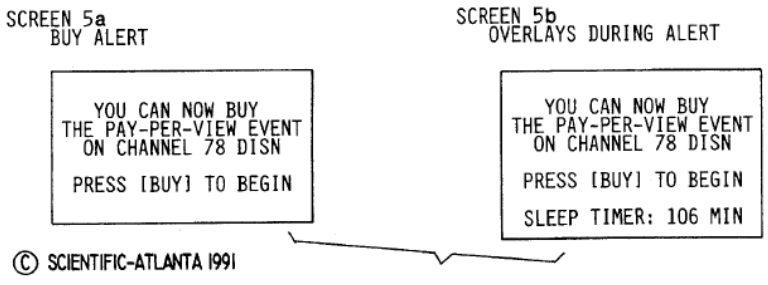
Figure 1 of Quigley "is a schematic diagram of a hybrid fiber coaxial (HFC) network showing typical pathways for data transmission between the headend[,] which contains the cable modem termination system[,] and a plurality of homes[,]each of which contain[s] a cable modem[.]" *Id.* at 3:56–60. In Quigley, "[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

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.6E



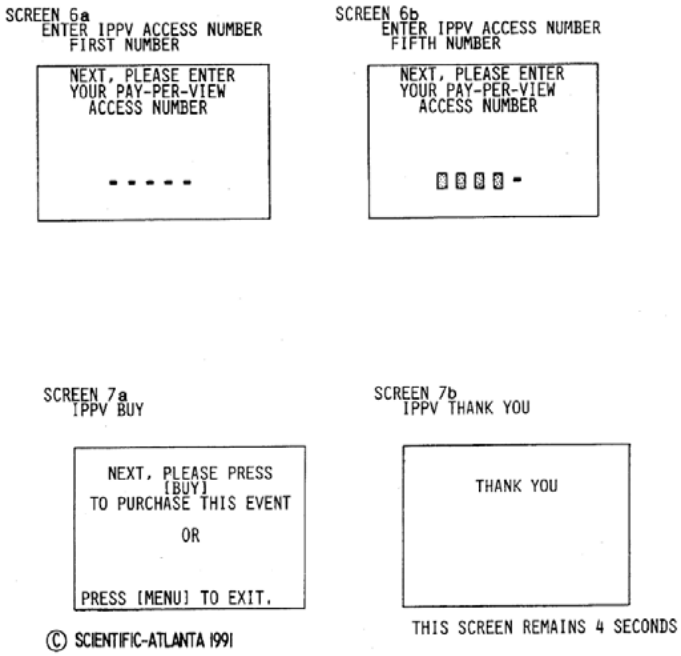


FIG.6F

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.

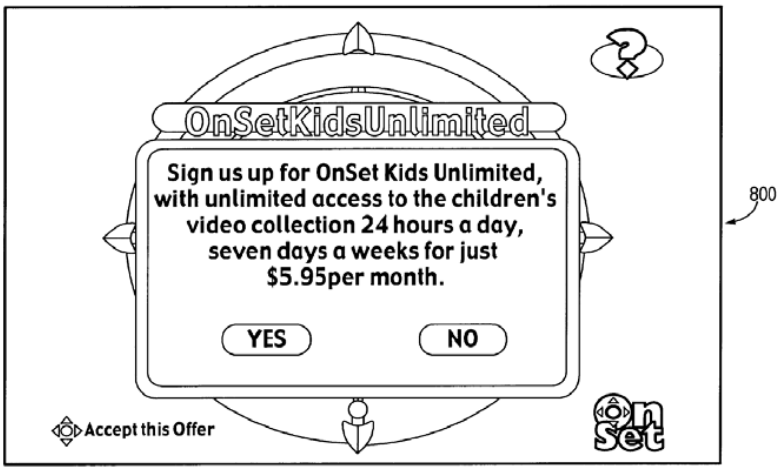


FIG. 8

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
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

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

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

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 multimedia 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." *Tri-Vascular, 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

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[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.

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 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.

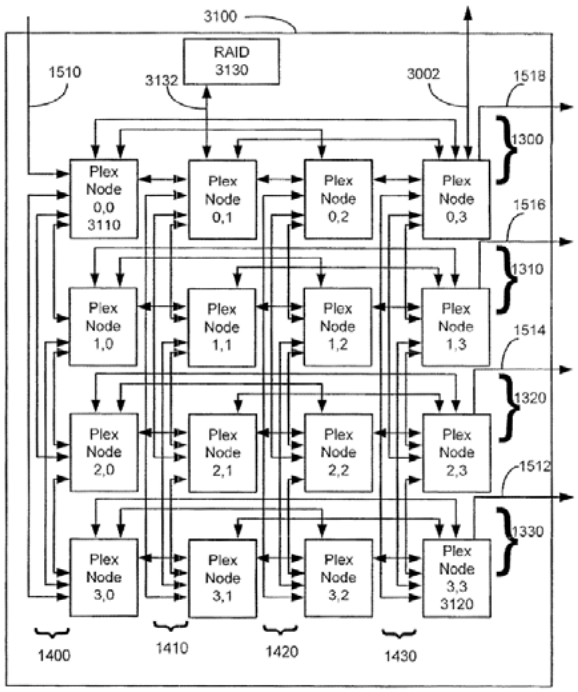

Fig. 7

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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APPENDIX F

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 IPR2018-00345
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 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 of U.S. Patent 7,047,196 B2 (Ex. 1001, "the '196 Patent"). We instituted review of claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 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 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 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* IPR2018-00344, Paper 1. We are also

issuing a final written decision in IPR2018-00344 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.

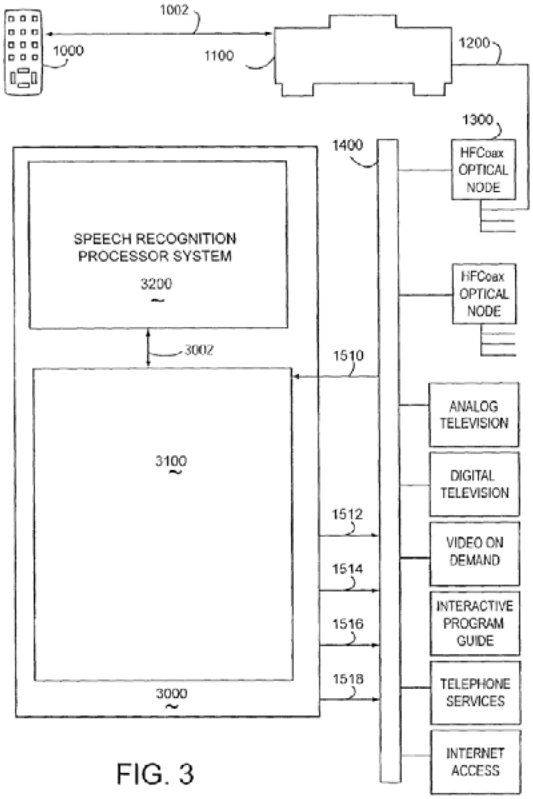


FIG. 3

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.

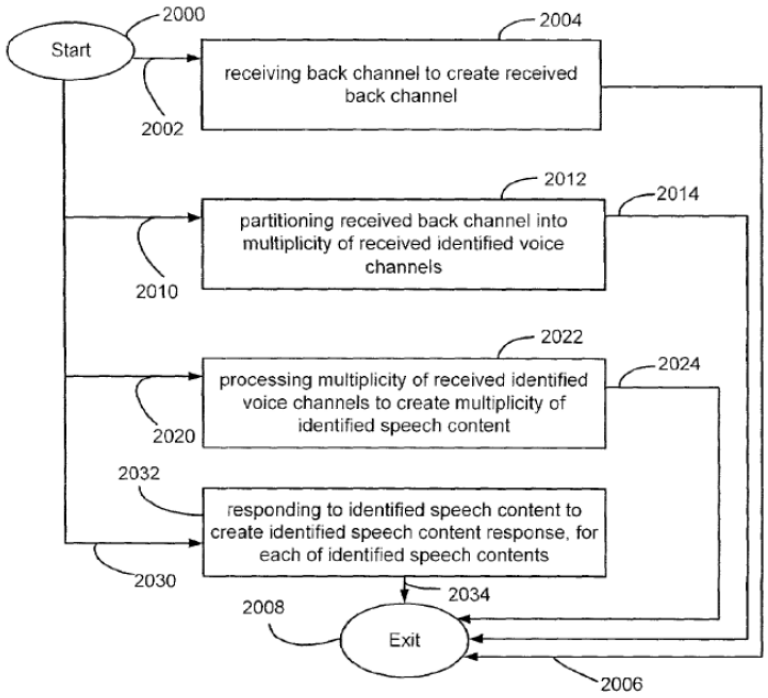


Figure 10 "depicts a flowchart of a method using a back channel from a multiplicity of user sites containing a multiplicity of identified speech channels presented to a speech processing system at a wireline node in a network supporting cable television delivery in accordance with the invention." *Id.*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

C. Challenged Claims

Claim 14 is a system claim directed to a "program system controlling at least part of a speech recognition system coupled to a wireline node in a network" (*id.* at 52:65–53:21), while claim 53 is a method claim for "operating at least part of a speech recognition system coupled to a wireline node in a network" (*id.* at 58:12–29). Claims 15, 17–19, 25, and 26 depend directly or indirectly from claim 14, while claims 54, 55, 61, 62, and 64–66 depend directly or indirectly from claim 53. Independent claims 14 and 53, reproduced below, are illustrative of the challenged claims.

> 14. A program system controlling at least part of a speech recognition system coupled to a wireline node in a network, said program system comprising the program steps of:
>
> > processing a multiplicity of 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 to each of said multiplicity of identified speech contents;

wherein said speech recognition system is provided said multiplicity of received identified speech channels based upon a received back channel at said wireline node from a multiplicity of user sites coupled to said network;

wherein each of said program steps reside in memory accessibly coupled to at least one computer included in said speech recognition system;

wherein said at least one computer communicatively couples through said wireline node to said multiplicity of user sites; 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, 52:65–53:21.

53. A method of operating at least part of a speech recognition system coupled to a wireline node in a network, comprising the steps of:

processing a multiplicity of 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 to each of

said multiplicity of identified speech contents;

wherein said speech recognition system is provided said multiplicity of received identified speech channels based upon a received back channel at said wireline node from a multiplicity of user sites coupled to said network;

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, 58:12–29.

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").
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.

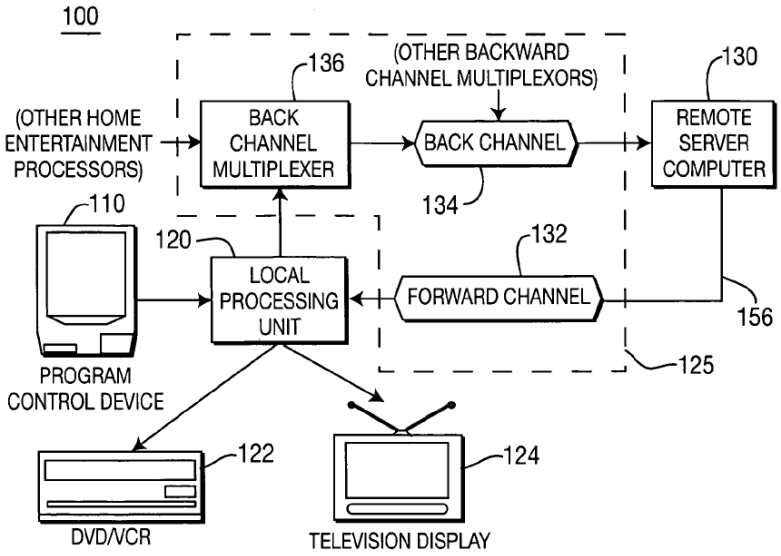


FIG. 1

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 2:63–66.

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.

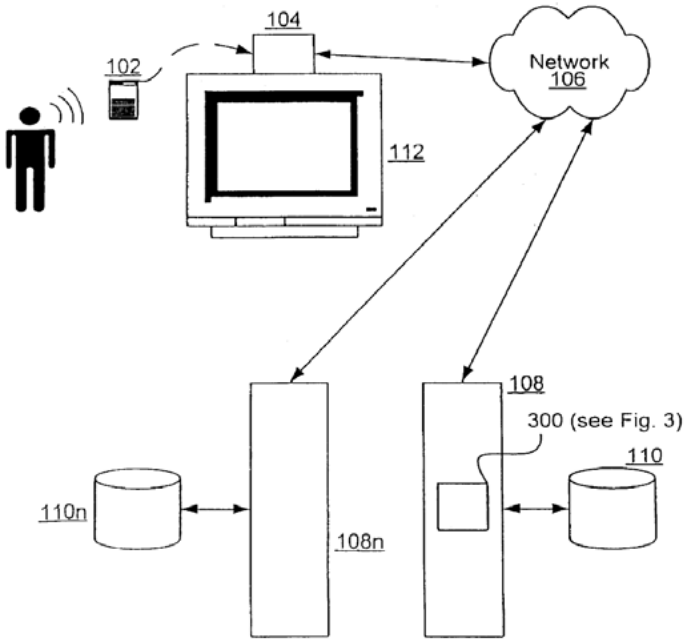


Fig. 1a

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 3:46–50. "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.

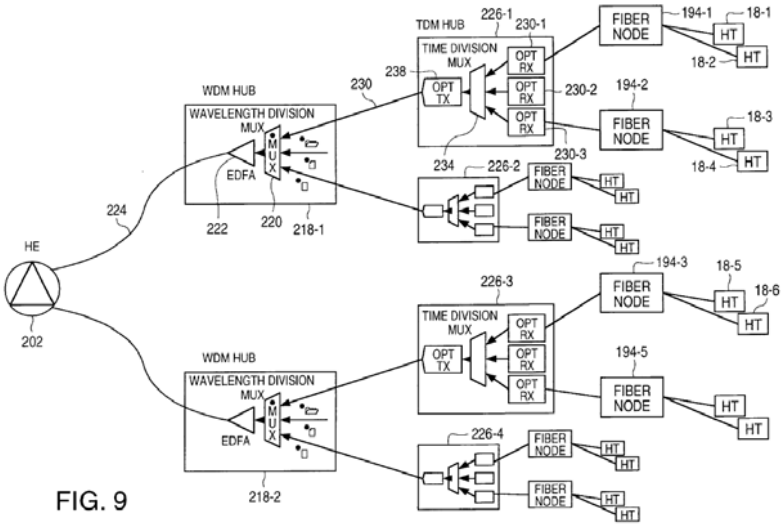


FIG. 9

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.

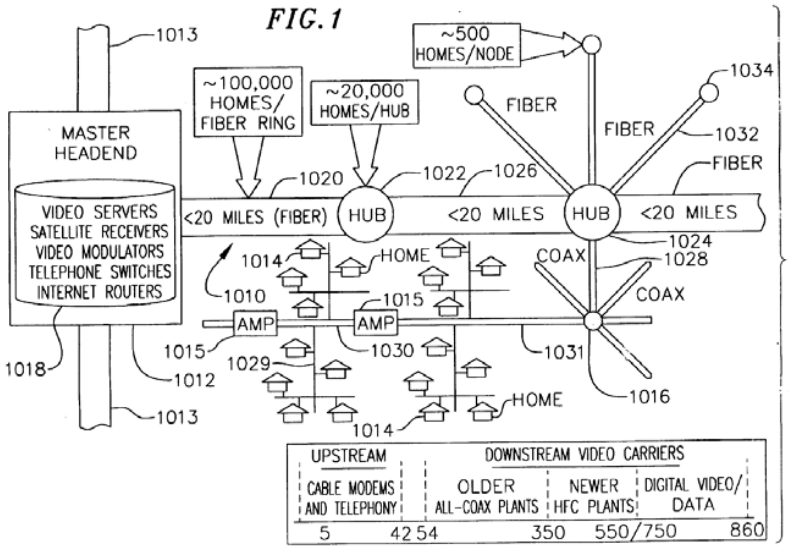


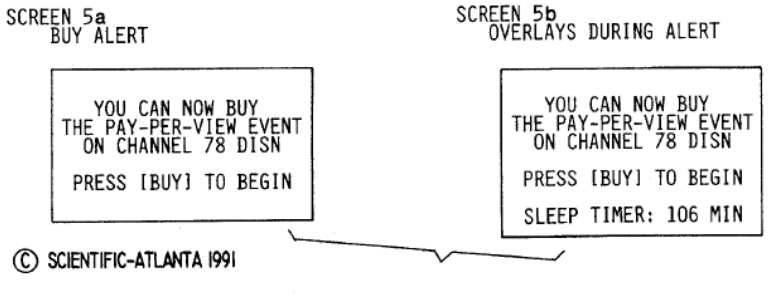
Figure 1 of Quigley "is a schematic diagram of a hybrid fiber coaxial (HFC) network showing typical pathways for data transmission between the headend[,] which contains the cable modem termination system[,] and a plurality of homes[,]each of which contain[s] a cable modem[.]" *Id.* at 3:56–60. In Quigley, "[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.6E



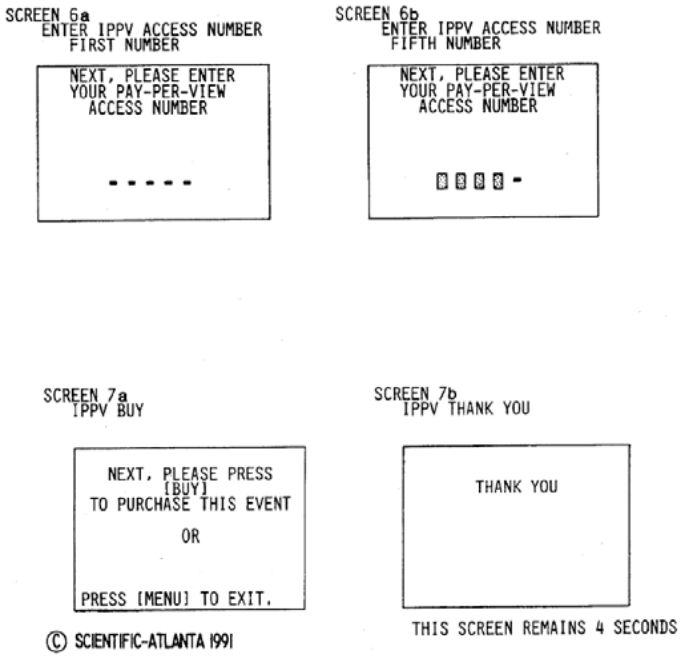


FIG.6F

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.

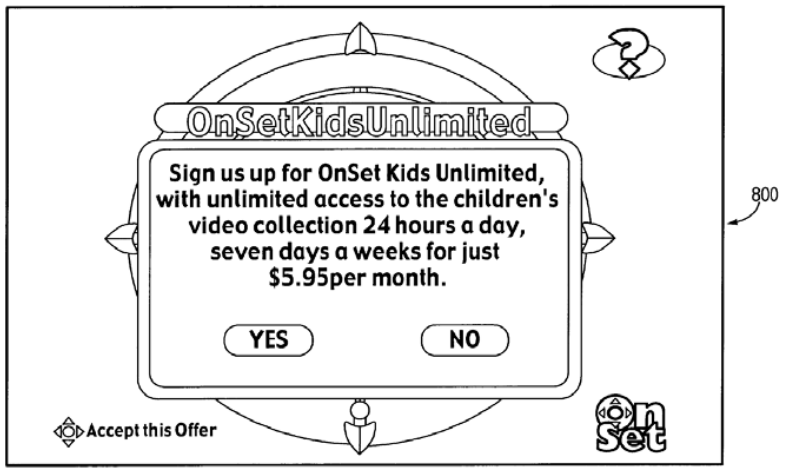


FIG. 8

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 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 of the '196 Patent based on the following grounds of unpatentability set forth in the following table. Paper 10, 16, 20–21.

Ground	Reference(s)	Basis[1]	Claims Challenged
Obviousness Grounds involving Murdock			
1	Murdock alone	§ 103(a)	14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66
2	Murdock and Nazarathy	§ 103(a)	14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66
3	Murdock and Quigley	§ 103(a)	14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66
4	Murdock, Nazarathy, and Banker	§ 103(a)	18, 19, 55, and 65
5	Murdock, Nazarathy, and Gordon	§ 103(a)	18, 19, 55, and 65
6	Murdock, Quigley, and Banker	§ 103(a)	18, 19, 55, and 65

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

7	Murdock, Quigley, and Gordon	§ 103(a)	18, 19, 55, and 65
Obviousness Grounds involving Julia			
8	Julia alone	§ 103(a)	14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66
9	Julia and Nazarathy	§ 103(a)	14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66
10	Julia and Quigley	§ 103(a)	14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66
11	Julia, Nazarathy, and Banker	§ 103(a)	18, 19, 55, and 65
12	Julia, Nazarathy, and Gordon	§ 103(a)	18, 19, 55, and 65
13	Julia, Quigley, and Banker	§ 103(a)	18, 19, 55, and 65
14	Julia, Quigley, and Gordon	§ 103(a)	18, 19, 55, and 65

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. 7–8, emphases added; *see also* Ex. 1019 ¶¶ 75–76. 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. 8–11. 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 "a speech recognition system coupled to a wireline node in a network," 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 "a speech recognition system coupled to a wireline node in a network," 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 8–14)

Petitioner contends that claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 are unpatentable over Julia (Ground 8), Julia in view of Nazarathy (Ground 9) or Quigley (Ground 10), or Julia in view of Nazarathy or Quigley and Banker (Grounds 11 and 13) or Gordon (Grounds 12 and 14) under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Schmandt (Exs. 1019, 1029). Pet. 43–65; *see also* Reply 9–17.

Patent Owner makes numerous arguments against how "Julia alone or combined with the teaching of Nazarathy or Quigley renders any of the claims obvious." Resp. 8–22; 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 "a speech recognition system coupled to a wireline node in a network" as required by independent claims 14 and 53.[2]

In light of this deficiency, Petitioner has not persuasively established that claims 14 and 53 are unpatentable. Because the above issue is dispositive, we exercise our discretion to not reach all other arguments raised by Patent Owner regarding the non-obviousness of these claims.

The preamble of claim 14 recites "a speech recognition system coupled to a wireline node in a network." Ex. 1001, 52:65–66. For this preamble of claim 14, the Petition states the following:

> Julia discloses a program system controlling at least part of a speech recognition system coupled to a wireline node in a network as recited in claim 1. Schmandt Decl. ¶¶ 271–272. In particular, Julia discloses a voice control system that can be implemented in an interactive cable television network. Julia at 1:29–34, 4:31–35. Multiple users can issue voice commands requesting television and

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[2] The parties analyze this claim limitation together. We will address this limitation of claim 14 as representative of the corresponding limitation in claim 53.

> other video content from *a remote server computer (e.g., "a wireline node")*. *Id*. at 6:12–26. *The remote server performs speech recognition processing* to identify the spoken request and then sends the requested content to the particular user. *Id*. at 4:18–20, 11:60–67.

Pet. 44, emphasis added. Petitioner's declarant, Mr. Schmandt, explains that Julia's "remote server is [] a 'program system controlling at least part of a speech recognition system' as the preamble of claim 14 requires, because it performs speech recognition." Ex. 1019 ¶ 271. Accordingly, Petitioner, in the Petition, maps both the recited "speech recognition system" and "wireline node" to remote server 108. Patent Owner contends "to the extent Comcast is trying to map both the speech recognition system and wireline node to remote server 108, that is an improper interpretation of the claim language because a proper interpretation 'must give meaning to all the words in [the] claims.'" Resp. 11.

In its Reply, Petitioner contends, without any analysis, that "[t]his language appears only in the claim preambles, which are generally not limiting." Reply 9. We, however, agree with Patent Owner that "a speech recognition system coupled to a wireline node in a network" is limiting.

"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) (quotation omitted). One way for a preamble to "give life, meaning, and vitality to the claim" is to provide antecedent basis for a term

in the body of the claim. *See Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003) ("When limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention."). Here, "a wireline node in a network" provides antecedent basis for "said wireline node . . . coupled to said network" recited in the body of the claim. Specifically, the preamble ("a wireline node") identifies "the wireline node" in the body of the claim to where "a received back channel" is received (*i.e.*, "a received back channel at said wireline node"). *See Catalina*, 289 F.3d at 808 ("[D]ependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention.").

Similarly, "a speech recognition system" provides antecedent basis for "said speech recognition system is provided . . . ." In particular, the preamble ("a speech recognition system") identifies "the speech recognition system" in the body of the claim where "at least one computer" is included (*i.e.*, "at least one computer included in said speech recognition system"). Thus, we determine that the preamble "a speech recognition system coupled to a wireline node in a network" is limiting.

Petitioner attempts, in its Reply, to change its mapping of the preamble by contending that "processing logic 300 . . . constitutes a speech recognition system executing on the server." Reply 10. As support, Petitioner cites to page 53 of its Petition. However, that page is discussing claims 15, 17, and 25, not

claim 14 or claim 53. Petitioner also cites to paragraphs 271 and 272 of Mr. Schmandt's declaration. Even though paragraph 271 states that "[t]he processing of a user's spoken input request is 'processed by request processing logic 300,' which is stored in 'remote server 108,'" it does not map processing logic 300 to "a speech recognition system." Ex. 1019 ¶ 271. To the contrary, Mr. Schmandt states unequivocally that "[t]he remote server is [] a 'program system controlling at least part of a speech recognition system' as the preamble of claim 14 requires, because it performs speech recognition." *Id*.; *see also* Pet. 44 ("The remote server performs speech recognition processing to identify the spoken request and then sends the requested content to the particular user."). Moreover, when discussing other limitations involving the speech recognition system, Petitioner points to remote server 108. For example, when discussing "wherein said speech recognition system is provided . . . ," Petitioner states that "Julia discloses that a user's voice request is transmitted from the user's 'communication box 104 . . . through network 106 to remote server 108, the 'speech recognition system' and a 'wireline node' as discussed above." Pet. 47–48, emphasis added; *see also id*. at 49 (". . . are performed by the remote server 108, which is a 'computer' that is 'included' in the 'speech recognition system'"). Therefore, Petitioner's new mapping in the Reply constitutes improper new argument and will not be considered. 37 C.F.R. 42.23(b); *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) ("Unlike district court litigation— where parties have greater freedom to revise and develop their arguments over time and in response to newly discovered material—the expe-

dited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute."); Trial Practice Guide Update (Aug. 2018), 14–15, https://www.uspto.gov/patents-application-process/patenttrial-and-appeal-board/trials/guidance-impact-sas-aia-trial.

We next turn to Patent Owner's argument that Petitioner's original mapping in the Petition "both the speech recognition system and wireline node to remote server 108 . . . is an improper interpretation of the claim language because a proper interpretation 'must give meaning to all the words in [the] claims.'" Resp. 11. First, we note that reading 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).

Here, Petitioner does not point to anything in the Specification to support a construction that a speech recognition system and wireline node can be construed to be the same thing.[3] In addition, construing "a speech recognition system" and "wireline node" to be the same thing would also read out "coupled to" in "a speech recognition system coupled to a wireline node in a network." In other words, the term "coupled to" makes little sense and is not meaningful if used to

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[3] Petitioner's arguments in Reply are based on its new mapping of remote server 108 (to "wireline node") and processing logic 300 (to "speech recognition system"). Reply 9–10.

refer to a single element and itself. Mr. Schmandt's testimony is consistent with and even supports the understanding that elements that are coupled to each other are not the same element. Mr. Schmandt "testified that the term 'coupled to' means the *coupled elements* 'have some way of communicating' or 'there's some influence *between the two things* that are coupled.'" Ex. 2034, 27:24–29:9. In addition, the Specification discloses two different things "coupled to" each other:

> As in FIG. 1, each user site contains a Set Top Box, such as STB 180, *coupled to* the network through a coaxial cable 172 which interfaces 170 to a collective coaxial cable 160[,] which *is coupled* to Node 126.

Ex. 1001, 4:18–21, emphases added.

> FIG. 23 depicts a detail block diagram of an augmented distributor node 1310, *coupled to* wireline physical transport 1200 and *coupled to* the wireline communications loop of FIG. 21;
>
> FIG. 24 depicts an alternative detail block diagram of an augmented distributor node 1310, *coupled to* wireline physical transport 1200 and *coupled to* the wireline communications loop of FIG. 21;

Id. at 9:1–8, emphases added.

> As used herein, a server farm refers to a collection of at least two server components communicatively *coupled to* one another. The server components may or may not all be directly communicatively *coupled to* each other.

Id. at 9:59–62, emphases added.

> The invention may also include an array of microphones that are operated in conjunction with a remote control 1000 that is *coupled to* the set top box 1100.

Id. at 10:33–35, emphases added; *see also id*. at 22:43–50, 56–58; 27:19–20, 26–27; 29: 23–26; 31:64–67; 40:42–46, 55–60; 48:3–4; 47:51–52; 48:64–67; 49:23–26; 49:46–49. None of these passages in the Specification refers to something being coupled to itself.

For the foregoing reasons, we determine that that "a speech recognition system" and "wireline node" should be interpreted to be different components. Accordingly, because the Petition points to the same element for "a speech recognition system" and "wireline note," we determine that Petitioner has not established, by a preponderance of the evidence, that Julia teaches "a speech recognition system coupled to a wireline node in a network," as claims 14 and 53 require. Thus, Petitioner has not shown, by a preponderance of the evidence, that independent claims 14 and 53 as well as dependent claims 15, 17–19, 25, 26, 54, 55, 61, 62, and 64–66 are unpatentable based on the obviousness grounds relying on Julia.

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

Petitioner contends that claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 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 of Mr. Schmandt (Exs. 1019, 1029). Pet. 15–43. Below, we consider whether Petitioner has established by a preponderance of the evidence that claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 would have been obvious over the Murdock Grounds.

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. 11.

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) (emphases omitted) (discussing whether *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015), 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 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. ¶¶ 135–257 (showing that the provisional application discloses the challenged claims and also showing that the provisional application discloses the same subject matter) . . . .

Pet. 11–12.

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, [which] particularly when the [P]etition was within 300 words of the word limit, is improper." Resp. 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,

although 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. Pet. 11. "Arguments must not be incorporated by reference from one document into another document." 37 C.F.R. § 42.6(a)(3). Here, Petitioner cites to over 130 paragraphs (Ex. 1019 ¶¶ 99–113, 135–257), spanning more than 60 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 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 at to the Murdock Provisional. Paper 10, 24–27. 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, post institution of trial, attempts to remedy its deficient Petition in its Reply brief. Specifically, Petitioner contends in its Reply that, in any event, Murdock still constitutes applicable prior art because Murdock pre-dates the actual filing date of the '196 Patent so 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 interpreting "a speech recognition system" and "wireline node" to be the same thing, which we have rejected in connection with Petitioner's arguments based on Julia. *See* Pet. 17–18, 30; Ex. 1019 ¶¶ 136–137, 213. Specifically, the Petition states that "Murdock discloses using a '"program system controlling at least part of *a speech recognition system' (i.e., remote server computer 130)* that is 'coupled to *a wireline node* in a network' (*i.e., remote server computer 130*), as recited in claim 1 [sic]." Pet. 17–18, emphases added; *see also id*. at 22 ("Thus, Murdock discloses that the 'speech recognition system' (*i.e.*, remote server 130) . . . as recited in claim 14."); Ex. 1019 ¶¶ 136 (". . . causes the remote server computer 130 to operate as a speech recognition server. . . . The remote server computer is therefore a 'program system controlling at least part of a speech recognition system' as the preamble of claim 14 requires, because it performs speech recognition."); *id.* ¶ 137 ("In Murdock, remote server computer 130 is a 'wireline node' as that term is used in the '196 Patent").

Accordingly, because the Petition points to the same component for "a speech recognition system" and "wireline node," we determine that Petitioner has not established, by a preponderance of the evidence, that Murdock teaches "a speech recognition system coupled to a wireline node in a network."

4. Secondary Considerations of Non-obviousness

Patent Owner also contends that secondary considerations further demonstrate non-obviousness of the challenged claims. Resp. 21–35. 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. 21–35. 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 the following 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, Petitioner used the following portions of Mr. Cook's testimony as follows:

> (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 [sic] 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. 21–41. 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 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 would have been obvious over Julia;

Petitioner has not established, by a preponderance of the evidence, that claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 would have been obvious over Julia and Nazarathy;

Petitioner has not established, by a preponderance of the evidence, that claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 would have been obvious over Julia and Quigley;

Petitioner has not established, by a preponderance of the evidence, that claims 18, 19, 55, and 65 would have been obvious over Julia, Nazarathy, and Banker;

Petitioner has not established, by a preponderance of the evidence, that claims 18, 19, 55, and 65 would have been obvious over Julia, Nazarathy, and Gordon;

Petitioner has not established, by a preponderance of the evidence, that claims 18, 19, 55, and 65 would have been obvious over Julia, Quigley, and Banker;

Petitioner has not established, by a preponderance of the evidence, that claims 18, 19, 55, and 65

would have been obvious over Julia, Quigley, and Gordon;

Petitioner has not established, by a preponderance of the evidence, that claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 would have been obvious over Murdock;

Petitioner has not established, by a preponderance of the evidence, that claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 would have been obvious over Murdock and Nazarathy;

Petitioner has not established, by a preponderance of the evidence, that claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 would have been obvious over Murdock and Quigley;

Petitioner has not established, by a preponderance of the evidence, that claims 18, 19, 55, and 65 would have been obvious over Murdock, Nazarathy, and Banker;

Petitioner has not established, by a preponderance of the evidence, that claims 18, 19, 55, and 65 would have been obvious over Murdock, Nazarathy, and Gordon;

Petitioner has not established, by a preponderance of the evidence, that claims 18, 19, 55, and 65 would have been obvious over Murdock, Quigley, and Banker; and

Petitioner has not established, by a preponderance of the evidence, that claims 18, 19, 55, and 65 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 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66 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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APPENDIX G

CONSTITUTIONAL PROVISION INVOLVED

U.S. Const. art. II, § 2.

Section 2. The President shall be Commander in Chief of the Army and Navy of the United States, and of the Militia of the several States, when called into the actual Service of the United States; he may require the Opinion, in writing, of the principal Officer in each of the executive Departments, upon any Subject relating to the Duties of their respective Offices, and he shall have Power to Grant Reprieves and Pardons for Offences against the United States, except in Cases of Impeachment.

He shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur; and he shall nominate, and by and with the Advice and Consent of the Senate, shall appoint Ambassadors, other public Ministers and Consuls, Judges of the supreme Court, and all other Officers of the United States, whose Appointments are not herein otherwise provided for, and which shall be established by Law: but the Congress may by Law vest the Appointment of such inferior Officers, as they think proper, in the President alone, in the Courts of Law, or in the Heads of Departments.

The President shall have Power to fill up all Vacancies that may happen during the Recess of the Senate, by granting Commissions which shall expire at the End of their next Session.