

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner

v.

ROVI GUIDES, INC.
Patent Owner

Case IPR2019-00231
Patent 9,369,741

**PATENT OWNER'S NOTICE OF APPEAL OF FINAL
WRITTEN DECISION AND DECISION DENYING PATENT
OWNER'S REQUEST FOR REHEARING**

via PTAB E2E
Patent Trial and Appeal Board

via U.S.P.S. Priority Mail Express®
Director of the United States Patent and Trademark Office
c/o Office of the General Counsel, 10B20
Madison Building East
600 Dulany Street
Alexandria, VA 22314

via CM/ECF
United States Court of Appeals for the Federal Circuit

INTRODUCTION

Rovi Guides, Inc.’s (“Patent Owner”) appeal stems from the Patent Trial and Appeal Board’s Final Written Decision entered on May 8, 2020 (Paper 44, “Final Written Decision”) and Decision Denying Patent Owner’s Request for Rehearing of entered on March 25, 2020 (Paper 42, “Denial of Patent Owner’s Request for Rehearing”) in the above-captioned *inter partes* review of United States Patent No. 9,369,741 (“the ’741 Patent”). Copies of the Final Written Decision and Denial of Patent Owner’s Request for Rehearing are attached. This notice is timely filed within 63 days of the Final Written Decision. 37 C.F.R. § 90.3(a)(1).

PATENT OWNER’S APPEAL

Please take notice that under 35 U.S.C. §§ 141(c), 142, 319; 37 C.F.R. §§ 90.2(a), 90.3(a), and Federal Rules of Appellate Procedure/Federal Circuit Rule 4(3)(a), Patent Owner hereby appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision and Denial of Patent Owner’s Requests for Rehearing.

PATENT OWNER’S ISSUES ON APPEAL

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), Patent Owner’s issues on appeal include at least: (i) the Board’s finding that claims 1, 5-8, 12-15, 19-21, 25, and 26 of the ’741 Patent are unpatentable as obvious over Sie; (ii) the Board’s finding that claims 1, 3, 5-8, 10, 12-15, 17, 19-21, 23, 25, and 26 of the ’741 Patent

are unpatentable as obvious over the combination of Sie and Berberet; (iii) the Board's finding that claims 2, 9, 16, and 22 of the '741 Patent are unpatentable as obvious over the combination of Sie and White; (iv) the Board's finding that claims 2, 9, 16, and 22 of the '741 Patent are obvious over the combination of Sie, Berberet, and White; (v) the Board's finding that claims 4, 11, 18, and 24 of the '741 Patent are obvious over the combination of Sie, Berberet, and Bonomi; (vi) the Board's finding that claims 1, 3, 5-8, 10, 12-15, 17, 19-21, 23, 25, and 26 of the '741 Patent are obvious over the combination of Sie and McElhatten; (vii) the Board's finding that claims 2, 9, 16, and 22 of the '741 Patent are obvious over the combination of Sie, McElhatten, and White; (viii) the Board's finding that claims 4, 11, 18, and 24 of the '741 Patent are obvious over the combination of Sie, McElhatten, and Bonomi; (ix) the Board's denial of Patent Owner's Request for Rehearing of the Board's Denial of Authorization to File a Motion to Stay or Terminate This Proceeding in Light of *Arthrex*; and (x) any finding or determination supporting or related to the aforementioned issues, including claim constructions, as well as all other issues decided adversely to Patent Owner in any order, decision, ruling, phone conference decision, and/or opinion.

Simultaneously with this submission, Patent Owner is filing a true and correct copy of this Notice of Appeal with the Director of the United States Patent and Trademark Office and a true and correct copy of the same, along with the

required docketing fee, with the Clerk of the United States Court of Appeals for the Federal Circuit as set forth in the accompanying Certificate of Filing.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

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Date: July 2, 2020

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CERTIFICATION OF FILING

The undersigned hereby certifies that, in addition to being electronically filed through PTAB E2E, a true and correct copy of the above-captioned **PATENT OWNER'S NOTICE OF APPEAL OF FINAL WRITTEN DECISION AND DECISION DENYING PATENT OWNER'S REQUEST FOR REHEARING** is being filed by U.S.P.S. Priority Mail Express® with the Director on July 2, 2020 at the following address:

Director of the United States Patent and Trademark Office
c/o Office of the General Counsel, 10B20
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The undersigned also hereby certifies that a true and correct copy of the above-captioned **PATENT OWNER'S NOTICE OF APPEAL OF FINAL WRITTEN DECISION AND DECISION DENYING PATENT OWNER'S REQUEST FOR REHEARING** and the filing fee is being filed via CM/ECF with the Clerk's Office of the United States Court of Appeals for the Federal Circuit on July 2, 2020.

Case IPR2019-00231
U.S. Pat. No. 9,369,741

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

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Jason D. Eisenberg
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CERTIFICATION OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S NOTICE OF APPEAL OF FINAL WRITTEN DECISION AND DECISION DENYING PATENT OWNER'S REQUEST FOR REHEARING** was served electronically via e-mail on July 2, 2020, in its entirety on the following:

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

ROVI GUIDES, INC.,
Patent Owner.

IPR2019-00231
Patent 9,369,741 B2

Before KARL D. EASTHOM, BARBARA A. PARVIS, and
SCOTT E. BAIN, *Administrative Patent Judges*.

PARVIS, *Administrative Patent Judge*.

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

I. INTRODUCTION

Comcast Cable Communications, LLC, (“Petitioner”) filed a Petition pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1–26 of U.S. Patent No. 9,369,741 B2 (Ex. 1001, “the ’741 Patent”). Paper 1 (“Pet.”). Rovi Guides, Inc., (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). Additionally, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 9) and Patent Owner filed a Sur-Reply (Paper 10). Upon consideration of the parties’ contentions and supporting evidence, we instituted an *inter partes* review pursuant to 35 U.S.C. § 314, as to the challenged claims of the ’741 Patent. Paper 14 (“Inst. Dec.”).

After institution, Patent Owner filed a Patent Owner Response (Paper 19, “PO Resp.”); Petitioner filed a Reply (Paper 24, “Pet. Reply”); and Patent Owner filed a Sur-Reply (Paper 27, “PO Sur-Reply”). A transcript of the hearing held on February 13, 2020, has been entered into the record as Paper 40 (“Tr.”).

This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has demonstrated by a preponderance of evidence that challenged claims 1–26 of the ’741 Patent are unpatentable.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner identifies as the real parties in interest the following: Comcast Corp.; Comcast Cable Communications, LLC; Comcast Cable Communications Management, LLC; Comcast Business Communications,

LLC; Comcast Holdings Corp.; Comcast Shared Services, LLC; Comcast of Santa Maria, LLC; Comcast of Lompoc, LLC; Comcast Financial Agency Corp.; and Comcast STB Software I, LLC. Pet. 7. Patent Owner names as the real parties in interest Rovi Guides, Inc. and Rovi Corp. Paper 5, 1.

B. Related Matters

As required by 37 C.F.R. § 42.8(b)(2), each party identifies a judicial matter that would affect, or be affected by, a decision in this proceeding. In particular, the parties inform us that the '741 Patent is asserted in *Rovi Guides, Inc. v. Comcast Corp.*, No. 2-18-cv-00253 (C.D. Cal.) (“related district court case”), filed January 10, 2018, and *Digital Video Receivers and Related Hardware and Software Components*, Inv. No. 337-TA-1103 (ITC), filed February 8, 2018 (the “ITC investigation”). Pet. 7–8; Paper 5, 1. Petitioner additionally filed IPR2019-00232 also challenging claims 1–26 of the '741 Patent. We exercised our discretion under 35 U.S.C. § 314 and denied institution of an *inter partes* review in that proceeding. *Comcast Cable Communications, LLC v. Rovi Guides, Inc.*, IPR2019-00232, Paper 14 (PTAB May 20, 2019) (Decision Denying Institution).

C. The '741 Patent

The '741 Patent is directed to interactive television systems such as interactive television program guide systems. Ex. 1001, 1:25–26. Figure 1 of the '741 Patent is reproduced below.

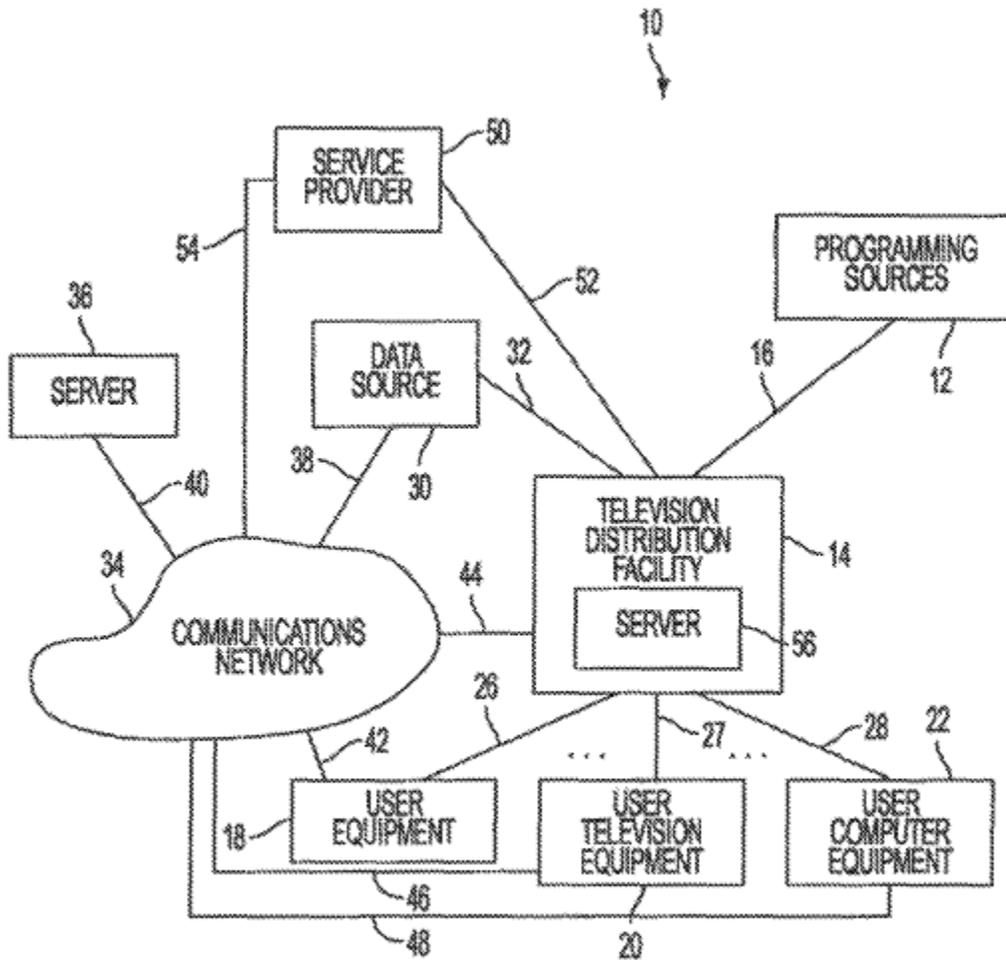


FIG. 1

Figure 1 of the '741 Patent, above, illustrates interactive television system 10 including television distribution facility 14. *Id.* at 4:50–55. Television distribution facility 14 is connected to user equipment devices 18 located in the homes of users, including user television equipment 20 and user computer equipment 22. *Id.* at 5:1–4. User equipment devices 18 receive television and music programming and other information from television distribution facility 14 over communications paths 26, 27, and 28. *Id.* at 5:6–8. Data source 30 provides program schedule information and other

data to television distribution facility 14 over communications path 32 and to user equipment 18 via communications network 34 and paths 38 and 42. *Id.* at 5:30–40.

In one embodiment, the system provides a reminder to watch a video “at a time later than the scheduled broadcast time” after “the program will have been recorded.” Ex. 1001, 24:62–64. “Accordingly, selection of a watch now option . . . will direct the network-based video recorder to play back the program” *Id.* at 24:65–68 (referring to Figure 21).

D. Illustrative Claim

Petitioner challenges claims 1–26 of the ’741 Patent. Pet. 7. Claims 1, 8, 15, and 21 are independent claims. Claims 2–7, 9–14, 16–20, and 22–26 depend, directly or indirectly, from claims 1, 8, 15, and 21, respectively. Independent claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A system comprising:
 - storage circuitry for storing archived copies of videos;
 - control circuitry configured to:
 - transmit a video to a plurality of user equipment, wherein the transmitting begins at a start time and ends at an end time;
 - access a database to determine whether an archived copy corresponding to the video is available to a user after the start time;
 - based on determining that the archived copy is available to the user after the start time, cause an indication corresponding to the archived copy to be displayed simultaneously with the video after a specified time after the start time but before the end time, wherein the specified time was configured prior to the start time;

receive a user response to the indication that is displayed;
and
based on the received user response, retrieve, from the
storage circuitry, the archived copy.

Ex. 1001, 37:62–38:13.

E. Evidence Relied Upon

Petitioner relies on the following references:

U.S. Patent Publication No. 2002/0095510 A1, filed June 8, 2001,
published July 18, 2002 (Ex. 1003, “Sie”);

International Application Publication No. WO 01/56285 A1, filed
January 19, 2001, published August 2, 2001 (Ex. 1005, “Berberet”);

U.S. Patent No. 7,073,189 B2, filed November 22, 2002, issued July
4, 2006 (Ex. 1006, “McElhatten”);

U.S. Patent No. 6,804,825 B1, filed November 30, 1998, issued
October 12, 2004 (Ex. 1007, “White”); and

U.S. Patent No. 6,769,127 B1, filed June 16, 2000, issued July 27,
2004 (Ex. 1008, “Bonomi”).

Additionally, Petitioner relies on the Declaration of Dr. Gary Tjaden
(Ex. 1002) and the Second Declaration of Dr. Tjaden (Ex. 1036). Patent
Owner relies on the Declaration of Dr. Kevin Almeroth (Ex. 2007).

F. Grounds Asserted

Petitioner asserts the following grounds of unpatentability set forth in
Table 1 of this Decision below. Pet. 16.

Claims Challenged	35 U.S.C. §¹	Reference(s)/Basis
1, 5–8, 12–15, 19–21, 25, 26	103(a)	Sie
1, 3, 5–8, 10, 12–15, 17, 19–21, 23, 25, 26	103(a)	Sie, Berberet
2, 9, 16, 22	103(a)	Sie, White
2, 9, 16, 22	103(a)	Sie, Berberet, White
4, 11, 18, 24	103(a)	Sie, Bonomi
4, 11, 18, 24	103(a)	Sie, Berberet, Bonomi
1, 3, 5–8, 10, 12–15, 17, 19–21, 23, 25, 26	103(a)	Sie, McElhatten
2, 9, 16, 22	103(a)	Sie, McElhatten, White
4, 11, 18, 24	103(a)	Sie, McElhatten, Bonomi

Table 1 of this Decision summarizes the grounds in the instant proceeding.

¹ Petitioner asserts “[t]he ’741 Patent was filed as App. No. 14/741,034 (the ‘’034 Application’) on June 16, 2015, sixth in a chain of applications claiming priority to App. No. 10/357,001, which was filed Jan. 30, 2003. (Ex. 1009, 1-8). The ’741 Patent is at best entitled to the Jan. 30, 2003 priority date of App. No. 10/357,001. (Ex. 1002, ¶¶50-51).” Pet. 14. Neither party disputes the priority claim. Because the challenged claims of the ’741 Patent have an effective filing date before March 16, 2013, the 35 U.S.C. §§ 102 and 103 provisions of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, §§ 3(b)–3(c), 3(n)(1), 125 Stat. 284, 285–87, 293 (2011), do not apply and we apply the pre-AIA versions of these statutes.

III. DISCUSSION

A. *Principles of Law Relating to Obviousness*

A patent claim is unpatentable 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. 35 U.S.C. § 103(a). 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) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). When evaluating a combination of teachings, we also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). We analyze the ground based on obviousness in accordance with the above-stated principles.

B. *Level of Ordinary Skill*

Petitioner contends, relying on the testimony of Dr. Tjaden, that a person having ordinary skill in the art would have had a Bachelor of Science degree in computer science, electrical engineering, computer engineering, or a similar discipline, and two years of experience with interactive program guides, set-top boxes, and techniques for delivering video-on-demand content over communication networks, such as a cable system, a local-area network, or the Internet. Pet. 17 (citing Ex. 1002 ¶¶ 29–31). Petitioner

contends, alternatively, a person having ordinary skill in the art could have had equivalent industry or research experience. *Id.*

Patent Owner submits the testimony of Dr. Almeroth that

the characteristics of a person of ordinary skill in the field of art would be a person with a Bachelor of Science degree, or its equivalent, in electrical engineering, computer engineering, computer science, or a related field and either a Master of Science degree, or its equivalent, in one of those fields or approximately two years of related experience in the field of multimedia content distribution and user interfaces.

Ex. 2007 ¶ 42. In its Patent Owner Response, however, Patent Owner does not dispute Petitioner's proposed level of ordinary skill or discuss any differences between Dr. Almeroth's and Dr. Tjaden's level of ordinary skill in a meaningful way. *See generally* PO Resp.

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). On the record before us, we determine that Petitioner's assessment of a person with ordinary skill in the art is consistent with the problems and solutions in the prior art of record. We further find that the '741 Patent Specification tracks Petitioner's assessment. Also, the prior art of record in the instant proceeding reflects the appropriate level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art itself can reflect the appropriate level of skill in the art). We, however, consider both Petitioner's and Patent Owner's proposals in

our analyses herein and our conclusions do not turn on which definition is selected.

C. Claim Construction

In this *inter partes* review, we construe claim terms according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b) (2018).² The parties' contentions regarding claim construction are discussed below.³

1. "archived copies"/"archived copy"

Petitioner provides claim construction contentions for "archived copies"/"archived copy" recited in independent claims 1, 8, 15, and 21. Pet. 18–19. In particular, Petitioner contends in the related ITC investigation "Patent Owner argued that the proper construction for this term is 'stored copy' or 'stored copies'" and "Petitioner submits that this is the broadest reasonable construction of this term." *Id.* at 18 (citing Ex. 1010, 7; Ex. 1011, 47–51; Ex. 1001, 2:14–21, 2:41–44, 28:21–23; Ex. 1019, 74, Ex. 1002 ¶ 34; Ex. 1021, 6–9). Petitioner also contends "[a]lternatively, a narrower construction of this term (as adopted by the ITC) is 'a real or

² The claim construction standard to be employed in an *inter partes* review has changed. 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). At the time of the filing of the Petition in this proceeding, however, the applicable claim construction standard was set forth in 37 C.F.R. § 42.100(b) (2018).

³ The effective filing date of the '741 Patent is before September 16, 2012. See *supra* § II.F. We, therefore, use the pre-AIA version of 35 U.S.C. § 112 in our discussion below, but the requirements of § 112 are the same under the pre- and post-AIA versions of the statute.

virtual copy of a program retained by a system.” *Id.* at 19 (citing Ex. 1021, 6–9; Ex. 1002 ¶¶ 35–38; Ex. 1001, 19:49–59, 25:30–37, 28:18–24, 33:31–40).

Patent Owner “does not dispute [Petitioner’s] proposed broadest reasonable construction for ‘*archived copy*.’” PO Resp. 16.

Consistent with Petitioner’s contentions, the ’741 Patent Specification describes that “[e]ach user may be provided with a personal area that reflects that user’s collection of recorded or *archived* programming.” Ex. 1001, 2:14–21 (emphasis added). The ’741 Patent Specification also includes the following description:

Due to storage restrictions, it may not be desirable to maintain copies of all broadcast programs in the network-based or local personal video recorder for an indefinite period. Accordingly, these programs may be erased or moved to a more remote storage location after an appropriate time has elapsed from their initial broadcast. To avoid losing ready access to a desired program, the user may wish *to archive the program in that user’s personal area or local PVR*. The user may be charged a one-time or periodic fee for this service by the system. *Archived virtual or real copies can be maintained on the network or local PVR for ready access by the user*. Copies that are not archived may be impossible or at least more difficult to access.

Id. at 28:21–36 (emphases added).

We, therefore, determine that the broadest reasonable interpretation of “*archived copies*”/“*archived copy*” is “stored copy or stored copies.”⁴

⁴ This construction is necessary for our analysis of obviousness over Sie alone, but, for the reasons discussed below, is not needed for our analysis of the other obviousness grounds in light of Petitioner’s showing that each of Berberet and McElhatten teaches the narrower of the constructions. *See infra* § III.D.4.

2. “available to a user after the start time”

Patent Owner asserts that the broadest reasonable interpretation of “available to a user after the start time” is “available to a user at times other than the scheduled broadcast time for the video.” PO Resp. 16. Patent Owner relies on portions of the ’741 Patent Specification for its proposed construction (*see, e.g.*, PO Resp. 17; PO Sur-Reply 15–16), which support Patent Owner’s proposal. *See, e.g.*, Ex. 1001, 2:29–32 (describing making “a program available to the user at times other than the scheduled broadcast time”), 36:39–42 (“An advertiser or program provider may wish to ensure that a specific program or programs on a specific channel are made available to users for an extended period of time (and may be charged for the privilege)”).

With its Patent Owner Response, Patent Owner submits the testimony of Dr. Almeroth in support of its claim construction above. PO Resp. 18 (citing Ex. 2007 ¶¶ 54–59). Dr. Almeroth testifies that he agrees with Patent Owner’s construction that “*available to a user after the start time*” means “available to a user at times other than the scheduled broadcast time for the video.” Ex. 2007 ¶¶ 53–54.

In his Declaration, Dr. Almeroth also testifies regarding the “plain language” of “to a user” within this same term. *Id.* ¶¶ 82–87; *see also* PO Resp. 21. Dr. Almeroth testifies that “the meaning of the claim limitation changes if the phrase ‘to a user’ is removed from the limitation,” and, more specifically, that “[t]he ‘to a user’ clause changes the determination from merely determining whether an archived copy is available to a determination whether it is available to a user.” Ex. 2007 ¶ 82.

Patent Owner also asserts the following:

[T]he ALJ specified that “[t]he ’741 patent appears to treat availability as immediate accessibility, not possible accessible in the future to users who become ‘club members.’” *Id.* Accordingly, there is “a primary distinction between Sie and the asserted claims.” *Id.* Specifically, where “Sie displays its ‘club program’ indications to all users (even those to whom the video is unavailable after the start time). The ’741 patent, by contrast, requires that the indication be displayed **only to users** for whom the content is ‘available.’” *Id.* The ALJ further found that “Sie’s determination of whether a club program is ‘available’ to a user (whether the user is a ‘club’ member) occurs only after the user sees the ‘club program’ indication” which is “the inverse” of what the ’741 patent requires. *Id.*, 0283.

PO Resp. 20.

In its Sur-Reply, Patent Owner argues that “available to a user” should be read in light of the ’741 Patent Specification and, further, that the ’741 Patent Specification “discloses embodiments where two determinations are made—(i) that an archived program exists; **and** (ii) that the user has the appropriate rights, privileges, and/or premium service subscriptions to be able to access the program.” PO Sur-Reply 15–16 (citing Ex. 1001, 20:11–13, 24:26–27, 36:39–42). Taking into consideration Patent Owner’s arguments in its Patent Owner Response including those regarding the ITC investigation (*see, e.g.*, PO Resp. 20), Dr. Almeroth’s testimony (*see, e.g.*, Ex. 2007 ¶¶ 82–87), and Patent Owner’s arguments in its Sur-Reply (*see, e.g.*, PO Sur-Reply 15–16), Patent Owner implicitly argues that “available to a user” requires advanced purchase by the user.

That requirement, however, is not supported by the language of the claims, which do not recite a requirement pertaining to when payment is made. The ’741 Patent Specification also does not support Patent Owner’s advanced purchase requirement. For example, one portion relied upon by

Patent Owner states “each user may have access to all previously recorded content to which they had rights when originally broadcast” (Ex. 1001, 20:11–13), but even that portion does not state the user must pre-pay as a user has rights to television programming when it is originally broadcast (*id.* at 11:63–12:9, 23:59–63). Another portion relied upon by Patent Owner specifically states that payment is made at the time of selection. *Id.* at 24:26–30 (describing that “a fee may be imposed in association with the user’s selection”). Patent Owner, additionally, acknowledges that not all portions of the ’741 Patent Specification are required by the claims. *See, e.g.*, Tr. 33:4–11. We determine that “available to a user after the start time” does not require that the user purchase the rights to that availability in advance.

We have considered Patent Owner’s assertions regarding the ITC investigation, including the assertion above, as well as the evidence submitted in this proceeding regarding determinations made in the ITC proceeding. *See, e.g.*, PO Resp. 19–20 (citing Ex. 2010, 1, 282–285). Claim 1 recites simply “access a database to determine whether an archived copy corresponding to the video is available to a user after the start time.” Ex. 1001, 38:1–3. We do not discern any recitation in claim 1 or any of the independent claims that specifies requirements regarding when payment is made. Patent Owner’s arguments require reading an advanced purchase requirement into the claims. For the reasons given above, however,

including our consideration of the '741 Patent Specification, the claims do not require the argued limitations based on advance purchases.⁵

Accordingly, we adopt the construction urged in Patent Owner's Response. *See* PO Resp. 16 (“available to a user after the start time” means “available to a user at times other than the scheduled broadcast time for the video”).

We need not construe the term further to resolve a controversy in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’”) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

3. “storage circuitry” and “control circuitry”

Claims that include the language “means” or “means for” are presumed to invoke 35 U.S.C. § 112 ¶ 6. *See Williamson v. Citrix Online, LLC*, 792 F. 3d 1339, 1348–49 (Fed. Cir. 2015) (en banc in relevant part) (“[U]se of the word ‘means’ creates a presumption that § 112, ¶ 6 applies.”). However, the terms “storage circuitry” and “control circuitry” do not contain the language “means” or “means for.” In the instant proceeding, neither party contends that 35 U.S.C. § 112, ¶ 6 should apply to “storage circuitry” and “control circuitry.” Pet. 17–25; PO Resp. 16–18. Additionally, Patent Owner does not point us to a determination made in the related ITC investigation that 35 U.S.C. § 112, ¶ 6 applies to either “storage circuitry” or

⁵ We need not make determinations regarding Patent Owner's arguments relating to the ITC investigation in light of Petitioner's showing, as will be discussed in more detail below. *See infra* § III.D.4.

“control circuitry,” and instead, evidence has been submitted indicating that the determination in the related ITC investigation is that 35 U.S.C. § 112, ¶ 6 does not apply to those terms. Ex. 1021, 35, 45 (ITC Order construing terms of ’741 Patent indicating that the parties agreed “storage circuitry for storing archived copies of videos” is “[n]ot 112(6)” and determining that “control circuitry configured to” “is not a means-plus-function claim term”).

Accordingly, based on the complete record now before us, neither “storage circuitry” nor “control circuitry” invokes § 112, ¶ 6. With respect to “control circuitry,” in light of Petitioner’s showing (*see supra* § III.D.4), we maintain our determination in the Decision to Institute that “control circuitry” performs the five functions recited in claim 1. Inst. Dec. 17.⁶ *See Nidec*, 868 F.3d at 1017.

4. *Means-Plus-Function Terms*

Petitioner provides claim construction contentions for the means-plus-function terms recited in independent claim 15 and dependent claims 16, 17, 19, and 20. Pet. 17–25. Patent Owner does not dispute Petitioner’s claim construction contentions or the accuracy of Petitioner’s identification of the function and corresponding structure identified for any means-plus-function term. *See generally* PO Resp.

Based on specific citations to the ’741 Patent Specification by Petitioner, we determine that Petitioner’s identification of the functions and corresponding structures identified for the recited means-plus-function terms is correct. *See* Pet. 17–25.

⁶ We, likewise, maintain our determination that “server” recited in claim 21 performs the corresponding functions recited in claim 21. *Id.*

*D. Obviousness— Independent Claims 1, 8, 15, and 21 and
Dependent Claims 3, 5–7, 10, 12–14, 17, 19, 20, 23, 25, and 26*

Petitioner contends each of claims 1, 5–8, 12–15, 19–21, 25, and 26 of the '741 Patent is unpatentable, under 35 U.S.C. § 103, as obvious over Sie. Pet. 16, 27–59. Petitioner also contends each of claims 1, 3, 5–8, 10, 12–15, 17, 19–21, 23, 25, and 26 of the '741 Patent is unpatentable, under 35 U.S.C. § 103, as obvious over (1) Sie and Berberet and (2) Sie and McElhatten. *Id.* at 16, 27–59, 65–75. Patent Owner disagrees. *See generally* PO Resp. In our discussion below, we first provide a brief overview of the prior art, and then we address the parties' contentions in turn.

1. Overview of Sie

Sie is directed to a method for sending a program from a content provider to a user location. Ex. 1003, (57). Figure 1 of Sie is reproduced below.

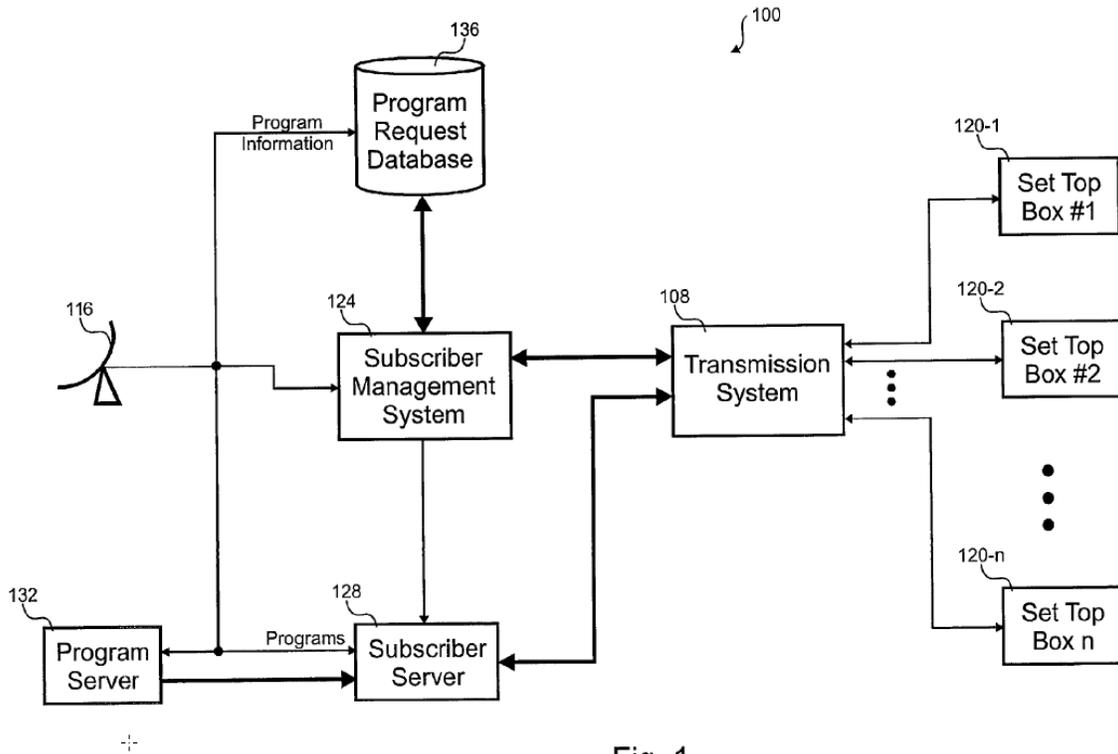


Fig. 1

Figure 1 of Sie, above, illustrates a block diagram of program delivery system 100, including components of a cable television provider's system, such as set top boxes 120-1 through 120-n that are connected via transmission system 108, to subscriber management system 124.

Ex. 1003 ¶ 47, Fig. 1. The cable television provider's system also includes subscriber server 128, which is connected to subscriber management system 124 and transmission system 108. *Id.* Program delivery system 100 also includes program server 132 and program request database 136, which are part of an additional content provider's system and are connected to subscriber server 128. *Id.*

Subscriber management system 124 contains users' account information used to enable programs on the set top boxes 120-1 through 120-n, such as customer names, addresses, set top box addresses, credit

history, subscription status, and Video on Demand (VOD) status. *Id.* ¶ 48. Subscriber server 128 stores content, preferably compressed in a format standardized by the Moving Picture Experts Group (MPEG), such as MPEG-2 or MPEG-4. *Id.* ¶ 49. Subscriber server 128 provides the content to the transmission system 108 for distribution to the set top boxes 120. *Id.* Program server 132 stores programs associated with an additional content provider. *Id.* ¶ 53. Subscriber management system 124 checks with program request database 136 to determine if a program is available. *Id.*

2. *Overview of Berberet*

Berberet describes a system for providing broadcast programming to subscriber locations including an intermediate video supplier, subscriber location equipment, and one or more video sources. Ex. 1005, at code (57). Berberet's system archives and indexes programs to create a searchable archive of programs broadcasted over a specified period of time. *Id.* at 10:4–6. For instance, Berberet describes Program Archive 2.15 and Program Archive Index 2.16 that allow subscribers to search for programming previously broadcasted by the system. *Id.* at 26:7–9. As Program Archive 2.15 stores programs, the system indexes them manually, automatically, or by a combination of manual and automatic techniques, so that subscribers may retrieve them. *Id.* at 28:7–9.

3. *Overview of McElhatten*

McElhatten is directed to a system and method for accessing and reserving entertainment programs through a cable network. Ex. 1006, 1:12–16. Figure 1 of McElhatten is reproduced below.

FIG. 1
100

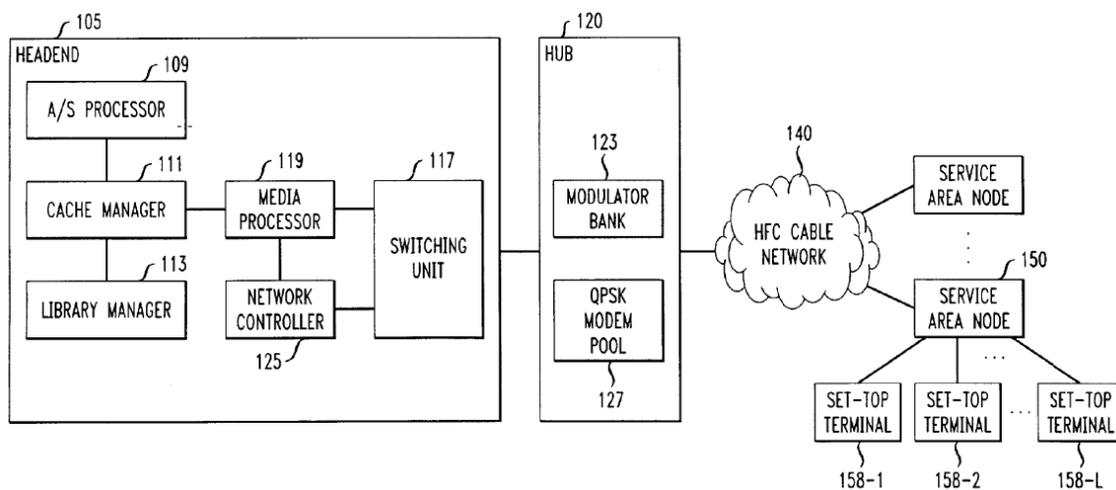


Figure 1 of McElhatten, above, illustrates cable system 100 including headend 105 and set-top terminals 158-1 through 158-L interconnected via hub 120, hybrid fiber coax (HFC) cable network 140, and service area node 150. *Id.* at 5:25–34. Headend 105 includes library manager 113 for long-term storage. *Id.* at 8:4. Set-top terminal 158-1 is associated with remote control 900. *Id.* at 10:43–44, 13:55–57.

McElhatten describes when the user at set-top terminal 158-1 presses record key 910 of remote control 900 to save a program for subsequent viewing, set-top terminal 158-1 marks the program or event that has been recorded and/or stored at headend 105. *Id.* at 13:60–63. The marking and other information, such as an Internet Protocol (IP) and media access control (MAC) address, are transmitted to media processor 119 in headend 105. *Id.* at 13:63–14:2. Based on the received IP address, processor 119 retrieves a user record associated with terminal 158-1, and registers in the record the identifier of the asset containing the reserved program, which is identifiable

by the received marking information and program channel information. *Id.* at 14:2–8. The user record is maintained in storage in headend 105 and a collection of identifiers of the assets reserved by the user. *Id.* at 14:8–10.

4. Discussion of Claim 1

Below we discuss the element-by-element analysis in the Petition, as well as the arguments and evidence presented by both parties.⁷

a) *Limitation [1A]: “system comprising: storage circuitry for storing archived copies of videos”*

Petitioner contends “storage circuitry” is taught by Sie’s program server and “archived copies of videos” is taught by Sie’s description of club programs. Pet. 32 (citing, *e.g.*, Ex. 1003 ¶¶ 53, 70, 72, 147, 159, 177, Fig. 6; Ex. 1002 ¶¶ 101–103); *see also id.* at 28 (citing, *e.g.*, Ex. 1003 ¶¶ 46, 70, 71; Ex. 1002 ¶¶ 91–92 (describing Sie storing “club programs”). Petitioner contends that “Sie’s club programs are ‘archived copies’ under the broadest reasonable interpretation” of that term “because they are ‘stored copies’ of videos” and they are stored by Sie’s program server. *Id.* at 32–33 (citing, *e.g.*, Ex. 1003 ¶¶ 95, 189; Ex. 1002 ¶ 103).

Petitioner provides alternative contentions regarding “archived copies” if that term is construed more narrowly. In particular, Petitioner points to alternatives as follows: (1) Berberet’s description that its system “‘archive[s] and index[es] programs’ from a video buffer to ‘create a searchable archive of all programs broadcast by all systems over a specified period of time’” (*id.* at 32–33 (citing, *e.g.*, Ex. 1005, 10:4–6, 20:17–22,

⁷ Petitioner’s designations of [1A]–[1G] are inserted and used herein for ease of reference. Pet. 32, 36–38, 41, 42.

26:7–12, 28:6–9, 29:7–11; Ex. 1002 ¶¶ 105–106)); and (2) McElhatten’s description that users “have the opportunity to archive [a] ‘reserved program,’ which creates an actual copy of the program in the head-end” (*id.* at 68 (citing Ex. 1006, 2:54–3:6, 7:65–8:17, 12:48–65, 13:46–63, 15:65–16:3, 17:34–61, 18:1–22; Ex. 1002 ¶¶ 189–193)). Petitioner relies on the testimony of Dr. Tjaden regarding reasons one having ordinary skill in the art would have had to make the proposed modifications to Sie. *Id.* at 34–36, 65–69 (citing, *e.g.*, Ex. 1002 ¶¶ 110–114, 184, 185–187, 190, 195–197).

Regarding the proposed combinations, Dr. Tjaden testifies that a person having ordinary skill in the art would have “recognized that combining Sie and Berberet would have been no more than implementing the well-known concept of using user preferences to determine which video content to store (Berberet) to improve a similar head-end video storage system (Sie).” Ex. 1002 ¶ 112. Dr. Tjaden also testifies that a person having ordinary skill in the art would have recognized Berberet’s system “provides useful features which may satisfy subscribers’ needs for access to content (*e.g.*, start-over functionality for an unpopular show)” and “Sie itself suggests the combination.” *Id.* ¶ 111. Dr. Tjaden also testifies that combining Sie and Berberet would have advantageously mitigated the need for routine deletion of stored content and would have provided “subscribers with their desired content while simultaneously managing storage space.” *Id.* ¶¶ 112–114. Dr. Tjaden further testifies that the proposed combination “would have been within the level of ordinary skill in the art” and his testimony provides supporting explanation. *See, e.g., id.* .

Regarding McElhatten, Dr. Tjaden testifies “it would have been obvious for a POSA [person of ordinary skill in the art] to improve Sie’s

club program system to incorporate user reservation and preservation of head-end programs, as shown at least by McElhatten.” *Id.* ¶ 190. Dr. Tjaden further testifies an “advantage” of such incorporation is “that a user may ‘reserve multiple programs having overlapping broadcast times’ without being limited by the number of tuners in their set-top box.” *Id.* ¶ 191. Also, Dr. Tjaden testifies regarding other advantages and that combining Sie with McElhatten would have been “particularly useful in providing users access to content they’d like to watch in view of practical storage limitations.” *Id.* ¶¶ 195–197. Dr. Tjaden further testifies that the functionality of McElhatten would have been “relatively easily implemented into Sie” and that a person having ordinary skill in the art would have “readily” understood how to implement McElhatten’s functionality into Sie and Dr. Tjaden’s testimony includes supporting explanation. *See, e.g., id.* ¶¶ 195–197.

Patent Owner’s dispute regarding limitation [1A] pertains to the alternative contentions and reasoning to combine. *See generally* PO Resp. In particular, relying on the testimony of Dr. Almeroth, Patent Owner asserts that a person having ordinary skill in the art would not have made the combinations proposed by Petitioner. PO Resp. 60–61 (citing Ex. 2007 ¶¶ 202–204). Dr. Almeroth testifies that Dr. Tjaden’s testimony lacks explanation and that “modifying where programs are stored in Sie’s system would require changes to the interaction between those content provider-controlled and cable television provider-controlled systems” thereby requiring software changes. Ex. 2007 ¶ 204.

After considering the arguments and evidence of both parties, we agree with Petitioner’s contentions, and we credit and give significant

weight to the testimony of Dr. Tjaden over that of Dr. Almeroth because Petitioner's contentions and Dr. Tjaden's testimony are consistent with the evidence of record including the evidence cited therein. We start with Petitioner's undisputed assertion regarding the "storage circuitry" recited in claim 1. Consistent with Petitioner's contentions and Dr. Tjaden's testimony, Sie describes "[t]he program server 132 stores programs associated with an additional content provider." Ex. 1003 ¶ 53. Sie's "program server 132 can load the programs onto the subscriber server 128 or directly couple the program to the transmission system 108." *Id.* Sie describes storage as "a magnetic disk, tape drive, video recorder, optical disk or the like" (*id.* ¶ 72) and that storage may be local or remote to the user location (*id.* ¶¶ 147, 159, 177).

Also consistent with Petitioner's contentions and Dr. Tjaden's testimony are Sie's teachings regarding "archived copies of videos" relied on by Petitioner. For example, Sie describes "[t]he program server 132 stores programs associated with an additional content provider." *Id.* ¶ 53. Sie describes "the club programs may be stored remotely, such as in a headend, a neighborhood node, or may be stored locally, such as in the set-top box 600" and that "[t]he various embodiments illustrated in FIG. 7-7D make no particular distinction where the club programs are stored." Ex. 1003 ¶ 95. Sie further teaches a purchase arrangement that allows a user to "copy a club version of the club program onto another device, such as a PVR [Personal Video Recorder], VCR [Videocassette Recorder], or removable media." *Id.* ¶ 189.

The evidence of record also supports Petitioner's alternative contentions and Dr. Tjaden's testimony that Berberet teaches "archived

copies of videos” recited in claim 1. For instance, Berberet describes moving programs “to longer-term storage in a Program Archive 2.15 database” and “[a]s programs are stored in the Program Archive 2.15, they are indexed manually, automatically, or by a combination of manual and automatic techniques, so that subscribers may retrieve them.” Ex. 1005, 28:6–9; *see also id.* at 26:7–16 (describing Program Archive 2.15 as “archival storage”). As is shown in Figure 6 of Berberet, Program Archive 2.15 is within INTERMEDIATE VIDEO SUPPLIER 1.2, which is remote from the subscriber. *Id.* at Fig. 6.

Additionally, the evidence of record also supports Petitioner’s alternative contentions and Dr. Tjaden’s testimony that McElhatten teaches “archived copies of videos” recited in claim 1. For instance, McElhatten describes “offering the user the opportunity to *archive* the reserved program” and that “[a]rchiving a program permits a user accessibility to the program for an extended period of time.” Ex. 1006, 17:42–50 (emphases added). McElhatten also describes that broadcast programs are recorded at headend 105 and on-demand and other content is stored at headend 105. *Id.* at 13:52–54; *see also id.* at 15:65–67 (“Reservable programs are those that have been recorded and stored at headend 105.”). For program reservation, in response to the user depressing record key 910, “terminal 158-1 marks the program or event that has been recorded and/or stored at headend 105.” *Id.* at 13:60–63.

We also agree with Petitioner’s contentions, and we credit and give significant weight to the testimony of Dr. Tjaden over that of Dr. Almeroth that one having ordinary skill in the art would have combined the teachings in the manner recited in claim 1 as Petitioner’s contentions and Dr. Tjaden’s

testimony are consistent with the evidence of record including the cited evidence therein. For example, consistent with Dr. Tjaden's testimony that Berberet's system "provides useful features which may satisfy subscribers' needs for access to content (*e.g.*, start-over functionality for an unpopular show)" and "Sie itself suggests the combination" (Ex. 1003 ¶ 111), Sie describes that in some embodiments "the content provider selects the programs that are stored . . . as part of the club," but "[t]his process could be refined," such that "only some of the club programs are stored based upon the user's preferences." Ex. 1003 ¶ 190.

Also, the disclosures of each of Berberet and McElhatten are consistent with Dr. Tjaden's testimony that combining Sie with Berberet or McElhatten would have provided subscribers access to desired content while managing storage space in view of practical storage limitations.

Ex. 1002 ¶¶ 112, 113, 195–197. For instance, Berberet describes "a virtual VCR" that "provides subscribers to the service with all of the features of a VCR without their having to purchase or maintain a physical VCR apparatus." Ex. 1005, 4:12–15. Similarly, McElhatten describes "offering the user the opportunity to archive the reserved program," which "permits a user accessibility to the program for an extended period of time (*e.g.*, up to one or more years from broadcast)," as well as allowing "a user to reserve a program within a predetermined period after the program's broadcast," which makes a program available for viewing "within a limited time (*e.g.*, two weeks) from the broadcast date." Ex. 1006, 17:45–61; *see also id.* at 18:10–22 (describing "[o]nce a program has been reserved, the user can access the reserved program" and navigate through the program with "PVR-like functions," such as "play, pause, stop, fast-forward and rewind").

Also, the evidence of record supports Dr. Tjaden's testimony that making the proposed combinations of Sie and Berberet and Sie and McElhatten would have been within the level of ordinary skill in the art. Ex. 1002 ¶¶ 113, 196–197. Contrary to Dr. Almeroth's testimony that Dr. Tjaden's testimony lacks explanation, Dr. Tjaden's testimony provides detailed explanations as to why a person having ordinary skill in the art would have been motivated to combine with Sie the teachings of head-end archival including, for example, Berberet's "Program Archive 2.15" and a "Video Scrapbook 2.4" and McElhatten's archival of reserved programs. Ex. 1002 ¶¶ 105, 110–114, 184, 185–187, 190, 191, 195–197. Dr. Tjaden's testimony provides detailed explanations showing that the skilled artisan would have had a reasonable expectation of success in doing so. *Id.*

Regarding Dr. Almeroth's testimony "modifying where programs are stored in Sie's system would require changes to the interaction between those content provider-controlled and cable television provider-controlled systems" thereby requiring software changes (Ex. 2007 ¶ 204), the evidence of record supports Dr. Tjaden's testimony (Ex. 1002 ¶¶ 113, 196–197). For instance, Berberet and McElhatten provide detailed descriptions of how to implement their respective archival features. *See generally* Ex. 1005; Ex. 1006. Even assuming that the software is "standardized" (Ex. 2007 ¶ 204), simply because "a given combination would not be made by businessmen for economic reasons does not mean that persons skilled in the art would not make the combination because of some technological incompatibility." *In re Farrenkopf*, 713 F.2d 714, 718 (Fed. Cir. 1983). On this record, Petitioner has provided sufficient evidence to show that implementing Berberet and McElhatten archival features would not be

“uniquely challenging or difficult for one of ordinary skill in the art” at the time of the invention. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418).

For the reasons given, we determine that Petitioner’s arguments and evidence show that Sie alone and in combination with each of Berberet and McElhatten teaches limitation [1A], i.e., “system comprising: storage circuitry for storing archived copies of videos.” Ex. 1001, 37:62–63. Additionally, we are persuaded that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have combined the teachings of the asserted art in the manner recited and has shown that the skilled artisan would have had a reasonable expectation of success. We determine Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

b) *Limitation [1B]: “control circuitry configured to: transmit a video to a plurality of user equipment”*

Petitioner contends

Sie discloses the claimed “control circuitry,” (limitations [1B]–[1G]) which may be “any suitable processing circuitry,” (Ex. 1001, 12:10–13), through at least its “transmission system” and/or “set-top box.” (Ex. 1002, ¶117). For example, Sie’s “transmission system” “takes the various programs and multiplexes them onto a conduit coupled to the set top boxes 120.” (Ex. 1003, ¶0054; Ex. 1002, ¶¶116–117).

Pet. 36.

In the Decision to Institute, we determined that the Petition identifies subscriber management system 124 with respect to “control circuitry.” Inst. Dec. 28. More specifically, we said “[a]t this juncture in the proceeding, we are persuaded by Petitioner’s citation to paragraph 54 of Sie, which

describes the operation of subscriber management system 124, as well as Petitioner's reliance on the disclosure of multiplexing and transmitting, which involve control by subscriber management system 124." *Id.* at 26–28.

Relying on the testimony of Dr. Almeroth, Patent Owner asserts that the Petition identifies only set top boxes and the transmission system for the “control circuitry,” but not subscriber management system 124. PO Resp. 39–42, 62–66 (citing Ex. 2007 ¶¶ 137–146). Patent Owner asserts “[a]llowing Comcast to later rely on an element of Sie that was not identified in Comcast's Petition or in its expert declaration is improper” based on “the absence of any reliance in the petition or the declaration.” *Id.* at 62. Dr. Almeroth's testimony repeats Patent Owner's arguments that subscriber management system 124 is not identified. Ex. 2007 ¶¶ 137–140, 145. Dr. Almeroth's other testimony regarding deficiencies in Sie does not take into account Sie's teachings with respect to subscriber management system 124. Ex. 2007 ¶¶ 137–146.

After considering the arguments and evidence of both parties, we maintain our determination in the Decision to Institute and we agree with Petitioner's contentions, and we credit and give significant weight to the testimony of Dr. Tjaden over that of Dr. Almeroth as Petitioner's contentions and Dr. Tjaden's testimony are consistent with the evidence of record including the evidence cited therein. It is undisputed that the Petition points to Sie's “transmission system.” PO Resp. 39–42, 60–61 (emphasis added). Contrary to Patent Owner's assertion regarding a lack of identification, Petitioner points to Sie's transmission system and its operations as well as Sie's express disclosure (Pet. 36 (citing, *e.g.*, Ex. 1003 ¶ 54)) that subscriber management system 124 “controls the

transmission system 108 to route the appropriate program streams to the desired set top box 120 of the user.” Ex. 1003 ¶ 54 (emphasis added).

In the portions of Dr. Tjaden’s Declaration relied upon in the Petition (Pet. 36), Dr. Tjaden testifies “Sie describes a ‘transmission system’ depicted as communicatively coupled to multiple set-top boxes.” Ex. 1002 ¶ 116 (citing Ex. 1003 ¶ 54). Regarding “Sie’s ‘*control circuitry*,’” Dr. Tjaden also testifies “the transmission system is configured to provide the necessary information for and cause Sie’s set-top box to perform certain steps and thus meets the claimed ‘*control circuitry*.’” *Id.* ¶ 117 (citing Ex. 1003, Fig. 1). Dr. Tjaden further testifies “[i]n my view, the PTAB properly recognized, in its Institution Decision, that ‘control circuitry’ may include Sie’s set-top boxes, transmission system, and subscriber management system.” Ex. 1036 ¶ 43. Dr. Tjaden also testifies

a POSA [person of ordinary skill in the art] would of course have recognized that the functions undertaken by the computer systems of Sie described at length in this and my previous declaration are being controlled by various computer processors configured to perform the functions that they are described as performing.

Id.

Relying on the testimony of Dr. Almeroth, Patent Owner contends

Comcast’s position along with Dr. Tjaden’s testimony, leads to a logical inconsistency — Sie’s set-top boxes partly teach the claimed “*control circuitry*” and the claimed “*user equipment*,” but all components of Sie’s set-top boxes teach the claimed “*control circuitry*.” *Id.*, ¶¶144-146. As such, there is nothing left over in Sie’s set-top boxes that teach the claimed “*user equipment*.” *Id.*, ¶¶144-146.

PO Resp. 41–42. Dr. Almeroth testifies that Petitioner asserts “that all components of Sie’s set-top boxes teach the claimed ‘*control circuitry*,’” so Petitioner “cannot also rely on the set-top box to teach the claimed ‘*user equipment*’ because there are no other components in the set-top box to perform the claimed functions of the ‘user equipment.’” Ex. 2007 ¶ 144. Patent Owner’s contentions and Dr. Almeroth’s testimony, however, do not provide explanations that undermine Petitioner’s showing that “control circuitry” that includes both head-end and user equipment can transmit from its head-end to its user equipment.

We maintain our view, in agreement with Patent Owner, that the “control circuitry” performs five functions recited in claim 1. *See supra* III.C.3; Dec. on Inst. 17 (citing Prelim. Resp. 29, 44–45). In particular, at issue here, claim 1 recites “control circuitry configured to” “*transmit a video to a plurality of user equipment*,” as well as other steps including “*receive a user response to the indication that is displayed*,” and “based on the received user response.” Ex. 1001, 37:64–38:13 (emphases added). The “receive a user response” and “received user response” limitations do not preclude employing some portion of the control circuitry at “user equipment” to generate the required responses, in addition to control circuitry to transmit the video, such as a head-end transmitter. Claim 1 broadly recites a “system comprising . . . control circuitry” without precluding distributed control circuitry or otherwise restricting the location of the circuitry.

Patent Owner’s dispute and Dr. Almeroth’s testimony (*see, e.g.*, PO Resp. 40–41; Ex. 2007 ¶¶ 144–146) are not consistent with the language of the claim, which broadly recites “control circuitry” and does not restrict that

circuitry so as to exclude user equipment, even though “control circuitry” transmits to that user equipment.⁸

Patent Owner also cites to the deposition testimony of Dr. Tjaden to assert that the Petition does not provide Patent Owner with notice as to what teaches “control circuitry.” PO Resp. 39–42, 62–66 (citing, *e.g.*, Ex. 2009, 131:4–132:7, 132:18–133:17, 136:3–18, 143:8–11, 144:6–14). Contrary to Patent Owner’s arguments, Dr. Tjaden testified during his deposition consistent with his declaration testimony and, for example, testified in detail regarding elements of Sie that teach “control circuitry.” Ex. 2009, 131:4–132:7 (testifying regarding tuner 506, controller 504, and transceiver 528), 143:8–11 (testifying regarding Figure 1 of Sie illustrating “control circuitry”).

Other of Dr. Tjaden’s testimony relied upon by Patent Owner pertains to claims 22–26, which depend from independent claim 21. Ex. 2009, 132:18–133:17, 136:3–18. With respect to claims 21–26, Patent Owner argues that Dr. Tjaden testifies in his declaration that “the use of ‘*control circuitry*’ and ‘*user equipment*’ in these claims is interchangeable.” PO Resp. 41 (citing Ex. 1002 ¶ 178). Patent Owner, however, relies on Dr.

⁸ Consistent with Petitioner’s arguments and Dr. Tjaden’s testimony, the ’741 Patent states that “[c]ontrol circuitry 106 may be based on any suitable processing circuitry 110 such as processing circuitry based on one or more microprocessors, microcontrollers, digital signal processors, programmable logic devices, etc.” Ex. 1001, 12:10–13 (cited in Pet. 36; Ex. 1002 ¶ 117). Patent Owner does not point to any portion of the ’741 Patent Specification in support of Patent Owner’s position and, indeed, Sie’s disclosure of a cable system headend and set top box user equipment is the same as an exemplary embodiment in the ’741 Patent Specification. *Compare* Ex. 1003 ¶¶ 47–49, Fig. 1, *with* Ex. 1001, 4:50–61, 5:1–4, 6:52–60, 8:8–10.

Tjaden’s declaration and deposition testimony regarding claims 21–26 in Patent Owner’s arguments for claim 1. PO Resp. 39–42. Patent Owner’s reliance on contentions relating to claims 21–26, which do not recite “control circuitry,” is misplaced.

Patent Owner asserts that Petitioner “merely cited a paragraph that mentions the missing element” and that Patent Owner has “to speculate” because the Petition includes “open-ended allegations.” PO Resp. 62–66 (citing 35 U.S.C. § 312(a)(3)). Patent Owner acknowledges that Petitioner cited to paragraph 54, for example. *Id.* Patent Owner’s arguments are based on a mischaracterization of the Petition. Consistent with the requirements of 35 U.S.C. § 312(a)(3), Petitioner identified in the Petition its challenge of claim 1 of the ’741 Patent as unpatentable, under 35 U.S.C. § 103, as obvious over Sie, Sie and Berberet, and Sie and McElhatten. Pet. 16, 27–59, 65–75. Petitioner provided copies of the prior art (*see, e.g.*, Ex. 1003), as well as Dr. Tjaden’s Declaration (Ex. 1002), along with detailed explanations of the asserted prior art including identifying with particularity Petitioner’s reliance on paragraph 54 of Sie, i.e., “[f]or example, Sie’s ‘transmission system’ ‘takes the various programs and multiplexes them onto a conduit coupled to the set top boxes 120.’” Pet. 36 (citing Ex. 1003 ¶ 54; Ex. 1002 ¶¶ 116–117). Petitioner relies on Sie’s “transmission system” (*id.* (emphasis added)) and in paragraph 54 relied upon in the Petition, Sie describes “[t]he subscriber management system 124 controls the transmission system 108.” Ex. 1003 ¶ 54 (emphasis added).

For the reasons discussed in more detail below in Sections III.D.4.c–III.D.4.g, we determine that Petitioner’s arguments and evidence show that the asserted art teaches the remaining functions performed by “control

circuitry.” We determine Patent Owner’s arguments do not undermine Petitioner’s showing.

For the reasons given, we determine that Petitioner’s arguments and evidence show that Sie teaches limitation [1B], i.e., “control circuitry configured to: transmit a video to a plurality of user equipment.” Ex. 1001, 37:64–65. We determine Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

c) *Limitation [1C]: “wherein the transmitting begins at a start time and ends at an end time”*

Petitioner points to Sie’s “‘linear schedule of programming’ and a ‘fixed schedule of programs played throughout a given time period.’” Pet. 37–38 (citing, *e.g.*, Ex. 1003 ¶¶ 46, 75, 78, 99, Fig. 8B; Ex. 1002 ¶¶ 118–120). Patent Owner does not dispute Petitioner’s contentions with respect to the limitation.

We agree with Petitioner’s contentions, and we credit and give significant weight to the testimony of Dr. Tjaden as Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with the evidence cited therein. For instance, Sie describes transmitting a schedule of programs that start at a start time and end at an end time. Figure 8B of Sie is reproduced below.

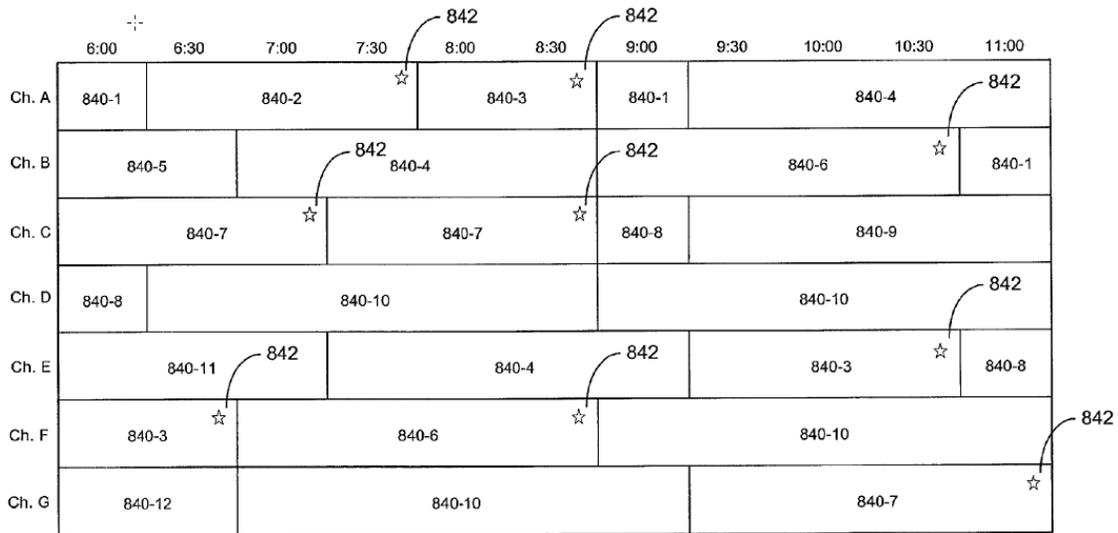


FIG. 8B

Figure 8B of Sie, above, illustrates a schematic of a schedule of programs 840 of varying length on seven distinct channels labeled “Ch. A” through “Ch. G” over a time period from 6:00 to 11:00. Ex. 1003 ¶¶ 99.

For the reasons given, we determine that Petitioner’s arguments and evidence show that Sie teaches limitation [1C], i.e., “wherein the transmitting begins at a start time and ends at an end time.” Ex. 1001, 37:66–67.

d) *Limitation [1D]: “access a database to determine whether an archived copy corresponding to the video is available to a user after the start time”*

Petitioner points to Sie’s determination of whether a program being shown is a club program. Pet. 38–39 (citing, e.g., Ex. 1003 ¶¶ 46, 53, 85, 97, 99, 115, 189; Ex. 1002 ¶¶ 121–124). Dr. Tjaden testifies as follows:

In Sie, a “determination is made whether the program being shown on the accessed subscription channel is a club program.” (Ex. 1003, ¶0085). This is “determin[ing] whether an archived

copy corresponding to the video is available to a user after the start time.” Note that Sie states that the determination is made regarding “whether the program being shown on the accessed subscription channel” is a club program. (See Ex. 1003 ¶¶0085 (emphasis added)). Because this language indicates that the program is “being shown,” the determination must be “*after the start time*” of the program—after all, prior to that time, the program is not “being shown” in the first place. (See *id.*). Note also, that the determination is whether the program “is a club program.” (Ex. 1003, ¶¶0085).

Ex. 1002 ¶ 122. Dr. Tjaden also testifies that “[t]he aforementioned determination in Sie is made by ‘check[ing] . . . the program request database 136 to determine if a program is available.’” *Id.* ¶ 123 (citing Ex. 1003 ¶ 53; Ex. 1015 ¶¶ 204–206).

Patent Owner argues the “Petition arguments, which largely mirror its ultimately unpersuasive arguments in the concurrent ITC investigation, effectively excise the ‘*to a user*’ clause from the limitation ‘determin[ing] whether an archived copy corresponding to the video is available to a user after the start time.’” PO Resp. 1.⁹ Patent Owner, more specifically, argues that the Petition does not take into account that Sie’s system does not determine whether a user is a club member prior to displaying a symbol indicating that a program is a club program so “[i]n Sie’s system, the notification service merely indicates that a program that is currently being viewed is a club program, not necessarily that it is available to the user currently viewing the program.” PO Resp. 22–28 (citing, *e.g.*, Ex. 2007 ¶¶ 96–103; Ex. 1003, Figs. 7A–D). Relying on the testimony of Dr. Almeroth, Patent Owner asserts that “[b]oth the subscriber/non-club

⁹ We discuss Patent Owner’s arguments regarding redundancy and the ITC investigation below. See *infra* § III.G.

members and the subscriber/club members can view a subscription program at its linearly scheduled time,” but “only subscriber/club members have access to the club program ‘*at times other than the scheduled broadcast time for that program.*’” *Id.* at 29–32 (citing, *e.g.*, 2007 ¶¶ 82–89, 113, 114).

Certain of Patent Owner’s contentions and Dr. Almeroth’s testimony regarding the operation of Sie’s system are correct. In particular, Sie describes that “a subset of the users who subscribe to the additional content” are “hereinafter called the ‘club.’” Ex. 1003 ¶ 46. Sie describes “[a]t step 763, a determination is made whether the program being shown on the accessed subscription channel is a club program.” *Id.* ¶ 85. Sie further describes “[i]f a club program is being displayed, then a club notification symbol is shown on the identifier at step 764.” *Id.* Sie describes with respect to Figure 7B determining “(1) whether the subscription channel is showing a club program and (2) whether the user is a member of the club and therefore entitled to access.” Ex. 1003 ¶ 89. Petitioner has not pointed us to and we do not discern an express teaching in Sie’s Figure 7A regarding determining whether the user is a member of the club, similar to (2) set forth with respect to Figure 7B (*id.* ¶ 89). As discussed below, however, other of Patent Owner’s contentions and Dr. Almeroth’s testimony regarding the operation of Sie’s system are not consistent with Sie’s disclosures.

Patent Owner’s arguments and Dr. Almeroth’s testimony that Sie is deficient because its system does not determine whether a user is a club member prior to displaying a symbol indicating that a program is a club program (PO Resp. 22–32; Ex. 2007 ¶¶ 82–89, 96–103, 113, 114) are not consistent with the recitation in claim 1, even under Patent Owner’s construction. Patent Owner’s arguments and Dr. Almeroth’s testimony are

premised not only on the claim construction in the Patent Owner Response that we adopt here, i.e., “available to a user at times other than the scheduled broadcast time for the video” (PO Resp. 16), but also on a requirement that the user purchase the club membership in advance of the indication being displayed. *See supra* Section III.C.2.

However, we determine above that “available to a user” does not require advanced purchase. *See id.*

Nevertheless, Sie teaches forms of payment and options to pay, as well as the disputed recitation and, therefore, we agree with Petitioner’s assertions. We also credit and give significant weight to Dr. Tjaden’s testimony over the testimony of Dr. Almeroth because Petitioner’s assertions and Dr. Tjaden’s testimony are consistent with the evidence of record, including Sie’s teachings regarding payment. For instance, consistent with Petitioner’s assertions and Dr. Tjaden’s testimony, Sie describes “[i]n some embodiments, this VOD-like functionality . . . may be paid for an individual program where VOD-like functionality is desired.” Ex. 1003 ¶ 46 (cited in Pet. 37–38). Sie also describes “[i]n still other embodiments, the user may be given an option to purchase a copy of a club program permanently,” and “upon agreement to pay a purchase fee, the subscriber management system 124 authorizes the user to retain a permanent copy.” Ex. 1003 ¶ 189 (cited in Pet. 37–38). In accordance with these disclosures, the programs are “available to a user at times other than the scheduled broadcast time for the video” with respect to club members, as well as non-members, both of which pay a fee in advance of obtaining the features as specified in Sie.

We also agree with Petitioner’s contentions and we credit and give significant weight to the testimony of Dr. Tjaden that Sie’s complimentary

access teaches the disputed limitation. With respect to complimentary access, Petitioner, more specifically, points to Sie's disclosure of "embodiments in which all users can access the club programs without further payment or club membership." Pet. Reply 5, 8 (citing Ex. 1003 ¶¶ 46, 76, 80–81, 89, 91, 93, 187; Ex. 1036 ¶¶ 24–25, 28–30). Consistent with Petitioner's contentions and Dr. Tjaden's testimony, Sie describes providing users with complimentary access to club programs. Ex. 1003 ¶ 46 (describing that "[i]n some embodiments, this VOD-like functionality does not require club membership"), ¶ 76 (describing some embodiments that "could provide the privileges of club membership without requiring belonging to the subscription service"), ¶ 80 (describing that "[o]ne particular aspect of the promotional feature may include a complimentary access to the club benefits that the user attempted to access"), ¶ 89 (describing "[i]f either of the conditions is false, authorization is specifically withheld," but "[e]ven so, the attempted access has initiated a sequence that may include . . . grant[ing] complimentary access to the club version as a promotional feature"), ¶ 91 (describing determining "that complimentary access to the particular club program should be granted as part of a promotional feature"), ¶ 187 (describing that "[l]imits may also be used in other embodiments in order to implement promotional features").

Patent Owner asserts with respect to Sie's providing non-club members access for promotional purposes "[a]ny such determination as to whether to make the club program available to a non-club member only occurs after the display of [] Sie's notification." PO Resp. 23 n. 5 (citing Ex. 2007 ¶¶ 67, 104–106). Dr. Almeroth testifies that Sie's promotional features are deficient because the determination in step 752 occurs after the

indication is displayed. Ex. 2007 ¶ 106. Nevertheless, Sie's disclosures above show that Sie's complimentary program is available to the user when the notification is displayed. As explained further below, claim 1 does not preclude an extra step of signing up for complimentary viewing after the system notifies the user of an available program.

Patent Owner also asserts that Petitioner's Reply "includes a new theory of non-patentability based on Sie's alternative promotional/complementary access embodiments." PO Sur-Reply 1, 16–20. The Petition, however, identifies relevant portions of Sie pertaining to complimentary access. *See, e.g.*, Pet. 38 (citing Ex. 1003 ¶¶ 46, 53, 85, 97, 99, 115). In portions relied upon in the Petition, Sie includes disclosure of the ability to "rewind, fast-forward or pause playback of this content in VOD-like fashion" as well as disclosure that "[i]n some embodiments, this VOD-like functionality does not require club membership or may be paid for an individual program where VOD-like functionality is desired." Ex. 1003 ¶ 46 (cited in Pet. 38). The Petition sets forth that availability of the "VOD-like functionality" was relied upon for the disputed limitation. Pet. 38–39; *see also* Ex. 1003 ¶ 99 (cited in Pet. 38) (describing an example including programs that do not have the enhanced functionality "[o]f the twelve distinct programs, four (840-2, 840-3, 840-6, and 840-7) in this example are within the club and may be accessed with playback control").

Also, such responsive evidence is not improper. *See* 37 C.F.R. § 42.23(b). We find Dr. Tjaden's testimony in his Reply Declaration (Ex. 1036) regarding complimentary access simply provides further details to support that his testimony in his initial Declaration (Ex. 1002) is correct regarding the knowledge of the skilled artisan and Sie's disclosures showing

payment need not be in advance for a program to be available to a user. The Petition and Dr. Tjaden’s testimony in his first Declaration (Ex. 1002) set forth Petitioner’s arguments in full including a detailed element-by-element analysis identifying the portions of Sie that teach the elements of claim 1. Dr. Tjaden’s Reply Declaration testimony does no more than fairly and directly respond to Patent Owner’s Response and Dr. Almeroth’s testimony. *See* 37 C.F.R. § 42.23(b); *see also Belden Inc., v. Berk-Tek LLC*, 805 F.3d 1064, 1078–80 (Fed. Cir. 2015) (holding that the Board may rely on new evidence submitted with a reply because the evidence was legitimately responsive to patent owner’s arguments and not needed for a prima facie case of obviousness).

Petitioner further asserts “Sie’s club notification symbol indicates that the particular user may retrieve the club program, even if the user might have to (but in certain embodiments, need not) become a club member or otherwise pay.” Pet. Reply 9 (citing Ex. 1036 ¶ 22). Dr. Tjaden testifies “that subscribers (*i.e.*, non-members) must pay to access the club program does not mean that the program is somehow not ‘available’; rather, it simply means that it is ‘available’ conditioned on paying to join the club.” Ex. 1036 ¶ 22. Dr. Tjaden further testifies by way of analogy “food in a grocery store is ‘available’ to a shopper, even if the shopper must carry it to a cashier and purchase it.” *Id.* We also agree with Petitioner’s contentions in this regard, and we credit and give significant weight to the testimony of Dr. Tjaden as Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with the evidence of record including the evidence cited therein.

Finally, we have considered Patent Owner’s assertions regarding the ITC investigation, as well as the evidence submitted in this proceeding

regarding determinations made in the ITC investigation. *See, e.g.*, PO Resp. 18–20 (Ex. 2010, 1, 282–285). Sie’s disclosure is not limited to determining whether a copy of a program exists. Instead, in Sie “a determination is made whether the program being shown on the accessed subscription channel is a club program.” Ex. 1003 ¶ 85. If not, the club notification symbol is not shown. *Id.* Sie describes an exemplary schedule including “twelve distinct programs” and, further “[o]f the twelve distinct programs, four (840-2, 840-3, 840-6, and 840-7) in this example are within the club and may be accessed with playback control by club members.” *Id.* ¶ 99. Sie does not describe displaying the club notification symbol if archiving of a program is in progress or if no copy of the program has been archived. The symbol is displayed if the program is available and *immediately accessible* by activating the “PLAY” key. *See, e.g., id.* ¶¶ 85, 88. As discussed above in this sub-section, Sie discloses various payment methods, as well as providing complimentary access.

Patent Owner’s arguments are dependent on reading an advanced purchase requirement into the claims. Claim 1 recites simply “access a database to determine whether an archived copy corresponding to the video is available to a user after the start time.” Ex. 1001, 38:1–3. We are not persuaded based on the record before us that we should read such a requirement into the claims, for the reasons with respect to claim construction. *See supra* III.C.2.

For the reasons given, we determine that Petitioner’s arguments and evidence show that Sie teaches limitation [1D], i.e., “access a database to determine whether an archived copy corresponding to the video is available

to a user after the start time” (Ex. 1001, 38:1–3). We determine Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

- e) *Limitation [1E]: “based on determining that the archived copy is available to the user after the start time, cause an indication corresponding to the archived copy to be displayed simultaneously with the video”*

For limitation [1E], Petitioner contends “[i]n Sie, ‘[i]f a club program is being displayed,’ the system will present a ‘club notification symbol’ informing the user that club program services (e.g., playback and control of a recorded copy) are available.” Pet. 39–40 (citing Ex. 1003 ¶ 85; Ex. 1002 ¶ 126). Petitioner, additionally, points to other details in Sie regarding display of the club notification symbol, as well as the testimony of Dr. Tjaden. *Id.* at 40–41 (citing Ex. 1003 ¶¶ 83–86, 115; Ex. 1002 ¶¶ 127–129).

Patent Owner argues that Sie does not teach “[d]etermining whether an archived copy is available to a user after the start time” occurring prior to “[b]ased on **determining that the archived copy is available to the user, displaying an indication.**” PO Resp. 21–22. Patent Owner’s arguments are premised on its arguments regarding limitation [1D]. PO Resp. 21–32. For the reasons given with respect to limitation [1D] (*see supra* III.D.4.d), we agree with Petitioner and determine that Patent Owner’s arguments do not undermine Petitioner’s showing.

Turning back to limitation [1E], upon consideration of the arguments and evidence of record, we agree with Petitioner’s contentions, and we credit and give significant weight to the testimony of Dr. Tjaden as Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with the evidence of record, including the evidence cited therein. For instance, Sie describes with

respect to Figure 7A that “the club notification feature” includes monitoring “as the user moves through different channels, waiting for the user to settle on a particular subscription channel,” which “may b[e] determined, for example, at step 761 by the fact that the user has stayed on that channel for a certain period of time (e.g., five seconds).” Ex. 1003 ¶ 83. Sie next describes “[a]t step 763, a determination is made whether *the program being shown* on the accessed subscription channel is a club program.” *Id.* ¶ 85 (emphasis added). Sie further describes “[i]f a club program is being displayed, then a club notification symbol is shown on the identifier at step 764.” *Id.* Sie provides additional description as follows: “[S]uch a club notification symbol may comprise, for example, a special icon or alphanumeric string recognizable to a club member or other subscriber to denote that the special playback control is available.” *Id.* Sie also describes that “[t]he overlaid identifier and notification symbol remain displayed for a brief period (e.g., between 2 and 6 seconds), and are then removed at step 765 so that the user may continue to watch the subscription channel without distraction.” *Id.* ¶ 85 (emphasis added).

For the reasons given, we determine that Petitioner’s arguments and evidence show that Sie teaches limitation [1E], i.e., “based on determining that the archived copy is available to the user after the start time, cause an indication corresponding to the archived copy to be displayed simultaneously with the video.” Ex. 1001, 38:4–7. We determine Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

f) Limitation [1F]: “after a specified time after the start time but before the end time, wherein the specified time was configured prior to the start time”

Petitioner points to Sie’s description that the identifier is displayed when the user has settled on a channel, for example, “when ‘the user has stayed on that channel for a certain period of time’” and the display “may be repeated periodically, such as at 15-minute intervals.” Pet. 41 (citing, *e.g.*, Ex. 1003 ¶¶ 83–85; Ex. 1002 ¶¶ 130–131). Patent Owner does not separately dispute Petitioner’s showing. *See generally* PO Resp.

For the reasons discussed above with respect to limitations [1B] through [1E] (*see supra* §§ III.D.4.b–III.D.4.e), upon consideration of the complete record before us, we agree with Petitioner’s contentions, and we credit and give significant weight to the testimony of Dr. Tjaden as Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with the evidence cited therein.

Accordingly, we determine that Petitioner’s arguments and evidence show that Sie teaches limitation [1F], *i.e.*, “after a specified time after the start time but before the end time, wherein the specified time was configured prior to the start time.” Ex. 1001, 38:7–9. We determine Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

g) Limitation [1G]: “receive a user response to the indication that is displayed; and based on the received user response, retrieve, from the storage circuitry, the archived copy”

For limitation [1G], Petitioner points to Sie’s description of allowing a user to select a program for controlled viewing, such as playback, and submits the testimony of Dr. Tjaden. Pet. 42 (citing, *e.g.*, Ex. 1003 ¶¶ 78, 88, 89, 95, 98, 189; Ex. 1002 ¶¶ 132–133). Petitioner also points to Sie’s

description of providing the user with playback control of the selected club program. *Id.*

Patent Owner contends that Sie does not disclose that activation of the PLAY key (or its equivalent) is in fact a response to the displayed notification and also Sie's system does not retrieve a club program "based on" the user responding to the displayed indication. PO Resp. 32–39 (citing, *e.g.*, Ex. 2007 ¶¶ 118–136). Patent Owner, more specifically, argues that Sie does not teach limitation [1G] because Sie discloses that the user may press the PLAY key (step 782) regardless of, and without ever determining, whether the notification symbol is displayed (step 764). *See, e.g.*, PO Resp. 33–34; *see also id.* at 36–38 (arguing that retrieval does not occur by merely proceeding through the notification embodiment). Dr. Almeroth testifies that Figures 7A and 7B of Sie "are separate from each other and not necessarily linked in any way." Ex. 2007 ¶ 121.

We credit and give significant weight to Dr. Tjaden's testimony regarding the operation of Sie because Dr. Tjaden's testimony is supported by Sie's disclosures. *See, e.g.*, Ex. 1036 ¶ 37. For instance, Sie describes that after step 712 (shown in Figure 7) processing is performed in accordance with Figure 7A, which includes after a user has stayed on a channel, for example for *five seconds*, a determination is made whether the program being shown is a club program and, if so, a club notification symbol is shown. Ex. 1003 ¶¶ 83, 85. After that, processing *returns to step 712* and the user may continue to view the program without distraction. *Id.* ¶ 85, Fig. 7. The steps of Figure 7B are performed after step 712, which include monitoring to determine whether the PLAY key or its equivalent is activated by the user. *Id.* ¶ 88, Figs. 7, 7B. Patent Owner's contentions and Dr.

Almeroth's testimony (PO Resp. 32–39; Ex. 2007 ¶¶ 118–136) do not take into account the full teachings of Sie and mischaracterize Sie's disclosures.

We also are not persuaded by Patent Owner's arguments and Dr. Almeroth's testimony because both are based on an overly narrow reading of the prior art without sufficient consideration of the knowledge of a person having ordinary skill in the art. *Cf. In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (rejecting an argument that “fails to recognize that a prior art reference must be ‘considered together with the knowledge of one of ordinary skill in the pertinent art.’”) (citing *In re Samour*, 571 F.2d 559, 562, (CCPA 1978)). For instance, Patent Owner's arguments and Dr. Almeroth's testimony do not take into account Sie's disclosure that the display symbol serves to advertise special club features and is displayed when the user settles on a channel, such that the “PLAY” key is selected in response to display of that symbol. Ex. 1003 ¶¶ 83, 85, 88, Fig. 7.

Patent Owner also argues that a conclusion in our Decision to Institute is contrary to the language of claim 1, which expressly requires a user response to the indication that “is” displayed. PO Resp. 35; Ex. 2007 ¶ 116–117. We agree with Petitioner and the testimony of Dr. Tjaden (Pet. Reply 10; Ex. 1036 ¶¶ 33, 34) and we maintain our determination on our Decision to Institute. Inst. Dec. 36. Contrary to Patent Owner's contentions (PO Resp. 35), claim 1 does not require that the user select play simultaneous with display of the indication. Instead, claim 1 recites “receive a user *response* to the indication that is displayed.” Ex. 1001, 38:10–11 (emphasis

added). The receipt is of “a user response” and, therefore, may follow the display. *Id.*¹⁰

Upon consideration of Patent Owner’s arguments and evidence (PO Resp. 32–39; Ex. 2007 ¶¶ 118–136), we agree with Petitioner’s contentions, and we credit and give significant weight to the testimony of Dr. Tjaden over the testimony of Dr. Almeroth as Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with the evidence of record, including the evidence cited therein. Pet. 42; Ex. 1002 ¶¶ 132–133; *see also* Pet. Reply 9–12 (providing persuasive responses to arguments in Patent Owner’s Response); Ex. 1036 ¶¶ 31–40 (testifying in response to Dr. Almeroth’s testimony). Upon review of Dr. Tjaden’s deposition testimony, we also determine that Dr. Tjaden’s deposition testimony (*see, e.g.*, Ex. 2009, 93:23–25, 94:8–12, 105:16–106:5, 160:2–6, 162:19–163:1, 168:17–24, 172:6–11; 174:9–20) is consistent with his declaration testimony and further supports Petitioner’s positions.

For instance, consistent with Petitioner’s contentions and Dr. Tjaden’s testimony, Sie describes

[a]t step 712, the subscription program is playing at its previously scheduled time for the user. A notification service, shown generically as step 760, may be implemented automatically by the system to provide information to the user to regarding whether the subscription program is a club program permitting enhanced features for club members. Additionally,

¹⁰ We agree with Dr. Tjaden testimony that even if Patent Owner is correct that the user response must be provided simultaneous with the display of the indication, Sie teaches this feature to a person having ordinary skill in the art. Ex. 1036 ¶ 35; Ex. 1003 ¶¶ 83–85 (describing display five seconds after the user tunes to the channel and display periodically to advertise special features).

the controller 612 monitors for any of a variety of commands (shown generically as steps 770, 780, and 790) that may be activated by the user and which may be used to provide controlled viewing access to a previously stored club program.

Ex. 1003 ¶ 78.

Sie also describes “[o]ne method for activating user playback control of a club program is shown in FIG. 7B.” *Id.* ¶ 88. Sie further describes with respect to Figure 7B that “controller 612 monitors in step 782 whether the PLAY key or its equivalent is activated by the user” (*id.*) and after activation includes processing proceeds to “[a]uthorization to access the club version from its beginning,” which “may be obtained by querying the controller 612 in some embodiments, while in other embodiments it may be obtained by querying the subscriber management system 124” (*id.* ¶ 89). Additionally, Sie describes

[t]he various embodiments illustrated in FIG. 7–7D make no particular distinction where the club programs are stored. Different possibilities for such storage, all within the scope of the invention, are described in detail above. Briefly, the club programs may be stored remotely, such as in a headend, a neighborhood node, or may be stored locally, such as in the set-top box 600.

Ex. 1003 ¶ 95.¹¹

We are persuaded by Petitioner’s showing that Sie teaches “receive a user response to the indication that is displayed” because Sie describes displaying an identifier, for example, five seconds after the user selects a

¹¹ As discussed above (*see supra* § III.D.4.b), we determine that the Petition sets forth reliance on paragraph 54 of Sie that describes the operation of subscriber management system 124 for “control circuitry,” and Sie’s disclosure of multiplexing and transmitting, which involve control by subscriber management system 124.

channel. In particular, Sie describes displaying the identifier “where the user has just settled on that channel” (Ex. 1003 ¶ 84), which is determined “by the fact that the user has stayed on that channel for a certain period of time (e.g., five seconds).” *Id.* ¶ 83.

Patent Owner’s arguments also pertain to a subjective action by a user. PO Resp. 32–39; Ex. 2007 ¶¶ 118–136. Sie’s symbol is being displayed or in certain embodiments may already have been displayed (Ex. 1003 ¶¶ 83–85) when the user selects the PLAY key (*see, e.g., id.* at Fig. 7). Sie discloses that an icon is used to reinforce “the meaning of the notification symbol, serving both to sharpen its *recognition* value and to increase its effectiveness in *advertising* the special club features.” *Id.* ¶ 85 (emphases added). In other words, the system displays the icon to obtain a user response, by being recognized and advertising features.

For the reasons given, we determine that Petitioner’s arguments and evidence show that the asserted art teaches limitation [1G], i.e., “receive a user response to the indication that is displayed; and based on the received user response, retrieve, from the storage circuitry, the archived copy.” Ex. 1001, 38:10–13. We determine Patent Owner’s contentions and evidence do not undermine Petitioner’s showing.

h) Conclusion—Claim 1

In summary, upon consideration of the contentions and evidence presented by both parties in the complete record now before us, we determine that Petitioner has shown that all recitations in claim 1 are taught by (1) Sie alone, (2) Sie and Berberet, and (3) Sie and McElhatten. Also, we are persuaded that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified

and combined the teachings of the asserted art in the manner recited in claim 1. We also are persuaded that Petitioner has demonstrated that such person would have had a reasonable expectation of success.

We have considered all Patent Owner's arguments and evidence. We determine that Patent Owner's arguments and evidence do not undermine Petitioner's showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 would have been obvious over (1) Sie alone, (2) Sie and Berberet, and (3) Sie and McElhatten.

5. *Discussion of Independent Claims 8, 15, and 21*

Independent claims 8, 15, and 21 are similar to independent claim 1. Claim 8 recites “[a] method” that comprises steps similar to the functions performed by the “control circuitry” recited in system claim 1. *Compare* Ex. 1001, 38:39–54, *with id.* at 37:62–38:13. Claim 15 recites a “system” comprising means-plus-function elements corresponding to the method steps recited in claim 8. *Compare id.* at 39:12–27, *with id.* at 38:39–54. Claim 21 recites a “system” comprising “user equipment” and “a server” configured to perform functions similar to “control circuitry” recited in claim 1. *Compare id.* at 39:48–40:25, *with id.* at 37:62–38:13.

Petitioner's showing with respect to each of claims 8, 15, and 21 is similar to its showing with respect to claim 1 and Petitioner points to many of the same teachings discussed with respect to claim 1. *Compare* Pet. 47–59, *with id.* at 32–43. Petitioner accounts sufficiently for all differences in the claims. For instance, regarding the structure corresponding to the claimed function for “means for transmitting a video to a plurality of user

equipment, wherein the transmitting begins at a start time and ends at an end time” recited in claim 15, Petitioner points to Sie’s “transmission system 108,’ the ‘set top boxes 120,’ the ‘set top box 600,’ the ‘subscriber server 128,’ and/or the connection(s) depicted in FIG. 1.” *Id.* at 48–49 (citing Ex. 1003 ¶¶ 49, 54, 57–75, 102, Fig. 1; Ex. 1002 ¶ 156). Regarding the structure corresponding to the claimed function for “means for accessing a database to determine whether an archived copy corresponding to the video is available to a user after the start time” recited in claim 15, Petitioner points to Sie’s “program request database 136,’ the ‘set top boxes 120,’ ‘set top box 600,’ the ‘subscriber server 128,’ and/or the ‘subscriber management system 124.’” *Id.* at 49 (citing Ex. 1003 ¶¶ 47, 49, 53, 72, 85, Figs. 5–6; Ex. 1002 ¶¶ 157–158).

For claim 21, Petitioner asserts “Sie’s transmission system sends programs to user ‘set top boxes 120.’” Pet. 56 (citing, *e.g.*, Ex. 1003 ¶ 54; Ex. 1002 ¶¶ 173–174). Petitioner also contends a person having ordinary skill in the art “would have recognized that Sie’s head-end devices, such as the ‘subscriber management system,’ ‘subscriber server,’ and ‘program server’ (Petition at 57-58), would perform the claimed limitations.” Pet. Reply 15 (citing, *e.g.*, Ex. 1036 ¶ 52); *see also* Pet. 57–58 (referring to the same teachings in Sie relied upon for claim 1). For “store, with storage circuitry, archived copies corresponding to videos,” Petitioner relies upon Sie’s program server, as well as teachings in Sie, Berberet, and McElhatten relating to storing archived copies of videos. Pet. 32–36, 57, 65–71, 75.

For independent claims 8, 15, and 21 Patent Owner relies on the same arguments discussed above in Section III.D.4 with respect to claim 1. PO Resp. 42, 45. Patent Owner also argues with respect to claim 15 that

Petitioner has not shown “how or why the identified structure from Sie is equivalent to the structure identified in the ’741 Patent.” *Id.* As discussed above in Section III.C.4, Patent Owner does not dispute Petitioner’s claim construction contentions or the accuracy of Petitioner’s identification of the function and corresponding structure identified (Pet. 17–25) for any means-plus-function term. *See generally* PO Resp. We determine that Petitioner also identified the structures in Sie and explained why these structures teach each of the means-plus-function elements recited in claim 15. Pet. 48–55.

Patent Owner also asserts “Dr. Tjaden’s identification of the remote control as the most relevant structure contradicts his prior assertion in paragraphs 43 and 44 in which he identified the user equipment of the ’741 patent.” PO Resp. 43 (citing Ex. 1002 ¶¶ 43–44, 160). Patent Owner mischaracterizes Dr. Tjaden’s testimony. Dr. Tjaden testifies that a remote control may be used to operate user equipment. Ex. 1002 ¶ 160; Ex. 1036 ¶ 49. We determine that his testimony is not contradictory.

Patent Owner also asserts that “Dr. Tjaden does not explain how Sie’s set-top box (the alleged user equipment) and/or Sie’s remote control together perform the functions of limitation 15F—i.e., receiving a user response and retrieving from the storage the archived copy.” PO Resp. 43–44. Petitioner points to Sie’s “remote control,” “program server 132,” “set top boxes 120,” “set top box 600,” and “controller 612.” Pet. 50–51 (citing, *e.g.*, Ex. 1003 ¶¶ 45, 61, 78, 83–85, 88, 97–98, 115; Ex. 1002 ¶ 160). Consistent with Petitioner’s contentions and Dr. Tjaden’s testimony, Sie describes “the controller 612 monitors for any of a variety of commands (shown generically as steps 770, 780, and 790) that may be *activated by the user and which may be used to provide controlled viewing access to a previously*

stored club program.” Ex. 1003 ¶ 78 (emphasis added). Sie further describes “controller 612 monitors in step 782 whether the PLAY key or its equivalent is activated by the user” and “[t]he PLAY key is used as a simple single-key means for selecting the scheduled program currently showing and accessing the stored club program from its beginning.” *Id.* ¶ 88.

Patent Owner further asserts that Petitioner’s position is undermined because Sie discloses that the retrieval step is performed by subscriber management system 124. PO Resp. 43. Patent Owner’s arguments do not take into account and mischaracterize Petitioner’s contentions, which identify subscriber management system 124 (*see supra* § III.D.4) and Sie’s disclosure regarding storing programs locally or remotely (Ex. 1003 ¶ 147), as well as Sie’s disclosure of controller 612 enabling playback of the stored club program from the program server 132, where the program is stored (*id.* ¶¶ 97–98).

For claim 21, Patent Owner asserts that despite different language, Petitioner relies on the same teachings in Sie as relied upon in claim 1. PO Resp. 45–47. Patent Owner does not point to a difference that Petitioner has not accounted for. *Id.*

Patent Owner also asserts that Petitioner has not identified structure for certain recitations in claim 21. Patent Owner mischaracterizes Petitioner’s contentions with respect to, for example, subscriber management system 124, for the reasons discussed with respect to claim 1. *See supra* § III.D.4.

Regarding the “server” recited in claim 21, Patent Owner also asserts that Petitioner “ambiguously refers to a conglomerate of Sie’s various devices that somehow together perform the claimed functions.” PO Sur-

Reply 24. Petitioner, however, points to Sie's subscriber management system 124, subscriber server 128, and program server 132. Pet. 57–58; Pet. Reply 15; Ex. 1036 ¶ 52. Consistent with Petitioner's contentions that these devices are in the head-end and perform the claimed recitations, Sie describes the following:

The program delivery system 100 includes a transmission system 108, set top boxes 120, a subscriber management system 124, a subscriber server 128, a program server 132, a program request database 136, and a satellite dish 116. The program server 132 and the program request database 136 are part of a system of an additional content provider. The additional content provider system interfaces with the other components that are part of a system of a cable television provider.

Ex. 1003 ¶ 47.¹²

For claims 8, 15, and 21, Patent Owner asserts that Petitioner attempts to recast or re-characterize Dr. Tjaden's testimony in Petitioner's Reply. PO Resp. 16–17, 23. We find Dr. Tjaden's testimony in his Reply Declaration (Ex. 1036) simply provides further details to support that his testimony in his initial Declaration (Ex. 1002) is correct regarding the knowledge of the skilled artisan and Sie's disclosures. The Petition and Dr. Tjaden's testimony in his first Declaration (Ex. 1002) set forth Petitioner's arguments in full including a detailed element-by-element analysis identifying the portions of Sie that teach the elements of claims 8, 15, and 21. Dr. Tjaden's Reply Declaration testimony does no more than fairly and directly respond

¹² Cf. Ex. 1001, 4:50–64 (describing an interactive television system 10 in accordance with the present invention for providing content such as television programming and digital music from programming sources 12 to television distribution facility 14, which may be a cable system headend).

to Patent Owner's Response and Dr. Almeroth's testimony. *See* 37 C.F.R. § 42.23(b); *see also Belden*, 805 F.3d at 1078–80 (holding that the Board may rely on new evidence submitted with a reply because the evidence was legitimately responsive to patent owner's arguments and not needed for a prima facie case of obviousness).

For the reasons discussed above in this section as well as the reasons discussed above in Section III.D.4 with respect to claim 1, we are persuaded by Petitioner's showing that all recitations in claims 8, 15, and 21 are taught by the asserted art. Also, we are persuaded that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in claims 8, 15, and 21. We also are persuaded that Petitioner has demonstrated that such person would have had a reasonable expectation of success.

We have considered all Patent Owner's arguments and evidence. We determine that Patent Owner's arguments and evidence do not undermine Petitioner's showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 8, 15, and 21 would have been obvious over (1) Sie alone, (2) Sie and Berberet, and (3) Sie and McElhatten.

6. *Discussion of Dependent Claims 5–7, 12–14, 19, 20, 25, and 26*

Claims 5, 12, and 25 depend directly from claims 1, 8, and 21, respectively, and each further recites copying “the archived copy to a personal storage area associated with the user.” Ex. 1001, 38:28–30, 39:2–3, 40:41–43. Claim 19 depends directly from claim 15 and further recites

“means for copying the archived copy to a personal storage area associated with the user.” *Id.* at 39:41–43. Claims 6 and 13 depend directly from claims 5 and 12, respectively, and each further recites “wherein copying the archived copy to the personal storage area is automatically initiated when the user response is received.” *Id.* at 38:31–33, 39:4–6.

For claims 5, 6, 12, 13, and 25, relying on the testimony of Dr. Tjaden, Petitioner points to Sie’s teaching of copying a club program onto another device such as a PVR, VCR, or removable media, as well as Berberet’s teaching of archiving “for that user.” Pet. 44–48, 58–59, 72, 75 (citing, *e.g.*, Ex. 1003 ¶ 189; Ex. 1005, 26:7–16, 28:6–9, 29:6–15; Ex. 1002 ¶¶ 149–152). Petitioner points to the user’s purchase of a copy as the “user response” recited in claims 6 and 13. *Id.* at 45–48, 72, 75 (citing, *e.g.*, Ex. 1003 ¶ 189; Ex. 1005, 29:6–16; Ex. 1002 ¶¶ 151–152). Petitioner points to each of Sie and Berberet for describing a local device copying an archived copy to a storage area. *Id.* at 58–59, 72, 75 (citing, *e.g.*, Ex. 1003 ¶ 189; Ex. 1005, 18:16–28; Ex. 1002 ¶ 178).

For claim 19, Petitioner points to the same teachings discussed with respect to claim 5. For the “means for copying the archived copy to a personal storage area,” Petitioner points to Sie’s disclosure that “Sie’s system may ‘copy a club version of the club program onto another device, such as a PVR, VCR, or removable media, or may copy it by transmitting electronically such as by email, or otherwise.’” Pet. 54 (citing Ex. 1003 ¶ 189; Ex. 1002 ¶ 165). Petitioner also points to Berberet’s disclosure that, “[i]f the SUBSCRIBER 1.3 optionally subscribes to a longer-term storage . . . the table of pointers and indices can be used to create an

individual edited copy in the Video Scrapbook 2.4.” *Id.* (citing, *e.g.*, Ex. 1003 ¶ 189; Ex. 1005, 29:1–15; Ex. 1002 ¶¶ 165–166).

Dr. Tjaden testifies that Sie describes that “a user may ‘purchase a copy of a club program permanently’ and may, after purchasing such a program, ‘copy a club version of the club program onto another device, such as a PVR, VCR, or removable media, or may copy it by transmitting electronically such as by email, or otherwise.”” Ex. 1002 ¶ 149 (citing Ex. 1003 ¶ 189); *see also id.* ¶ 151 (testifying regarding the same disclosure with respect to claim 6).

Dr. Tjaden further testifies as follows:

I further note that Berberet teaches that a program may be stored in a server-side program archive and maintained for a user that has selected the program. (Ex. 1005, 26:7–16, 28:6–9). Also, Berberet describes “longer-term storage” of programs if a subscriber “optionally subscribes” to such storage. (Ex. 1005, 29:6–15). In the latter case, an “individual edited copy” may be moved to a “Video Scrapbook 2.4,” where the program “will continue to be available for editing or playback.” (*Id.*).

Ex. 1002 ¶ 150; *see also id.* ¶ 152 (testifying regarding the same disclosure with respect to claim 6).

Relying on the testimony of Dr. Almeroth, Patent Owner argues that claim 19 is patentable for the same reasons discussed with respect to claim 15. PO Resp. 58–59 (citing Ex. 2007 ¶¶ 168–169). Patent Owner also asserts that Petitioner’s “identified structure is not the claimed ‘means for copying,’” but, instead, “is at best the claimed ‘personal storage area.’” *Id.* Regarding claims 6 and 13, Patent Owner further argues that paragraph 189 relied upon by Petitioner is a separate embodiment from that relied upon for the independent claims. *Id.* at 54–56 (citing, *e.g.*, Ex. 2007 ¶¶ 161–163).

We agree with Petitioner’s contentions and we credit and give significant weight to the testimony of Dr. Tjaden over the testimony of Dr. Almeroth because Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with the evidence of record. For instance, contrary to Patent Owner’s contentions, Petitioner points to disclosures in Sie and Berberet that teach copying, along with the structures that perform that copying. Pet. 54, 72, 75 (citing, e.g., Ex. 1003 ¶¶ 95, 189; Ex. 1005, 29:1–15; Ex. 1002 ¶¶ 165–166); *see also id.* at 48–51 (citing, e.g., Ex. 1003 ¶¶ 45, 46–49, 53, Fig. 1) (identifying Sie’s program delivery system shown in Figure 1 including program server 132, transmission system 108, subscriber management system 124, and subscriber server 128 for transmitting to user equipment and retrieving the archived copy from storage for claim 15, from which claim 19 depends).

Also consistent with Petitioner’s contentions and Dr. Tjaden’s testimony, Sie teaches the following:

In still other embodiments, the user may be given an option to purchase a copy of a club program permanently. When such a purchase arrangement is permitted by the copyright holder, upon agreement to pay a purchase fee, the *subscriber management system 124* authorizes the user to retain a permanent copy and disables the copy protection. Accordingly, the user may *copy* a club version of the club program onto another device, such as a PVR, VCR, or removable media, or may *copy* it by transmitting electronically such as by email, or otherwise.

Ex. 1003 ¶ 189 (emphases added); *see also id.* ¶ 95 (describing with respect to the processes performed by Sie’s program delivery system that “the club programs may be stored remotely, such as in a headend, a neighborhood node, or may be stored locally, such as in the set-top box 600”).

Patent Owner's argument and Dr. Almeroth's testimony that the option to purchase is a "separate" embodiment, such that Petitioner cannot rely on the disclosure of Sie's program delivery system mischaracterize Sie. Sie describes different embodiments as operating with the same or similar hardware and processes. *See, e.g.*, Ex. 1003 ¶ 95 (describing that "[t]he various embodiments illustrated in FIG. 7–7D make no particular distinction where the club programs are stored" and "the club programs may be stored remotely, such as in a headend, a neighborhood node, or may be stored locally, such as in the set-top box 600"). With respect to the option to permanently store copy, Sie describes simply "an option to purchase a copy of a club program permanently" as an additional feature and refers to subscriber management system 124 in Sie's program delivery system shown in Figure 1. Patent Owner's arguments and Dr. Almeroth's testimony are based on an overly narrow reading of the prior art without sufficient consideration of the knowledge of a person having ordinary skill in the art. *Cf. Paulsen*, 30 F.3d at 1480 (rejecting an argument that "fails to recognize that a prior art reference must be 'considered together with the knowledge of one of ordinary skill in the pertinent art.'") (citing *Samour*, 571 F.2d at 562).

We also agree with Petitioner's arguments and we credit and give significant weight to Dr. Tjaden testimony that even if Sie's purchase functionality is a separate embodiment, Petitioner has shown that it would have been obvious to a person having ordinary skill in the art to modify Sie's program delivery system illustrated in Figure 1 and Sie's disclosure provided, for example, with respect to Figures 7, 7A, and 7B, to include an option to retain a copy of a purchased program permanently that involved transfer of the copy to the user's set top box. Pet. Reply 20–21; Ex.

1036 ¶¶ 78–79. We are not persuaded by Patent Owner’s arguments that Petitioner’s arguments or Dr. Tjaden’s Reply Declaration introduce new evidence. PO Sur-Reply 22. We find Dr. Tjaden’s testimony in his Reply Declaration (Ex. 1036), for example, regarding the understanding of one having ordinary skill in the art would have had with respect to Sie’s disclosures, particularly in light of Sie’s description of how its disclosures can be combined, altered, and implemented in different devices, simply provides further details to support that his testimony in his initial Declaration (Ex. 1002) is correct regarding the knowledge of the skilled artisan and Sie’s disclosures. The Petition and Dr. Tjaden’s testimony in his first Declaration (Ex. 1002) set forth Petitioner’s arguments in full including a detailed element-by-element analysis identifying the portions of Sie that teach the elements of the challenged claims. Dr. Tjaden’s Reply Declaration testimony does no more than fairly and directly respond to Patent Owner’s Response and Dr. Almeroth’s testimony. *See* 37 C.F.R. § 42.23(b); *see also Belden*, 805 F.3d at 1078–80 (holding that the Board may rely on new evidence submitted with a reply because the evidence was legitimately responsive to patent owner’s arguments and not needed for a prima facie case of obviousness).

Also consistent with Petitioner’s arguments and Dr. Tjaden’s testimony, Berberet describes “a virtual VCR” that “provides subscribers to the service with all of the features of a VCR without their having to purchase or maintain a physical VCR apparatus.” Ex. 1005, 4:12–15. Berberet, more specifically, describes the following:

One copy of all programming is stored in the Video Buffer 2.2 or in the Program Archive 2.15. What is maintained for each SUBSCRIBER 1.3 is a table of indices and pointers that lets the

system pull video from the Video Buffer 2.2 or Program Archive 2.15 as if it is coming from an individual copy created by the SUBSCRIBER 1.3, as long as the video is available in the Video Buffer 2.2 or the Program Archive 2.15. If the SUBSCRIBER 1.3 optionally subscribes to a longer-term storage, when the program has to be deleted from the Video Buffer 2.2 or Program Archive 2.15, the table of pointers and indices can be used to create an individual edited copy in the Video Scrapbook 2.4, where it will continue to be available for editing or playback.

Id. at 29:6–15.

For the reasons given, we are persuaded by Petitioner’s showing that all recitations in claims 5, 6, 12, 13, 19, and 25 are taught by the asserted art and we are persuaded that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in those claims. We have considered all Patent Owner’s arguments and evidence. We determine that Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that each of claims 5, 6, 12, 13, 19, and 25 would have been obvious over (1) Sie alone, (2) Sie and Berberet, and (3) Sie and McElhatten.

Claims 7, 14, 20, and 26 depend directly from claims 1, 8, 15, and 21, respectively. Claim 7 further recites “wherein the archived copy on the storage device is associated with a retention period, and wherein the control circuitry is further configured to remove the archived copy from the storage

device at an end of the retention period.” Ex. 1001, 38:34–38. Claims 14, 20, and 26 recite similar recitations. *Id.* at 39:7–11, 39:44–47, 40:43–48.¹³

Petitioner, for example, points to Sie’s description of automatically erasing a club program from the storage device “when a window defined for its use has expired.” Pet. 46–48, 55, 58–59, 72–73, 75 (citing, *e.g.*, Ex. 1003 ¶¶ 121, 158–159; Ex. 1002 ¶ 153). Petitioner also points to Berberet’s description of “storing a program ‘for a 24-hour period’ in a video buffer.” *Id.* at 47–48, 55 (citing, *e.g.*, Ex. 1005, 18:31–19:2; Ex. 1002 ¶ 153).

Patent Owner argues that Petitioner “provides no indication as to which of Sie’s structural elements are responsible for performing the removing step.” PO Resp. 57; Ex. 2007 ¶ 165. Patent Owner, more specifically, argues “Dr. Tjaden does not mention Sie’s program server” and “Dr. Tjaden confirmed that he was relying on a different embodiment in Sie where the archived copy may be stored locally.” *Id.* (citing Ex. 2007 ¶ 164; Ex. 2009, 180:12–181:16). Patent Owner’s arguments and Dr. Almeroth’s testimony regarding reliance on different embodiments are not persuasive for the same reasons discussed above in this sub-section with respect to claims 5, 6, 12, 13, 19, and 25.

We agree with Petitioner’s contentions and we credit and give significant weight to the testimony of Dr. Tjaden over the testimony of Dr.

¹³ For instance, claim 20 recites “wherein the archived copy on the storage device is associated with a retention period, and further comprising means for removing the archived copy from the storage device at an end of the retention period.” *Id.* at 39:44–47. Claim 26 recites “wherein the archived copy on the storage device is associated with a retention period, and wherein the user equipment is further configured to remove the archived copy from the storage device at an end of the retention period.” *Id.* at 40:43–48.

Almeroth because Petitioner's contentions and Dr. Tjaden's testimony are consistent with the evidence of record. For instance, consistent with Petitioner's contentions and the testimony of Dr. Tjaden, Sie describes "the set top box 120 would automatically erase the club program when a window defined for its use has expired (or some other condition has triggered) unless the copyright holder allows indefinite storage." Ex. 1003 ¶ 121. Although Sie describes set top box 120 performing the automatic erasing, we agree with Petitioner's contentions and we credit and give significant weight to the testimony of Dr. Tjaden (Pet. Reply 21–22; Ex. 1036 ¶ 83) that a person having ordinary skill in the art would have found obvious automatically erasing content in light of Sie's disclosure. Ex. 1003 ¶ 121.

For the reasons given, we are persuaded by Petitioner's showing that all recitations in claims 7, 14, 20, and 26 are taught by the asserted art and we are persuaded that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in those claims. We have considered all Patent Owner's arguments and evidence. We determine that Patent Owner's arguments and evidence do not undermine Petitioner's showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that each of claims 7, 14, 20, and 26 would have been obvious over (1) Sie alone, (2) Sie and Berberet, and (3) Sie and McElhatten.

7. *Discussion of Dependent claims 3, 10, 17, and 23*

Claims 3, 10, and 23 depend directly from claims 1, 8, and 21, respectively, and each further recites maintaining "a list associated with the

user that includes pointers to archived copies corresponding to selected videos on the storage device.” Ex. 1001, 38:20–23, 38:60–63, 40:33–36. Claim 17 depends directly from claim 15 and further recites “means for maintaining a list associated with the user that includes pointers to archived copies corresponding to selected videos on the storage device.” *Id.* at 39:33–36.

Regarding the combination of Sie and Berberet, Petitioner contends as follows:

Berberet describes a “table of indices and pointers” that lets the system retrieve video from the Program Archive “as if it is coming from an individual copy.” (Ex. 1005, 29:6–11, 12:28–13:7, 18:22–28; 5:18–20; 9:9–18; 28:23–31; Ex. 1002, ¶¶139–141). Berberet also teaches a “Subscriber Video Scrapbook” that “store[s] subscriber recordings in the form of pointers to frames of video in a single copy of a program instead of storing actual copies.” (Ex. 1005, 12:28–13:7; Ex. 1002, ¶139).

Pet. 43, 48, 58–59. Petitioner also contends one having ordinary skill in the art would have had a reason to combine Sie with Berberet, in addition to the reasons given for claim 1, to yield the predictable result of “improved ‘storage at a lower cost than the cost of actually storing data’ for individual users by storing pointers to the same archived video rather than duplicate copies of videos.” *Id.* at 43–44, 48, 58–59 (citing Ex. 1005, 29:3–6; Ex. 1002 ¶ 140).

Regarding the combination of Sie and McElhatten, Petitioner contends as follows:

McElhatten teaches “mark[ing]” a stored program at the head-end, such that the “set-top terminal . . . does not actually record the program.” (Ex. 1006, 13:46–63; Ex. 1002, ¶208; *see also* Ex. 1006 14:2–15). Such marks may be stored as a “collection of IDs of the assets reserved by the user.” (Ex. 1006, 14:2–15; Ex.

1002, ¶208). This “collection of IDs” is a set of virtual copies—the recited list of pointers to a real copy of the program. (Section V.B.2.i; Ex. 1002, ¶208).

Pet. 71–75. Petitioner also contends one having ordinary skill in the art would have had a reason to combine Sie with McElhatten to yield the predictable result of “improved storage efficiency by storing pointers, rather than duplicate real copies.” *Id.* at 72–75 (citing, *e.g.*, Ex. 1002 ¶ 209).

Patent Owner argues Petitioner does not explain how either Sie’s transmission system or the set-top box performs the claimed function. PO Resp. 49 (citing, *e.g.*, Ex. 2007 ¶¶ 147–149). Patent Owner mischaracterizes Petitioner’s contentions regarding identification of subscriber management system 124 for the same reasons discussed above, for example, with respect to claim 1. *See supra* § III.D.4.

Patent Owner also argues that the Petition is deficient with respect to “maintain[ing] a list associated with the user.” PO Resp. 49–50 (citing, *e.g.*, Ex. 2007 ¶¶ 147–149, 153–154). Dr. Almeroth testifies that Petitioner “explicitly relies on Sie’s transmission system and set-top boxes as the claimed ‘control circuitry.’” Ex. 2007 ¶ 149. Patent Owner’s contentions and Dr. Almeroth’s testimony regarding “maintain[ing] a list associated with the user” pertain to Sie unmodified and mischaracterize the Petition. *See, e.g.*, PO Resp. 49–50; Ex. 2007 ¶¶ 147–149, 153–154.

Contrary to Patent Owner’s contentions and Dr. Almeroth’s testimony, however, with respect to “maintain[ing] a list associated with the user,” Petitioner asserts that it would have been obvious to combine the teachings of Sie and Berberet as follows:

[T]he combination would entail use of a known technique (Berberet’s storage of pointers in lieu of duplicates of video

content for different users) to improve a similar system (Sie's club programs system) in the same way (*implementing a head-end video storage system*) to yield predictable results (improved "storage at a lower cost than the cost of actually storing data" for individual users by storing pointers to the same archived video rather than duplicate copies of videos).

See, e.g., Pet. 43–44 (citing Ex. 1005, 29:3–6; Ex. 1002 ¶ 140) (emphasis added). Petitioner also asserts in the Petition that "Berberet describes a 'table of indices and pointers' that lets the system retrieve video from the Program Archive 'as if it is coming from an individual copy.'" *See, e.g., id.* at 43 (citing Ex. 1005, 29:6–11, 12:28–13:7, 18:22–28; 5:18–20; 9:9–18, 28:23–31; Ex. 1002 ¶¶ 139–141).

Also contrary to Patent Owner's contentions and Dr. Almeroth's testimony, with respect to "maintain[ing] a list associated with the user," Petitioner asserts that it would have been obvious to combine the teachings of Sie and McElhatten as follows:

McElhatten teaches "mark[ing]" a stored program at the head-end, such that the "set-top terminal . . . does not actually record the program." (Ex. 1006, 13:46–63; Ex. 1002, ¶208; *see also* Ex. 1006 14:2–15). Such marks may be stored as a "collection of IDs of the assets reserved by the user." (Ex. 1006, 14:2–15; Ex. 1002, ¶208). This "collection of IDs" is a set of virtual copies – the recited list of pointers to a real copy of the program. (Section V.B.2.i; Ex. 1002, ¶208).

The Sie/McElhatten combination would have been obvious because it would entail use of a known technique (McElhatten's storage of markers/IDs in lieu of duplicative real copies) to improve a similar system (Sie's club programs system) in the same way (*implementing head-end video storage*) to yield predictable results (improved storage efficiency by storing pointers, rather than duplicate real copies). (Ex. 1002, ¶209).

See, e.g., Pet. 71.

Patent Owner also argues that Sie does not have the problem of unnecessary duplication and storing programs locally “is tied to a crucial aspect of Sie’s system—VCR-type controls of programs.” PO Resp. 50–51 (citing Ex. 2007 ¶¶ 152–158). Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with Sie’s disclosure of storing multiple copies of a program in certain embodiments. Ex. 1003 ¶ 45 (describing that “a portion of the program(s) is prestored locally”), ¶ 70 (describing that “an embodiment of the set top box 600 is shown which stores some programs locally”). We also agree with Petitioner and Dr. Tjaden that Berberet and McElhatten supply details regarding pointers that one having ordinary skill in the art would have implemented with Sie’s system in embodiments in which programs are not duplicated, as pointers are conventionally used for storing memory addresses. Ex. 1002 ¶¶ 139–140; Ex. 1036 ¶ 68. Also, contrary to Patent Owner’s contentions regarding local storage being crucial in Sie, as discussed above with respect to claims 5–7, 12–14, 19, and 20, Sie discloses both remote and local storage. *See supra* § III.D.6; *see also* Ex. 1003 ¶ 95 (describing that “the club programs may be stored remotely, such as in a headend, a neighborhood node, or may be stored locally, such as in the set-top box 600”).

We agree with Petitioner’s contentions and we credit and give significant weight to the testimony of Dr. Tjaden (*see, e.g.*, Pet. 43–44; Ex. 1002 ¶¶ 139–141; Pet. Reply 17–18; Ex. 1036 ¶¶ 62–71) over the testimony of Dr. Almeroth (*see, e.g.*, Ex. 2007 ¶¶ 147–158) because Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with the evidence of record. For instance, consistent with Petitioner’s contentions and the testimony of Dr. Tjaden, Berberet describes “[w]hat is maintained

for each SUBSCRIBER 1.3 is a table of *indices and pointers* that lets the system pull video from the Video Buffer 2.2 or Program Archive 2.15 *as if it is coming from an individual copy created by the SUBSCRIBER 1.3.*”

Ex. 1005, 29:6–11 (emphases added). Berberet also describes its system that provides “a *personal* Subscriber Video Scrapbook” (shown as 2.4 in Figure 2), which allows a subscriber “to record and save programs” stored “in the form of *pointers.*” Ex. 1005, 12:28–13:7 (emphases added); *see also id.* at 18:22–28 (describing the system depicted in Figures 1 and 2 including a video server, memory, and local control unit and how that system provides the aforementioned features).

Consistent with Petitioner’s contentions and the testimony of Dr. Tjaden, McElhatten describes, “in response to the user depression of record key 910, terminal 158-1 marks the program or event that has been recorded and/or stored at headend 105.” Ex. 1006, 13:60–63; *see also id.* at 13:52–54 (describing that “all broadcast programs in this instance are recorded at headend 105 and all on-demand and other content is stored at headend 105 as well”). McElhatten further describes

[b]ased on the *received IP address*, processor 119 *retrieves a user record* associated with terminal 158-1, and *registers in the record* the ID of the asset containing the reserved program which is identifiable by the received *marking information and program channel information*, and which is made available to the user for subsequent playback.

Id. at 14:2–8 (emphases added).

For the reasons given, we are persuaded by Petitioner’s showing that all recitations in claims 3, 10, 17, and 23 are taught by the asserted art and we are persuaded that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified

and combined the teachings of the asserted art in the manner recited in those claims. We have considered all Patent Owner's arguments and evidence. We determine that Patent Owner's arguments and evidence do not undermine Petitioner's showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that each of claims 3, 10, 17, and 23 would have been obvious over (1) Sie and Berberet; and (2) Sie and McElhatten.

E. Obviousness—Claims 2, 9, 16, and 22

Petitioner contends each of claims 2, 9, 16, and 22 of the '741 Patent is unpatentable, under 35 U.S.C. § 103, as obvious over (1) Sie and White; (2) Sie, Berberet, and White; and (3) Sie, McElhatten, and White. Pet. 16, 59–63, 75–76. In our discussion below, we first provide a brief overview of White, and then we address the Petitioner's contentions.

1. Overview of White

White is directed to an entertainment head-end that provides broadcast programming, video-on demand services, and interactive programming through a distribution network to client terminals in subscribers' homes.

Ex. 1007, (57). White describes the following:

A further feature of the illustrated client terminal is to automatically record favorite broadcast television programs. The client monitors the user's viewing habits to determine favorite shows (e.g. StarTrek Voyager, Wednesdays, 6:00 p.m., viewer channel FOX). Thereafter, if the terminal is not activated by the user to watch one of these favorites, the terminal notices the event and automatically copies the program onto disk, to the extent storage space permits.

Id. at 9:12–19.

2. *Discussion of Dependent Claims 2, 9, 16, and 22*

Claims 2, 9, and 22 depend directly from claims 1, 8, and 21, respectively, and each further recites receiving “a request to record the video to create the archived copy for later viewing, wherein the request to record is received if the user is not watching the video at the start time.” Ex. 1001, 38:14–19, 38:55–59, 40:27–32. Claim 16 depends directly from claim 15 and further recites “means for receiving a request to record the video to create the archived copy for later viewing, wherein the request to record is received if the user is not watching the video at the start time.” *Id.* at 39:28–32.

Petitioner points to White’s description of automatically recording favorite broadcast television programs. Pet. 59–63, 75–76 (citing Ex. 1007, 7:31–43, 9:12–31; Ex. 1002 ¶¶ 79–81, 135–136, 161, 205–207, 220, 227, 239). Relying on the testimony of Dr. Tjaden, Petitioner, for example, contends one having ordinary skill in the art would have had a reason to combine White’s teachings with the other asserted art to yield the predictable result of “enabling users to access and archive broadcast content they missed by automatically recording such content.” *Id.* at 59–63 (citing Ex. 1002 ¶¶ 137–138, 161).

Patent Owner argues Petitioner does not explain how either Sie’s transmission system or the set-top box performs the claimed function. PO Resp. 48 (citing, *e.g.*, Ex. 2007 ¶¶ 180–186). Patent Owner’s omission of Petitioner’s identification of subscriber management system 124, for example, is not consistent with Petitioner’s contentions for the same reasons discussed above, for example, with respect to claim 1. *See supra* § III.D.4.

Patent Owner also argues that Petitioner does not point to structure in Sie or White that receives a request to record the video. PO Resp. 48 (citing, *e.g.*, Ex. 2007 ¶¶ 181–182). Petitioner, however, asserts that a person having ordinary skill in the art would have improved Sie’s head-end by using White’s feature to automatically record missed programs. Pet. 60; Ex. 1002 ¶¶ 134–138; *see also* Pet. Reply 16; Ex. 1036 ¶ 57.

Petitioner also argues that a person having ordinary skill in the art would have recognized that White’s automatic recording of shows would have entailed the generation of a “request to record” that is received by the recording device, which possesses control circuitry configured to receive that request and that such request could have been a software instruction. Pet. Reply 16 (citing Ex. 1036 ¶ 58). Patent Owner asserts that Petitioner relies on new evidence. PO Sur-Reply 20. The portion of White identified by Petitioner, however, describes a “client terminal” that “monitors the user’s viewing habits to determine favorite shows” and “if the terminal is not activated by the user to watch one of these favorites, the terminal notices the event and automatically copies the program onto disk, to the extent storage space permits.” Ex. 1007, 9:12–19. White describes that each client terminal 14 is an enhanced WebTV terminal that includes a central processing unit (CPU) and memory, among other features. *Id.* at 2:58–60. White further states “[t]he artisan is presumed familiar with WebTV terminals from their many descriptions in the patent and technical literature, and their widespread availability/use.” *Id.* at 2:64–67. Patent Owner’s arguments and Dr. Almeroth’s testimony are based on an overly narrow reading of the prior art without sufficient consideration of the knowledge of a person having ordinary skill in the art. *Cf. Paulsen*, 30 F.3d at 1480

(rejecting an argument that “fails to recognize that a prior art reference must be ‘considered together with the knowledge of one of ordinary skill in the pertinent art.’”) (citing *Samour*, 571 F.2d at 562).

We agree with Petitioner’s contentions and we credit and give significant weight to the testimony of Dr. Tjaden over the testimony of Dr. Almeroth because Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with the evidence of record. For instance, consistent with Petitioner’s contentions and the testimony of Dr. Tjaden, White describes the following:

A further feature of the illustrated client terminal is to *automatically record* favorite broadcast television programs. The client monitors the user’s viewing habits to determine favorite shows (e.g. StarTrek Voyager, Wednesdays, 6:00 p.m., viewer channel FOX). Thereafter, if the terminal is not activated by the user to watch one of these favorites, the terminal notices the event and automatically copies the program onto disk, to the extent storage space permits.

Ex. 1007, 9:12–19 (emphasis added).

For the reasons given, we are persuaded by Petitioner’s showing that all recitations in claims 2, 9, 16, and 22 are taught by the asserted art and we are persuaded that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in those claims. We have considered all Patent Owner’s arguments and evidence. We determine that Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that dependent claims 2, 9, 16, and 22 would have been obvious

over (1) Sie and White; (2) Sie, Berberet, and White; and (3) Sie, McElhatten, and White.

F. Obviousness—Dependent Claims 4, 11, 18, and 24

Petitioner contends each of claims 4, 11, 18, and 24 of the '741 Patent is unpatentable, under 35 U.S.C. § 103, as obvious over (1) Sie and Bonomi; (2) Sie, Berberet, and Bonomi; and (3) Sie, McElhatten, and Bonomi. Pet. 16, 63–65, 76. In our discussion below, we first provide a brief overview of Bonomi, and then we address the Petitioner's contentions.

1. Overview of Bonomi

Bonomi is directed to a media system that centrally manages and stores media content and also controls the delivery of media content to subscribers. Ex. 1008, (57). Figure 7B of Bonomi is reproduced below.

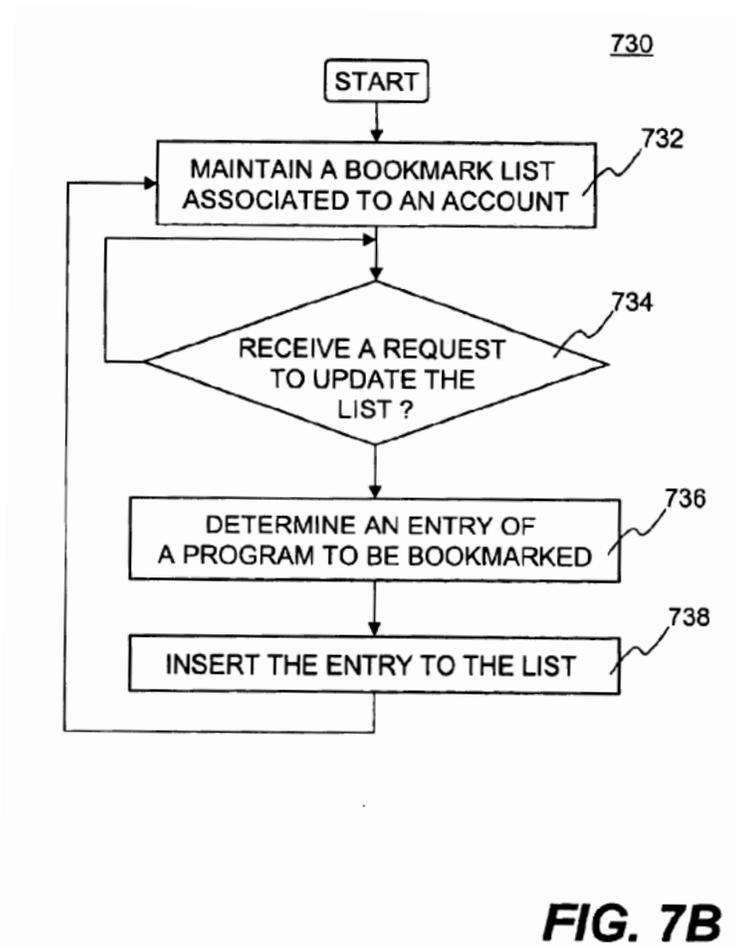


FIG. 7B

Figure 7B of Bonomi, above, illustrates a flowchart for bookmark process 730 to manage a bookmark list for a subscriber account in a media deliver center. *Id.* at 21:65–22:1. In step 732, a bookmark list is maintained that it is associated with an account, such as by using a linked list structure. *Id.* at 22:1–5. In step 734, a server that hosts the bookmark determines if a request to update the bookmark list has been received. *Id.* at 22:12–14. Upon determining that such request has been received, at step 736, a determination is made where the program is located in a storage device and the title and length of the program. *Id.* at 22:19–22. At step 738, the entry is then inserted into the bookmark list. *Id.* at 22:22–23.

2. *Discussion of Dependent Claims 4, 11, 18, and 24*

Claims 4, 11, 18, and 24 depend directly from claims 3, 10, 17, and 23, respectively. Each of claims 4, 11, 18, and 24 further recites “wherein the list associated with the user is stored in a personal storage area associated with the user, and wherein access to the personal storage area requires entry of a valid symbol associated with the user.” Ex. 1001, 38:24–27, 38:64–67, 39:37–40, 40:36–39.

Petitioner points to Bonomi’s authorization requirement, using a username and password. Pet. 63–64, 76 (citing Ex. 1008, 21:52–22:11, 22:35–45; Ex. 1002 ¶¶ 82–84, 142–148, 154, 164, 177–180, 211–215, 220, 229, 241). Relying on the testimony of Dr. Tjaden, Petitioner contends one having ordinary skill in the art would have had a reason to combine Bonomi’s teachings with the other asserted art to yield the predictable result of allowing only authenticated subscribers access to their respective media content thereby improving security of the personal storage area from unauthorized access. *Id.*

Patent Owner argues Petitioner has not shown “wherein the list associated with the user is stored in a personal storage area associated with the user.” PO Resp. 52 (citing, *e.g.*, Ex. 2007 ¶¶ 191–192). With respect to “maintain[ing] a list associated with the user” recited in claims 3, 10, 17, and 23, Petitioner shows the Berberet’s and McElhatten’s lists are maintained and stored in personal storage areas. For instance, for “wherein the list associated with the user is stored in a personal storage area associated with the user” recited in claims 4, 11, 18, and 24 is taught by Berberet’s description of its system providing “a *personal* Subscriber Video Scrapbook” (shown as 2.4 in Figure 2) which allows a subscriber “to record

and save programs” stored “in the form of *pointers*” (Ex. 1005, 12:28–13:7 (emphases added)) that let “the system pull video from the Video Buffer 2.2 or Program Archive 2.15 *as if it is coming from an individual copy created by the SUBSCRIBER 1.3.*” *Id.* at 29:6–11 (emphases added); *see also id.* at 18:22–28 (describing the system depicted in Figures 1 and 2 including a video server, memory, and local control unit and how that system provides the aforementioned features).

Also, McElhatten describes, “in response to the user depression of record key 910, terminal 158-1 marks the program or event that has been recorded and/or stored at headend 105.” Ex. 1006, 13:60–63. McElhatten further describes

[b]ased on the *received IP address*, processor 119 *retrieves a user record* associated with terminal 158-1, and *registers in the record* the ID of the asset containing the reserved program which is identifiable by the received *marking information and program channel information*, and which is made available to the user for subsequent playback.

Id. at 14:2–8 (emphases added).

Patent Owner asserts that Petitioner presents a new theory in its Reply relating to “wherein the list associated with the user is stored in a personal storage area associated with the user” by relying on contentions presented with respect to claims 3, 10, 17, and 23. PO Sur-Reply 20–22. We disagree with Patent Owner (PO Resp. 52; Ex. 2007 ¶¶ 191–192; PO Sur-Reply 20–22) that Petitioner relies on a new argument and that Petitioner cannot rely on the same teachings for claims 4, 11, 18, and 24, which depend directly from claims 3, 10, 17, and 23, respectively. Indeed, Patent Owner contentions for “maintain[ing] a list associated with the user” recited in claims 3, 10, 17, and 23 are similar to those for claims 4, 11, 18, and 24.

Relying on the testimony of Dr. Almeroth, Patent Owner also argues that Petitioner has not shown that Sie teaches “entry of a valid symbol associated with the user.” PO Resp. 52–54 (citing, *e.g.*, Ex. 2007 ¶¶ 194–195). Petitioner, however, points to Bonomi’s authorization requirement, using a username and password. Pet. 63–64, 76.

Relying on the testimony of Dr. Almeroth, Patent Owner further argues that Petitioner has not shown that one having ordinary skill in the art would have modified Sie in view of Bonomi because Sie’s disclosure is transparent to the user, so adding authentication would have been “unnecessary, duplicative, and overly burdensome.” PO Resp. 54 (citing Ex. 2007 ¶ 196). Patent Owner’s contentions are conclusory and not consistent with the teachings of Sie.

We agree with Petitioner’s contentions and we credit and give significant weight to the testimony of Dr. Tjaden over the testimony of Dr. Almeroth because Petitioner’s contentions and Dr. Tjaden’s testimony are consistent with the evidence of record. For instance, consistent with Petitioner’s contentions and the testimony of Dr. Tjaden, Bonomi describes the following:

In one embodiment, each account has a bookmark list that is directly resident in the account. In another embodiment, all bookmarks are located in a storage space and each of the bookmarks is coupled to a corresponding account. In either case, only the authorized subscriber is permitted to update the bookmark list in the account.

Ex. 1008, 22:5–11. Bonomi also describes that a library process that begins with a decision that “determines whether a subscriber associated with a client device is authenticated.” *Id.* at 22:36–38. Bonomi’s authentication “is checked based on [a] username and password.” *Id.* at 22:44–45.

For the reasons given, we are persuaded by Petitioner’s showing that all recitations in claims 4, 11, 18, and 24 are taught by (1) Sie, Berberet, and Bonomi; and (2) Sie, McElhatten, and Bonomi and we are persuaded that Petitioner has articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have modified and combined the teachings of the asserted art in the manner recited in those claims. We have considered all Patent Owner’s arguments and evidence. We determine that Patent Owner’s arguments and evidence do not undermine Petitioner’s showing.

Accordingly, based on the complete record now before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that dependent claims 4, 11, 18, and 24 would have been obvious over (1) Sie, Berberet, and Bonomi and (2) Sie, McElhatten, and Bonomi.

Petitioner asserts that claims 4, 11, 18, and 24 are obvious over Sie and Bonomi. Pet. 16. Claims 4, 11, 18, and 24 depend directly from claims 3, 10, 17, and 23, respectively. Petitioner asserts that claims 3, 10, 17, and 23 are obvious over (1) Sie and Berberet and (2) Sie and McElhatten, but not Sie alone. *Id.* Petitioner does not provide contentions for Bonomi that address recitations in claims 3, 10, 17, and 23. Accordingly, based on the complete record now before us, we determine that Petitioner has not demonstrated by a preponderance of the evidence that dependent claims 4, 11, 18, and 24 would have been obvious over Sie and Bonomi.

G. ITC Investigation and Other Issues

Patent Owner argues that Petitioner “relies on Sie alone to teach limitations [1D] (determining availability to a user) and [1E] (displaying an

indication based on the determination).” PO Resp. 18. Patent Owner asserts that Petitioner “reapplies the same arguments from the related ITC investigation in this proceeding, and the ALJ’s reasoning is fully applicable and should be given substantial weight here.” *Id.* at 20. Patent Owner characterizes Petitioner’s arguments in the ITC investigation as “unpersuasive.” *Id.* at 1.

For the reasons given and based on the record before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–26 would have been obvious over the asserted art. We have fully considered the determinations in the ITC investigation to the extent those determinations have been submitted in this proceeding by the parties.

Patent Owner also asserts that Petitioner’s arguments in the Petition are redundant to the arguments advanced before the ITC and such redundancy was a proper basis to deny the Petition under 35 U.S.C. § 314(a). We addressed the foregoing § 314(a) arguments in our Decision to Institute, and we decline to revise the issue of institution. Inst. Dec. 7–12.

Additionally, both parties present credibility challenges to the other party’s declarant. We have considered the arguments and evidence presented by both parties, as well as the qualifications of the declarants. We are more than satisfied with the declarants’ qualifications to testify under Fed. R. Evid. 702, and with the relevance of the opinions presented. The parties’ arguments go to the weight that should be given to each declarant’s testimony, which we have weighed as indicated above.

IV. CONCLUSION

The outcome for the challenged claims is set forth in Table 2 of this Decision below.¹⁴ In summary:

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatent-able	Claims Not shown Unpatent-able
1, 5–8, 12–15, 19–21, 25, 26	103(a)	Sie	1, 5–8, 12–15, 19–21, 25, 26	
1, 3, 5–8, 10, 12–15, 17, 19–21, 23, 25, 26	103(a)	Sie, Berberet	1, 3, 5–8, 10, 12–15, 17, 19–21, 23, 25, 26	
2, 9, 16, 22	103(a)	Sie, White	2, 9, 16, 22	
2, 9, 16, 22	103(a)	Sie, Berberet, White	2, 9, 16, 22	
4, 11, 18, 24	103(a)	Sie, Bonomi		4, 11, 18, 24
4, 11, 18, 24	103(a)	Sie, Berberet, Bonomi	4, 11, 18, 24	

¹⁴ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatent- able	Claims Not shown Unpatent- able
1, 3, 5–8, 10, 12–15, 17, 19– 21, 23, 25, 26	103(a)	Sie, McElhatten	1, 3, 5–8, 10, 12–15, 17, 19–21, 23, 25, 26	
2, 9, 16, 22	103(a)	Sie, McElhatten, White	2, 9, 16, 22	
4, 11, 18, 24	103(a)	Sie, McElhatten, Bonomi	4, 11, 18, 24	
Overall Outcome			1–26	

Table 2 of this Decision summarizes the outcome for each challenged claim and ground in the instant proceeding.

V. ORDER

In consideration of the foregoing, it is hereby
ORDERED that claims 1–26 of the '741 Patent have been proven to
be unpatentable; 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.

IPR2019-00231
Patent 9,369,741 B2

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

ROVI GUIDES, INC.,¹
Patent Owner.

Case Nos.

IPR2019-00224, IPR2019-00231, IPR2019-00237, IPR2019-00239,
IPR2019-00281, IPR2019-00290, IPR2019-00292, IPR2019-00299,
IPR2019-00555²

Before WILLIAM M. FINK, *Vice Chief Administrative Patent Judge*, and
KARL D. EASTHOM, KALYAN K. DESHPANDE,
LYNNE E. PETTIGREW, BARBARA A. PARVIS, KEVIN W. CHERRY,
SHEILA F. McSHANE, KARA L. SZPONDOWSKI, and
SCOTT E. BAIN, *Administrative Patent Judges*.³

FINK, *Vice Chief Administrative Patent Judge*.

¹ Certain proceedings involve a different Patent Owner and challenged patents. *See infra* Appendix.

² This Order addresses the same issues in each proceeding listed. *See infra* Appendix (listing the challenged patent numbers).

³ This is not an order from an expanded panel of the Board. Rather, we exercise our discretion to issue one order for all of the above-listed proceedings. The parties are not authorized to use this caption format.

ORDER
Denying Patent Owner's Requests on Rehearing
37 C.F.R. § 42.71

I. INTRODUCTION

In each of the instant proceedings, Patent Owner filed a Request for Rehearing Pursuant to 37 C.F.R. § 42.71(d) of the Board's Denial of Authorization to File a Motion to Stay or Terminate this Proceeding in Light of *Arthrex*⁴ ("Requests for Rehearing"). *See, e.g.*, IPR2019-00224, Paper 33 (Reh'g Req.).⁵ Patent Owner also requested Precedential Opinion Panel (POP) review of an issue raised in those Requests for Rehearing. Patent Owner's requests for POP review have been denied. *See, e.g.*, IPR2019-00224, Paper 38. In each proceeding, Patent Owner further filed a Petition Under 37 C.F.R. § 1.181(a)(3) Invoking the Supervisory Authority of the Director. *See, e.g.*, Paper 35. Patent Owner's Petitions were denied. *See, e.g.*, IPR2019-00224, Paper 39.

II. STANDARD OF REVIEW

The party requesting rehearing has the burden to show that the decision should be modified. 37 C.F.R. § 42.71(d). Additionally, the request for rehearing "must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply." *Id.*

⁴ *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019).

⁵ The Requests for Rehearing in each of the instant proceedings are set forth in the Appendix.

III. ANALYSIS

In its Requests for Rehearing, Patent Owner argues as follows: (1) because the Federal Circuit’s mandate has not issued in *Arthrex*, the Administrative Patent Judges presiding over the instant proceedings remain unconstitutionally appointed and, therefore, the instant proceedings should be stayed (Reh’g Req. 6–8); (2) the proceedings should be stayed because the *Arthrex* remedy does not go far enough and violates the Administrative Procedure Act (APA) (*id.* at 9–13 (citing, *e.g.*, *Polaris Innovations Ltd. v. Kingston Tech. Co.*, No. 18-1768, Dkt. No. 90 at 2 (Fed. Cir. Nov. 8, 2019))); and (3) intervention from Congress and agency rulemaking may be necessary to remedy the defect identified in *Arthrex*, so termination of each of the instant proceedings is warranted (*id.* at 13–15). Patent Owner’s arguments have been addressed in our denials.⁶ *See, e.g.*, IPR2019-00224, Paper 28 at 2 (PTAB Jan. 14, 2020) (quoting *Arthrex*, 941 F.3d at 1337 (“This as-applied severance . . . cures the constitutional violation”)); IPR2019-00224, Paper 39 at 4 (PTAB Feb. 18, 2020) (“[I]t is unclear how the issuance of the mandate in *Arthrex* would address the alleged APA defect.”). For these reasons, we also disagree with Patent Owner’s argument

⁶ In any event, the issuance of the mandate in *Image Processing Techs. LLC v. Samsung Electronics Co.* moots Patent Owner’s argument that Board judges are unconstitutionally appointed until the mandate in *Arthrex* issues. *See Image Processing Techs. LLC v. Samsung Electronics Co.*, No. 2018-2156 (Fed. Cir. Mar. 9, 2020), ECF No. 78; Mandate, *Image Processing Techs. LLC v. Samsung Elecs. Co.*, Nos. 2019-1408, 2019-1485 (Fed. Cir. Mar. 9, 2020), ECF No. 75 (relying on *Arthrex*). Furthermore, in *Arthrex*, the Federal Circuit denied the petitions for panel rehearing and the petitions for rehearing en banc. *Arthrex, Inc. v. Smith & Nephew, Inc.*, No. 2018-2140 (Fed. Cir. Mar. 23, 2020), ECF No. 115.

IPR2019-00224, -231, -237, -239, -281, -290, -292, -299, -555

that denying Patent Owner the opportunity for briefing “itself violates the [APA] because the denial lacks a reasoned basis.” Reh’g Req. 1.

Accordingly, we deny Patent Owner’s Requests for Rehearing.

IV. ORDER

It is

ORDERED that Patent Owner’s Requests for Rehearing of our denial of Patent Owner’s requests for authorization to file a motion to stay or terminate the above-listed proceedings (*see infra* Appendix) are *denied*.

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APPENDIX

Case No.	Patent No.	Order Denying Filing Mtn. to Stay or Terminate	Rehearing Request	Order Denying POP Request
IPR2019-00224	7,827,585 B2	Paper 28	Paper 33	Paper 38
IPR2019-00231	9,369,741 B2	Paper 31	Paper 32	Paper 38
IPR2019-00237 ⁷	7,779,011 B2	Paper 29	Paper 31	Paper 38
IPR2019-00239	7,779,011 B2	Paper 26	Paper 28	Paper 35
IPR2019-00281	9,621,956 B2	Paper 20	Paper 21	Paper 28
IPR2019-00290	7,937,394 B2	Paper 29	Paper 31	Paper 38
IPR2019-00292	7,937,394 B2	Paper 27	Paper 29	Paper 36
IPR2019-00299	9,294,799 B2	Paper 26	Paper 28	Paper 33
IPR2019-00555	9,668,014 B2	Paper 19	Paper 21	Paper 26

Table 1 lists the number of the challenged patent and the paper numbers in each proceeding of the following: Orders Denying Authorization to File a Motion to Stay or Transfer, Patent Owner's Requests for Rehearing, and Orders Denying POP Review.

⁷ In IPR2019-00237, IPR2019-00239, IPR2019-00290, and IPR2019-00292, Patent Owner is Veveo, Inc. and Patent Owner's real parties-in-interest are Veveo, Inc., Rovi Guides, Inc., and Rovi Corp. *See* IPR2019-00237, Paper 5; IPR2019-00239, Paper 4; IPR2019-00290, Paper 4; IPR2019-00292, Paper 4.