Trials@uspto.gov
571.272.7822

Paper No. 36
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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.

Case IPR2017-01048
Patent 8,578,413 B2

Before KEVIN F. TURNER, MICHAEL R. ZECHER, and JESSICA C. KAISER, *Administrative Patent Judges*.

TURNER, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner, Comcast Cable Communications, LLC ("Comcast"), filed a Petition requesting an *inter partes* review of claims 1–18 of U.S. Patent No. 8,578,413 B2 (Ex. 1001, "the '413 Patent"). Paper 2 ("Pet."). Patent Owner, Rovi Guides, Inc. ("Rovi"), filed a Preliminary Response. Paper 7. Taking into account the arguments presented in Rovi's Preliminary Response, we determined that the information presented in the Petition established that there was a reasonable likelihood that Comcast would prevail in challenging claims 1–18 of the '413 Patent as unpatentable under 35 U.S.C. § 103(a). Pursuant to 35 U.S.C. § 314, we instituted this *inter partes* review on October 18, 2017, as to all of the challenged claims, but not all the grounds presented by Comcast in its Petition. Paper 9 ("Dec. on Inst.").

During the course of trial, Rovi filed a Patent Owner Response (Paper 15, "PO Resp."), and Comcast filed a Reply to the Patent Owner Response (Paper 26, "Pet. Reply"). A consolidated oral hearing with related Cases IPR2017-00950, IPR2017-00951, IPR2017-00952, IPR2017-01049, IPR2017-01050, IPR2017-01065, IPR2017-01066, and IPR2017-01143 was held on June 19, 2018, and a transcript of the hearing is included in the record. Paper 35 ("Tr.").

After all substantive briefing was complete, but before the consolidated oral hearing, the United States Supreme Court held that a decision to institute under 35 U.S.C. § 314 may not institute on less than all claims challenged in the petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018). Following *SAS*, the U.S. Patent and Trademark Office ("Office") issued "Guidance on the impact of SAS on AIA trial

proceedings," in which the Office took the policy position that a decision granting institution will institute on all of the challenged claims in the petition *and* all the grounds presented in the petition.[1] The U.S. Court of Appeals for the Federal Circuit has since endorsed this Office policy by explaining that "'the petitioner's petition, not the Director's discretion, is supposed to guide the life of the litigation' and 'that the petitioner's contentions, not the Director's discretion, define the scope of the litigation all the way from institution through to conclusion.'" *Adidas AG v. Nike, Inc.*, 894 F.3d 1256, 1258 (Fed. Cir. 2018) (quoting *SAS*, 138 S. Ct. at 1356–1357). In accordance with *SAS* and Office policy, we issued an Order modifying our Decision on Institution entered on October 18, 2017, to include review of all challenged claims and all grounds presented by Comcast in its Petition. Paper 32. The parties, however, agreed to waive briefing on the grounds we declined to institute in the Decision on Institution. *Id*. The parties also agreed to waive consideration of these previously non-instituted grounds at the consolidated oral hearing. *Id*.

We have jurisdiction under 35 U.S.C. § 6. This decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of claims 1–18 of the '413 Patent. For the reasons discussed below, we hold that Comcast has demonstrated by a preponderance of the evidence that these claims are unpatentable under § 103(a).

[1] Available at https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial.

A. Related Matters

The '413 Patent is involved in the following district court cases: (1) *Rovi Guides, Inc. v. Comcast Corp.*, No. 2:16-cv-00322 (E.D. Tex.), which has been transferred to the U.S. District Court for the Southern District of New York and is pending as *Rovi Guides, Inc. v. Comcast Corp.*, No. 1:16-cv-09826 (S.D.N.Y.); and (2) *Comcast Corp. v. Rovi Corp.*, No. 1:16-cv-03852 (S.D.N.Y.). Pet. 1–2; Paper 3, 2. The '413 Patent also has been asserted against Comcast in a proceeding before the U.S. International Trade Commission ("ITC") styled *In re Certain Digital Video Receivers and Hardware and Software Components Thereof*, No. 337-TA-1001. Pet. 2; Paper 3, 2.

In addition to this Petition, Comcast filed two other petitions challenging the patentability of claims 1–18 of the '413 Patent (Cases IPR2017-01049 and IPR2017-01050). Pet. 3; Paper 3, 2. Comcast also filed other petitions challenging the patentability of certain subsets of claims in several patents owned by Rovi. Pet. 3.

B. The '413 Patent

The '413 Patent, titled "Interactive Television Program Guide with Remote Access," issued November 5, 2013, from U.S. Patent Application No. 13/275,565, filed on October 18, 2011. Ex. 1001, [54], [45], [21], [22]. The '413 Patent is a continuation of U.S. Patent Application No. 10/927,814, filed on August 26, 2004, which, in turn, is a continuation of U.S. Patent Application No. 09/354,344, filed on July 16, 1999. *Id.* at [63]. The '413 Patent also claims the benefit of U.S. Provisional Application No.

60/097,527, filed on August 21, 1998, and U.S. Provisional Application No. 60/093,292, filed on July 17, 1998. *Id.* at [60].

The '413 Patent generally relates to interactive television program guide video systems and, in particular, to such systems that provide remote access to program guide functionality. Ex. 1001, 1:16–19. The '413 Patent discloses that conventional interactive television program guide systems typically are implemented on set-top boxes located in the home of a user and, as a result, do not permit the user to perform program guide functions without the user being physically located in the same room as these systems. *Id.* at 1:34–42. Stated differently, conventional interactive television program guide systems require the user to be present in the home to access important program guide features, such as program reminders, parental controls, and program recording. *Id.* at 2:16–19. The '413 Patent purportedly addresses this and other problems by providing an interactive television program guide system that allows a user to access certain features of the program guide remotely and establish settings for those features. *Id.* at 2:20–25.

Figure 1 of the '413 Patent, reproduced below, illustrates a schematic block diagram of the system in accordance with the present invention. Ex. 1001, 7:15–39.

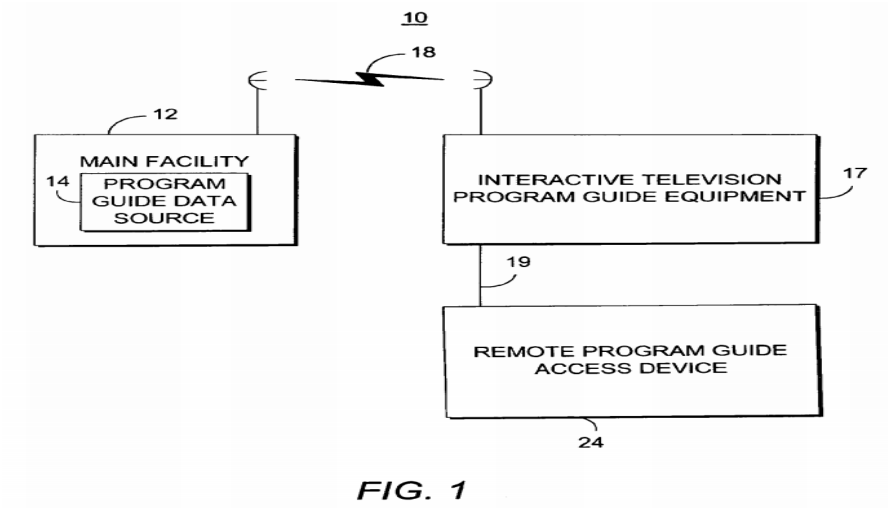


FIG. 1

As shown in Figure 1 reproduced above, system 10 includes main facility 12 that provides interactive television program guide data from program guide data source 14 to interactive television program guide equipment 17 via communication link 18. *Id.* at 7:15–22. Interactive television program guide equipment 17 is connected to at least one remote program guide access device 24 via remote access link 19. *Id.* at 7:33–35.

Figure 2a of the '413 Patent, reproduced below, illustrates one arrangement involving the interactive television program guide equipment 17 and remote program guide access device 24 in accordance with the principles of the present invention. Ex. 1001, 8:16–34.

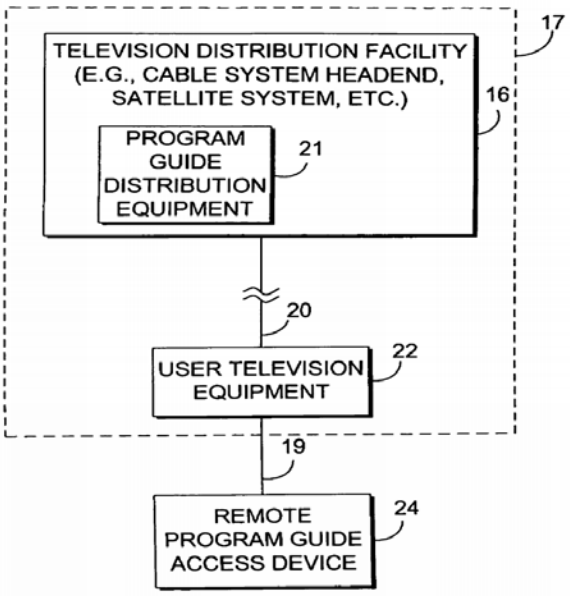


FIG. 2a

As shown in Figure 2a reproduced above, interactive television program guide equipment 17 includes program guide distribution equipment 21 located at television distribution facility 16, which distributes program guide data to user television equipment 22 via communications path 20. *Id.* at 4:57–67. Remote program guide access device 24 receives the program guide data, as well as any additional data necessary to access various functions of the interactive program guide, from user television equipment 22 via remote access link 19. *Id.* at 8:21–26.

In at least one embodiment, the '413 Patent discloses that a remote access interactive television program guide implemented on remote program guide access device 24 communicates with a local interactive television program guide implemented on interactive television program guide equipment 17. *Id.* at 15:9–18. In one example, the remote access and local interactive television program guides may be two different guides that communication with each other. *Id.* at 15:20–23; *see also id.* at 25:35–59

(disclosing steps involved with using the remote access interactive television guide to provide program listing information to a user).

The '413 Patent discloses transferring program guide information and settings between remote program guide access device 24 and interactive television program guide equipment 17 using any suitable application layer protocol. Ex. 1001, 15:60–64. For example, if remote access link 19 is an Internet link, program guide functionality may be accessed using Hypertext Transfer Protocol. *Id*. at 15:64–66. Remote program guide access device 24 and interactive television program guide equipment 17 also may transfer program guide information as files using either File Transfer Protocol or Trivial File Transfer Protocol running over a Transmission Control Protocol/Internet Protocol stack. *Id*. at 15:66–16:4. The '413 Patent makes clear that "[a]ny suitable file transfer protocol based on any suitable protocol stack may be used." *Id*. at 16:4–5.

C. Illustrative Claim

Claims 1 and 10 are independent. Independent claim 1 is directed to a system for selecting television programs over a remote access link that includes an Internet communications path for recording, whereas independent 10 is directed to a method for performing the same. Claims 2–9 depend from independent claim 1, and claims 11–18 depend from independent claim 10. Independent claim 1 is illustrative of the challenged claims and is reproduced below:

> 1. A system for selecting a television program over a remote access link comprising an Internet communications path for recording, the system comprising:

a local interactive television program guide equipment on which a local interactive television program guide is implemented, wherein the local interactive television program guide generates a display of one or more television program listings for display on a display device at a user's home, wherein the local interactive television program guide equipment is located within the user's home and includes user television equipment, wherein a mobile device communicates with the local interactive television program guide equipment, wherein the mobile device, on which a remote access interactive television program guide is implemented, is located outside of the user's home, and wherein the mobile device:

generates a display of the remote access interactive television program guide, the remote access interactive television program guide comprising a plurality of television program listings for display on the mobile device, wherein the display of the remote access interactive television program guide is generated based on a user profile stored at a location remote from the mobile device;

receives a user selection of the television program for recording by the local interactive television program guide, wherein the user selects the television program by selecting a television program listing from the plurality of television program listings displayed, by the remote access interactive television program guide, on the mobile device; and

transmits, to the local interactive television program guide over the Internet communications path, a communication identifying the television program for recording corresponding to the television program listing selected by the user with the remote access interactive television program guide,

wherein the local interactive television program guide receives the communication and, responsive to the communication, records the television program corresponding to the selected television program listing

using the local interactive television program guide equipment.

Ex. 1001, 40:6–48.

D. Instituted Grounds of Unpatentability

We instituted a trial based on the asserted grounds of unpatentability ("grounds") set forth in the table below. Dec. on Inst. 37; Paper 32.

References	Basis	Challenged Claim(s)
Humpleman[2] and Killian[3]	§ 103(a)	1, 3–10, and 12–18
Humpleman, Killian, and Lawler[4]	§ 103(a)	2 and 11
Kondo,[5] Killian, and Kawamura[6]	§ 103(a)	1, 3–10, and 12–18
Kondo, Killian, and Kawamura, and Lawler	§ 103(a)	2 and 11

[2] U.S. Patent No. 6,182,094 B1; issued Jan. 30, 2001 (Ex. 1006, "Humpleman").

[3] U.S. Patent No. 6,163,316, issued Dec. 19, 2000 (Ex. 1008, "Killian").

[4] U.S. Patent No. 5,805,763, issued Sept. 8, 1998 (Ex. 1009, "Lawler").

[5] Japanese Pat. App. Pub. No. H10-155131, published June 9, 1998 (Ex. 1011, "Kondo"). Comcast has provided a certified translation of Kondo from Japanese into English (Ex. 1012).

[6] Japanese Pat. App. Pub. No. H9-102827, published Apr. 15, 1997 (Ex. 1013, "Kawamura"). Comcast has provided a certified translation of Kawamura from Japanese into English (Ex. 1014).

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms of an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Under the broadest reasonable interpretation standard, and absent any special definitions, claim terms are generally given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art, in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

In the Decision on Institution, we determined that the only claim terms requiring construction are "local/remote access interactive television program guides," and only to the extent necessary to resolve whether the grounds asserted by Comcast properly accounted for both a "local interactive television program guide" and a "remote access interactive television program guide." Dec. on Inst. 9 (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (explaining that only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy)). Upon reviewing the parties' preliminary arguments and evidence, we adopted Comcast's proposed construction that an "interactive television program guide" is "control software operative at least in part to generate a display of television program listings and allow a user to navigate through the listings, make selections, and control functions of the software." *Id.* at 13. We further clarified that the claim terms "local interactive television program guide" and "remote access interactive television program guide" are separately

identifiable elements, and they are not construed properly as reading on the same interactive television program guide. *Id*.

In its Patent Owner Response, Rovi generally agrees with our initial determination that the only claim terms requiring construction are "local/remote access interactive television program guides." PO Resp. 11. Rovi, however, proposes that the proper constructions for these claim terms are the following: (1) "local interactive television program guide" is a "guide that allows navigation through television program listings and causes display of program information on user television equipment"; and (2) "remote access interactive television program guide" is a "guide allowing navigation through television program listings using a remote access link." *Id*. According to Rovi, its proposed constructions for the claim terms "local/remote access interactive television program guides" are consistent with the intrinsic evidence, our preliminary finding that these guides must be distinct guides, and the findings of the ITC in related proceedings. *Id*. at 12–13 (citing Ex. 2001, 193, 198, 409).

Rovi further contends that, any difference between our constructions and the ITC's constructions of the claim terms "local/remote access interactive television program guides" is not relevant to the grounds at issue in this proceeding because, according to Rovi, each of Comcast's asserted grounds fails under Rovi's broader constructions "that do[] not unnecessarily restrict the guides to 'control software' that 'controls functions of the software.'" PO Resp. 13. Rovi asserts that, because it is proposing broader constructions for these claim terms, we need not determine whether the asserted prior art satisfies Comcast's proposed constructions. *Id*. Rovi then proceeds to explain how our preliminary constructions and the ITC's

constructions are consistent in certain respects because (1) they both require the guides to be interactive (i.e., navigable and selectable); and (2) they both agree that the claims require two separate guides, as properly construed. *Id.* at 13–16.[7]

In its Reply, Comcast contends that Rovi's proposed constructions of the claim terms "local/remote access interactive television program guides" improperly seeks to limit the broadest reasonable interpretation of the claim term "interactive television program guide" to a single software component that generates listings, thereby excluding other software components that assist in providing guide functionality. Pet. Reply 4 (citing PO Resp. 24–25, 34, 36–37; Ex. 2011 ¶ 114). According to Comcast, this exclusion finds no basis in the plain language of the claims and the specification of the '413 Patent. *Id.*

Comcast also contends that Rovi's arguments directed to the claim term "interactive television program guide" contradicts the construction Rovi offered in the related ITC proceeding. Pet. Reply 4. Comcast argues that Rovi expanded the scope of the claim term "local interactive television program guide" in the related ITC proceeding, to capture all software components related to any local guide functionality, including recording. *Id.* at 4–5 (citing Ex. 2001, 188–99, 222–35; Ex. 1054 ¶¶ 158–160, 169, 170,

[7] At the oral hearing for the first time, Rovi argued that "remote access interactive television program guide" requires "dedicated code at the remote device." *See, e.g.*, Tr. 58:3–7, 60:19–61:14, 66:14–21. We agree with Comcast (*id.* at 96:3–10) that this is a new argument that was not presented and developed in Rovi's briefs and, therefore, we do not consider it. *See* Paper 10, 3 (cautioning Rovi that "any arguments for patentability not raised in the response will be deemed waived").

371, 376). Comcast argues that Rovi's expert in the ITC proceeding, Dr. Michael Shamos, who also is Rovi's expert in this proceeding, provided supporting testimony that the claim term "local interactive television program guide" could be an "extensive collection of hardware and software." *Id*. at 5 (emphasis omitted) (quoting Ex. 1054 ¶ 169). In this proceeding, however, Comcast argues that Rovi and Dr. Shamos appear to take the erroneous position that the claim term "local interactive television program guide" is a single software application. *Id*. at 6 (*compare* PO Resp. 34 and Ex. 2008 ¶ 116, *with* Ex. 1054 ¶ 371). According to Comcast, we should hold Rovi to the same broad construction of the claim term "local interactive television program guide" in this proceeding that it wielded to exclude others from practicing the claimed invention in the related ITC proceeding. *Id*.

As an initial matter, it is not clear to us whether Rovi actually disputes our preliminary construction of the claim term "interactive television program guide." On the one hand, Rovi asserts that the ITC's constructions of local interactive television program guide (i.e., a "guide that allows navigation through television program listings and causes display of program information on user television equipment") and remote access interactive television program guide (i.e., a "guide allowing navigation through television program listings using a remote access link") are the proper constructions. PO Resp. 11–12. On the other hand, Rovi argues that both our constructions and the ITC's constructions "are consistent with respect to the relevant aspects (e.g., navigation and selection)" of a local/remote access interactive television guide. *Id*. at 12. Rovi further contends that "[a]ny differences between the Board's and the ITC's

constructions *are not relevant* to [Comcast's] failures of proof regarding the asserted prior art and [g]rounds at issue in this proceeding." *Id*. at 13 (emphasis added); *see also* Ex. 2011 ¶ 25 (Rovi's declarant, Dr. Shamos, testifies that, "regardless of which constructions the Board applies, my opinions remain the same. The asserted prior art references here fail to disclose the claim limitations . . . under either construction.") These arguments make it difficult to ascertain what Rovi actually views as to the proper scope and meaning of claim terms "local/remote access interactive television program guides." Nevertheless, we are charged in this proceeding with determining the broadest reasonable interpretation of these claim terms.

Beginning with the intrinsic record, neither party argues, nor could we find, an explicit definition for the claim term "interactive television program guide" in the specification of the '413 Patent. The specification, however, is replete with descriptions of conventional, local, or remote interactive television program guides. For instance, the specification discloses that conventional interactive television program guides display "various groups of television program [guide] listings . . . in predefined or user-defined categories," and "allow the user to navigate through [the] television program listings" and make a selection "using a remote control." Ex. 1001, 1:28–33. For a conventional interactive television program guide, the user must physically be located in the same room as the set-top box on which the interactive television program guide is implemented to select programs for recording or to perform other guide functions. *Id*. at 1:34–42. In the context of discussing the implementation of a remote access interactive television program guide, the specification discloses that such a guide works in conjunction with a remote device to "provide users with the opportunity to

remotely access features of the interactive television program guide on the interactive television program guide equipment and to remotely set program guide settings." *Id*. at 2:64–3:4. The specification goes on to disclose that "[a]ny suitable interactive television program guide function or setting may be accessed," including, but not limited to, "remotely select[ing] programming for recordings" and "remotely set[ting] and navigat[ing] through favorites (e.g., favorite channels, program categories, services, etc.)." *Id*. at 3:5–15.

Although the aforementioned disclosures provide guidance as to the functionality of an "interactive television program guide" (i.e., navigable, selectable, and capable of controlling certain functions or settings), neither party directs us to, nor can we find, a disclosure in the specification that specifically identifies what element or elements constitute a "guide." Given the lack of disclosure in this regard, we decline to limit the "guide" to a single software application. Rather, these disclosures support Comcast's proposed construction that an "interactive television program guide" is "control software operative at least in part to generate a display of television program listings and allow a user to navigate through the listings, make selections, and control functions of the software."

We further clarify that, based on the plain language of independent claims 1 and 10, they indicate that the claim terms "local interactive television program guide" and "remote access interactive television program guide" are separately identifiable elements. *See Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) ("Where a claim lists elements separately, 'the clear implication of the claim language' is that those elements are 'distinct component[s]' of the patented invention."

(alteration in original) (quoting *Gaus v. Conair Corp.*, 363 F.3d 1284, 1288 (Fed. Cir. 2004))). Our determination in this regard is supported by the specification, which includes various embodiments that treat these claim terms as separately identifiable elements capable of communicating with each other. *See, e.g.*, Ex. 1001, 15:20–23 ("In still another suitable approach, the [local interactive television program guide and remote access interactive television program guide] may be different guides that communicate in a manner or manners discussed . . . herein."), 23:4–7 ("The remote access [interactive television] program guide may . . . send audio, graphical, and text messages to the local interactive [television] program guide for playing or display by user television equipment 22."). The specification also explains that the "local interactive television program guide" and "remote access interactive television program guide" may be the same guide, in which case they are separately identifiable elements in that each guide is compiled to run on a different platform. *See id.* at 15:15–18 ("The remote access and local guide may, for example, be the same guide but compiled to run on two different platforms and to communicate in a manner or manners discussed herein.").

We decline to adopt Rovi's proposed constructions of the claim terms "local/remote access interactive television program guides" for two reasons. First, we are unable to determine how Rovi's proposed constructions add any clarity to the scope and meaning of an "interactive television program guide." That is, we view each of Rovi's proposed constructions as circular and unhelpful because they define each of the guides as a "*guide* [that allows/allowing] navigation through television program listings." PO Resp.

11 (emphasis added). Rovi, however, does not actually identify what element or elements specifically constitute the "guide."

Second, Rovi states that its proposed constructions indicate "where the specific guide resides (i.e., on 'user television equipment' or over 'a remote access link')," *id*. at 16 (emphasis omitted), but readily admits that "these additions merely restate the language of the broader claim limitation[s]." *Id*. (citing Ex. 1050, 185, 190). It is well settled that the U.S. Court of Appeals for the Federal Circuit disfavors any claim interpretation that renders a claim term or phrase superfluous. *See Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1237 (Fed. Cir. 2016) ("The Board was correct to not include in its construction of 'menu' features of menus that are expressly recited in the claims. . . . Construing a claim term to include features of that term already recited in the claims would make those expressly recited features redundant."). If we were to adopt the language in Rovi's proposed constructions pertaining to where each guide resides, it would render superfluous the language that is already explicitly recited in independent claim 1, and similarly recited in independent claim 10—namely, "over a remote access link" and "a local interactive television program guide equipment on which a local interactive television program guide is implemented, … wherein the local interactive television program

guide equipment is located within the user's home and includes user television equipment."[8]

Turning now to the extrinsic evidence, in Dr. Tjaden's Declaration accompanying the Petition, he testifies that "the local [interactive television program] guide may be implemented at least in part on a server or other device outside the user's home." Ex. 1002 ¶ 36. To support this testimony, he directs us to Rovi's interpretation of the claim term "local interactive television program guide" in the related ITC proceeding. *Id*. (citing Ex. 1045, 56; Ex. 1046, 43). In Dr. Tjaden's Declaration accompanying the Reply, he elaborates further on his initial position by testifying that "a [person of ordinary skill in the art] looking at the '413 Patent would have understood that many different arrangements of the software and hardware components comprising an interactive television program guide are possible and acceptable in [the] prior art used to show obviousness." Ex. 1052 ¶ 15. To support this testimony, he directs us to the different arrangements of software and hardware in the '413 Patent. *Id*. ¶¶ 16–18 (citing Ex. 1001, 7:15–19, 33–35, 40–47, 9:36–44, 10:15–16, 29–34, 41–48, Figs. 1, 2a–2d).

Although we recognize that the broadest reasonable interpretation standard governs in this proceeding, whereas the district court claim construction standard governs in an ITC proceeding, Dr. Shamos's

[8] During oral argument, in response to a question regarding the ITC's construction of the "local interactive television program guide" being on user television equipment and its construction that the "remote access television program guide" uses a remote access link, counsel for Rovi stated that "I don't think where [the guides are] implemented is meaningful because that's recited in the claim separately." Tr. 66:22–67:24.

testimony in the ITC proceeding is relevant here because it sheds some light on what element or elements he believes constitutes a "guide." In the ITC proceeding, Dr. Shamos testified that the claim term "local interactive television program guide" could be an "extensive collection of hardware and software." Ex. 1054 ¶ 169. He also testified "that the 'local [interactive television program] guide' [should not be construed as] a single software application that must reside on a device in the user's home," and "[n]othing in the claims excludes a 'recording application' from being part of the local [interactive television program] guide." *Id.* ¶ 371. Dr. Shamos's testimony in the ITC proceeding is consistent with Dr. Tjaden's testimony in this proceeding because, like Dr. Tjaden, Dr. Shamos does not limit a "guide" to a single software application, but rather contemplates that the "guide" may constitute different arrangements of software and hardware.

We note that the aforementioned testimony from Dr. Tjaden and Dr. Shamos suggest that the "guide" may include both software and hardware. Rovi likewise argues that its proposed construction is broader than Comcast's because "it does not unnecessarily restrict the guides to 'control software.'" PO Resp. 13. We do not find support in the intrinsic record that the "guide" may include hardware. Rather, the '413 Patent separately refers to the interactive television program guide and the hardware on which it is implemented. *See, e.g.*, Ex. 1001, 1:34–35 ("Interactive television program guides are typically implemented on set-top boxes . . . ."). The aforementioned testimony, however, is consistent with our finding that the "guide" may constitute more than just a single software application.

In summary, upon weighing all the evidence bearing on the construction of the claim term "interactive television program guide," we

maintain that the broadest reasonable interpretation of this claim term is "control software operative at least in part to generate a display of television program listings and allow a user to navigate through the listings, make selections, and control functions of the software." We also maintain that the claim terms "local interactive television program guide" and "remote access interactive television program guide" are separately identifiable elements, and are not construed properly as reading on the same interactive television program guide.

B. Prior Art Status of Humpleman Provisional

Additionally, Rovi contends that Humpleman Provisional (U.S. Patent Application No. 60/059,499; Ex. 1007) is not prior art and cannot be used to teach or suggest elements of the challenged claims. PO Resp. 48–51. Rovi argues that (1) Humpleman Provisional is neither a patent nor an application published under 35 U.S.C. § 122(b), and that a provisional application can only qualify as prior art under 35 U.S.C. § 102(e) when the critical disclosures are also present in the corresponding patent; and (2) that the provisional application cannot be relied upon because it has not been properly incorporated by reference into Humpleman. *Id*.

With respect to the first argument, although Rovi is correct about the requirements that determine whether something is valid prior art, standing alone, we are not persuaded that Comcast has relied upon or asserted the Humpleman Provisional absent the Humpleman issued patent in the Petition. Comcast does not assert the former without asserting the latter, at least in terms of the grounds of unpatentability proffered in the Petition. Although Rovi is correct that Comcast has stated that "Humpleman Provisional is prior

art both as part of Humpleman and on its own" (Pet. 18), Rovi has not pointed to any other occurrence where Comcast has asserted Humpleman Provisional without also asserting Humpleman. As such, Rovi's argument is without basis because Comcast has not asserted Humpleman Provisional on its own, apart from its incorporation by reference into Humpleman, discussed below.

Rovi also contends that Humpleman Provisional is not properly incorporated by reference into Humpleman. PO Resp. 50–51. Rovi argues that Humpleman does not identify with particularity the specific material in the provisional applications asserted to be incorporated by reference or clearly indicate where that material is found in the incorporated applications, as required to incorporate material by reference. *Id*. (citing *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000)). We do not agree.

The relevant section of Humpleman is reproduced below:

> This patent application claims priority from provisional patent application Ser. No. 60/050,762, filed on Jun. 25, 1997, entitled Home Network, Browser Based, Command and Control and provisional patent application Ser. No. 60/059,499, filed on Sep. 22, 1997, entitled Improved Home Network, Browser Based, Command and Control, *which are incorporated herein by reference*.

Ex. 1006, 1:7–13 (emphasis added). From this cited disclosure, we find the patentee in Humpleman incorporated the entireties of both provisional applications by reference. If the intent was to incorporate only one provisional or just part of one provisional, then we would agree that sufficient particularity has not been supplied. However, a reasonable interpretation of such an incorporation by reference clause is that all of the

referenced provisional disclosures are incorporated. Similarly, there is no need to stipulate where particular material to be incorporated is found when that particular material is all.

Rovi also argues that such an incorporation by reference should include certain words, such as "*in its entirety*" or "[*t*]*he contents of*" or "*the disclosure of which*," in order to properly incorporate a reference's entire disclosure. PO Resp. 50–51 (citing *Synopsys, Inc. v. Mentor Graphics Corp.*, Case IPR2012-00041, slip op. at 9 (PTAB Feb. 22, 2014) (Paper 16); *WTS Paradigm, LLC v. EdgeAQ LLC*, Case IPR2016-00199, slip op. at 20–21 (PTAB May 22, 2016) (Paper 7); *Sony Corp. v. One-E-Way, Inc.*, Case IPR2016-01639, slip op. at 13 (PTAB Feb. 22, 2017) (Paper 8)).

We are not persuaded that the default rule should be that an incorporator need to specify an entirety of a reference to accomplish incorporation of all of a reference; rather, we are persuaded that limiting statements, if applicable, should be taken as limits on the full incorporation. We find edifying *Zenon Environmental, Inc. v. U.S. Filter Corp.*, 506 F.3d 1370, 1379 (Fed. Cir. 2007), which found "[t]he plain language expressly limits the incorporation to only relevant disclosures of the patents, indicating that the disclosures are not being incorporated in their entirety." In the instant case of Humpleman, we find no express limits on the incorporation, and, as a result, we determine that the incorporation of Humpleman Provisional into Humpleman involved the entire provisional application.

As such, we are not persuaded, as a matter of law, that Humpleman did not incorporate both provisional applications into its disclosure. Thus, we are persuaded that Humpleman Provisional can be relied upon for its

disclosure, having been properly incorporated by reference according to 37 C.F.R. § 1.57(c) into Humpleman.

C. Obviousness Over the Combined Teachings of Humpleman and Killian

Comcast contends that claims 1, 3–10, and 12–18 of the '413 Patent are unpatentable under § 103(a) over the combined teachings of Humpleman and Killian. Pet. 20–47. Comcast explains how this proffered combination teaches or suggests the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify or combine the references' respective teachings. *Id.* Comcast also relies upon the Declaration of Dr. Tjaden to support its positions. Ex. 1002 ¶¶ 95–192. In its Patent Owner Response, Rovi presents a number of arguments as to why the combined teachings of Humpleman and Killian do not render the limitations of independent claims 1 and 10 obvious. PO Resp. 16–51. Rovi relies upon the Declaration of Dr. Shamos to support his positions. Ex. 2011 ¶¶ 27–47, 85–96, 99–130.

We begin our analysis with the principles of law that generally apply to a ground based on obviousness, followed by an assessment of the level of skill in the art, proceeded by brief overviews of Humpleman and Killian, and then we address the parties' contentions with respect to the claims at issue in this asserted ground.

1. Principles of Law

A claim is unpatentable under § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We analyze this asserted ground based on obviousness with the principles identified above in mind.

2. Level of Skill in the Art

There is evidence in the record before us that enables us to determine the knowledge level of a person of ordinary skill in the art. Relying on the testimony of its declarant, Dr. Tjaden, Comcast asserts that a person of ordinary skill in the art as of July 17, 1998, which is the earliest priority date on the face of the '413 Patent, would be an individual who possesses the following:

> a bachelor's degree in computer science, electrical engineering, computer engineering, or a similar discipline, and two years of experience with interactive program guides, set-top boxes, mobile computer devices, and techniques for delivering content or program guides over communication networks, such as a cable system, a local-area network, and the Internet.

Pet. 12–13 (quoting Ex. 1002 ¶ 28). Alternatively, once again relying on the testimony of Dr. Tjaden, Comcast asserts that a person of ordinary skill in the art "could have had equivalent experience in industry or research, such as designing, developing, evaluating, testing, or implementing the aforementioned technologies." *Id.* at 13 (quoting Ex. 1002 ¶ 28). Conversely, Rovi's declarant, Dr. Shamos, does not offer an assessment of the level of skill in the art as of July 1998, nor does he explicitly state his

intent to adopt Dr. Tjaden's assessment. *See generally* Ex. 2011. Given Dr. Shamos's lack of testimony on this matter, we adopt Dr. Tjaden's assessment because it is consistent with the '413 Patent and the asserted prior art, and apply it to our obviousness evaluation below.

3. Humpleman Overview

Humpleman generally relates to the field of networks and, in particular, to home networks that have multi-media devices connected thereto. Ex. 1006, 1:16–18. One objective of Humpleman's invention is to provide a method for controlling a plurality of devices connected to a home network, where at least one of these devices is a multi-media device, and for generating a program guide from the information provided by the multi-media device on a second device connected to the home network. *Id.* at 2:23–28. The generated program guide may be a Hypertext Markup Language ("HTML") page that allows for selection of a specific program for recording on local equipment. *Id.* at 20:31–51. That HTML version is generated by a digital satellite services interface device ("DSS") that also displays a conventional electronic program guide. *Id.* at 22:21–59.

Humpleman claims priority to and incorporates by reference (*id.* at. 1:7–13) a provisional patent application (60/059,499; Ex. 1007), and provides further insight into the software structures disclosed. An annotated version of Figure 13 of that provisional patent application is reproduced below:

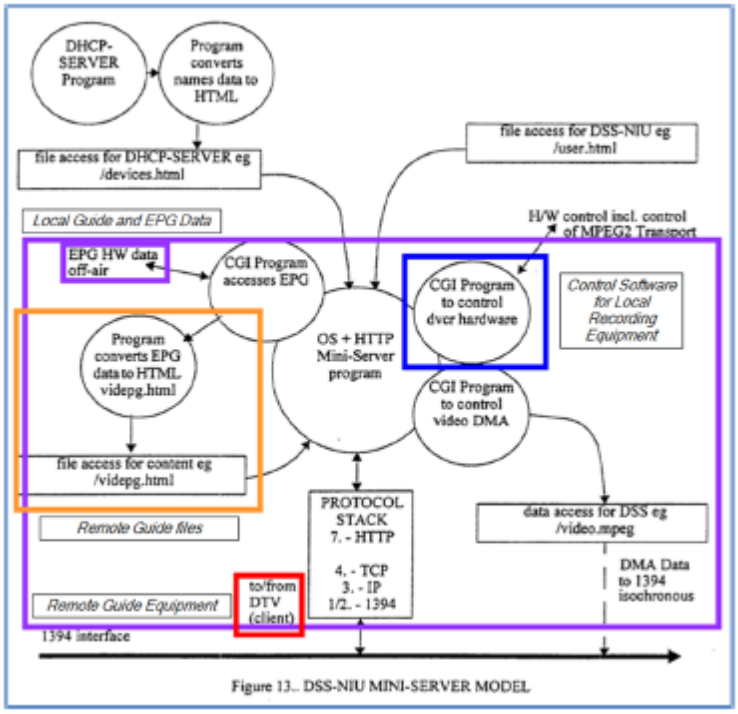


Figure 13.. DSS-NIU MINI-SERVER MODEL

This annotated version of Figure 13 illustrates portions that Comcast argues correspond to different claimed portions, with the local guide software and its data in purple, remote guide files in orange, control software for local recording equipment in blue, and referencing remote guide equipment in red. Pet. 21–22. The provisional application also makes clear that a message is sent to the DSS control application by the remote device over the Internet based on a selection by the user in the HTML program guide, instructing it to control hardware to record the selected program. Ex. 1007, 2–3.

According to Humpleman, a user may customize the programming information that is displayed by the program guide. Ex. 1006, 22:41–43. For instance, if a user prefers not to display the schedule for a particular channel because it contains inappropriate content, the user may request that the channel be removed from the program guide. *Id.* at 22:43–46. In addition, according to Humpleman, a user can remotely control devices

connected to the home network. *Id.* at 20:42–47. "For example, if a user is required to work late and is therefore unable to watch the Monday night football game, the user can program a [digital video cassette recorder ('DVCR')] connected to their home network via the Internet, in order to record the particular event." *Id.* at 20:47–51.

4. Killian Overview

Killian discloses an electronic programming guide ("EPG") that operates on a JAVA-based computing platform associated with a television and a video recorder. Ex. 1008, [57], 3:6–12, Fig. 1. A collection of application programming interfaces ("APIs") allow the platform to support JAVA applets or applications that provide interactive television programming. *Id.* at 3:18–27. In one embodiment, the platform supports an EPG JAVA applet or application "that allows viewers to more intelligently select, schedule, and record viewing opportunities according to viewer profiles" and other information received via the Internet. *Id.* at 3:27–33. The EPG can use other platform components to cause the video recorder to record programs. *Id.* at 15:5–18.

5. Claims 1 and 10[9]

In its Petition, Comcast contends that the person of ordinary skill in the art would have found it obvious to include interactive selection and control features in Humpleman's guide software on the DSS, with some of those associated functionalities already disclosed in the '413 Patent. Pet. 22–23 (citing Ex. 1001, 1:24–33). Comcast also argues that such functionalities are disclosed in Killian, and those aspects would have been implemented in Humpleman's system for several reasons. *Id*. at 23–25.

First, Comcast argues that Humpleman expressly teaches that its home control system is interoperable with conventional hardware, and that a DSS loaded with Killian's guide could and would be utilized in Humpleman's system, because Humpleman was designed to be layered on top of existing hardware and software installations. *Id*. at 24 (citing Ex. 1002 ¶ 103). Second, Comcast argues that Killian expressly teaches that the EPG modules implementing the recording control APIs could be integral to the functioning of external devices other than the receiver, which would have provided greater utility to Humpleman's network of remote devices. *Id*. (citing Ex. 1008, 15:53–16:7; Ex. 1002 ¶ 104). Lastly, Comcast argues that combining Killian with Humpleman would be nothing more than using known techniques to improve similar devices and a simple substitution of one known, closely-related element for another that produces predictable results. *Id*. at 25 (citing Ex. 1002 ¶¶ 105, 106).

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[9] Comcast contends that independent claims 1 and 10 stand or fall together. Pet. 9–10. Rovi does not dispute Comcast's assertion in this regard. *Accord* PO Resp. 23–52 (treating independent claims 1 and 10 as standing or falling together).

For added clarity, we highlight certain arguments presented by Comcast for each limitation recited in independent claim 1. We note that there is no dispute between the parties as to whether the limitations of independent claim 10 are essentially the same as the limitations of independent claim 1. *Compare* Pet. 9–10, 26, *with* PO Resp. 23–32.

Beginning with the preamble of independent claim 1, Comcast contends that Humpleman teaches "a system for selecting a television program over a remote access link comprising an Internet communications path for recording" because Humpleman discloses selecting programs for recording remotely via the Internet. Pet. 26 (citing Ex. 1006, 20:42–51; Ex. 1002 ¶¶ 110, 111). To support this argument, Comcast directs us to Humpleman's disclosure that, "[f]or example, if a user is required to work late and is therefore unable to watch the Monday night football game, the user can program a DVCR connected to their home network via the Internet, in order to record the particular event." *Id*. (quoting Ex. 1006, 20:42–51).

Comcast contends that Humpleman teaches "local interactive television program guide equipment on which a local interactive television program guide is implemented," as recited in independent claim 1, because Humpleman discloses that one controlled home device is a DSS including a vendor-supplied control application through which the DSS can retrieve and display a guide. *Id*. at 26–27 (citing Ex. 1006, 1:21–36, 19:46–55, 22:31–47; Ex. 1002 ¶¶ 113, 114).

Comcast also contends that that one of ordinary skill in the art would have understood that "typical program guides on set-top boxes at the time of invention provided interactive features," where Comcast contends that the '413 Patent admits as much. *Id*. at 27 (citing Ex. 1001, 1:24–35; Ex. 1002 ¶¶ 113–115). Comcast further contends that, to the extent Humpleman does not disclose expressly that the local guide allows a user to navigate through television program listings, make selections, and controls functions of the software, one of ordinary skill in the art would have found it obvious to implement an interactive guide on Humpleman's DSS at least because of the interactive guide software disclosed in Killian. *Id*. (citing Ex. 1008; Ex. 1002 ¶ 115).

Comcast contends that Killian discloses a receiver with a locally installed guide application, where that guide displays program schedules, allows for navigation through program listings, and controls the recording of selected programs. *Id*. at 27–28 (citing Ex. 1008, 3:7–33, 4:7–13, 6:32–56, 7:8–16, 7:49–61, 8:5–56, 13:12–21, 15:53–16:7; Ex. 1002 ¶¶ 116–118). Comcast asserts that it would have been obvious to one of ordinary skill in the art to implement Killian's local programming guide into Humpleman's system to provide "users with expected and typical control functionality," where the combination of the references would have been motivated by the express teachings of both Humpleman and Killian. *Id*. at 28 (citing Ex. 1006, 6:55–64, 19:46–55, 22:47–59; Ex. 1008, 15:53–16:7; Ex. 1002 ¶¶ 119–122). Comcast further asserts that the combination would have been nothing more than the use of known techniques to improve similar devices and a simple substitution of known elements to obtain predictable results—namely, to "allow[] viewers to more intelligently select, schedule, and record

their viewing opportunities." *Id*. (quoting Ex. 1008, 1:20–23; citing Ex. 1002 ¶ 120).

Comcast also contends that Humpleman teaches "wherein the local interactive television program guide generates a display of one or more program listing for display on a display device at a user's home," "and includes user television equipment," as recited in independent claim 1, because Humpleman discloses that its DSS equipment is "found in the home." *Id*. at 29 (quoting Ex. 1006, 1:21–31) (citing Ex. 1006, 1:21–36, 2:31–39, 22:30–46). Comcast further argues that Humpleman teaches wherein "the local interactive television program guide generates a display of one or more programs listings for display on a display device at the user's home," as recited in independent claim 1, because Humpleman discloses that the "EPG displays a list of available programs and the specific time in which the programs can be viewed through the service." *Id*. (quoting Ex. 1006, 22:30–46) (citing Ex. 1002 ¶¶ 124–128).

Comcast contends that Humpleman teaches "wherein a mobile device communicates with the local interactive television program guide equipment," as recited in independent claim 1, because Humpleman discloses that a digital television or personal computer ("PC") accesses HTML control pages to allow for remote access, such that a user at work uses his/her work PC to access the HTML control pages to select a particular event for recording by devices on his/her home network. *Id*. at 29–30 (citing Ex. 1006, 1:21–36, 7:25–35, 20:42–51; Ex. 1007, 3 ¶ 3, 14 ¶¶ 1–4; Ex. 1002 ¶¶ 131–138). Comcast also asserts that, to the extent Humpleman does not discloses expressly using a remote guide to allow a remote user to selecting programs for recording on his/her own Personal Computer, a person of

ordinary skill in the art would have "understood the advantages associated with providing an IPG user interface to allow users to select a program for recording via a user-friendly interface," and implementing those through Killian would have required the use of known techniques to improve a similar device and obtaining predictable results. *Id*. at 31 (citing Ex. 1008, 3:20–33, 4:7–13, 7:8–16, 13:12–21, Fig. 5; Ex. 1002 ¶¶ 134–136). Additionally, Comcast contends that Humpleman teaches "wherein the remote program guide access device is a mobile device," because Humpleman discloses that the controlling device may be a laptop computer. *Id*. at 30 (citing Ex. 1006, 1:21–36, 7:25–35; Ex. 1002 ¶ 137).

Comcast also contends that Humpleman teaches "generat[ing] a display of the remote access interactive television program guide, the remote access interactive television program guide comprising a plurality of television program listings for display on the mobile device," as recited in independent claim 1, because Humpleman generates a remote access HTML program guide based on EPG data underlying the EPG displayed by the DSS, where the HTML guide may be displayed on any browser-equipped device. *Id*. at 32 (citing Ex. 1006, 7:25–35, 20:40–52, 22:30–59; Ex. 1007, 21, Fig. 13; Ex. 1002 ¶ 13943). Comcast further contends that, although Humpleman and Humpleman Provisional each disclose an example where the client device is a digital television, they also disclose that the client device may be a computer outside the home, such as the user's work PC. *Id*. at 33 (citing Ex. 1007, 3, ¶3; Ex. 1006, 20:42–52; Ex. 1002 ¶ 143).

Comcast contends that Humpleman teaches "wherein the display of the remote access interactive television program guide is generated based on a user profile stored at a location remote from the mobile device," as recited

in independent claim 1, because Humpleman discloses that "the user can customize the displayed HTML program guide to view only a particular set of the available information," with Humpleman Provisional illustrating that a user interface can allow the user to view favorite channels. *Id*. at 33 (citing Ex. 1006, 22:47–59, 22:30–59; Ex. 1007, 7, Fig. 5). Comcast also contends that, to the extent that the claim term "user profiles" is narrowly limited, Killian also discloses "building a filtered guide based on a user profile data" and it would have been obvious to employ the conventional listing filtering techniques disclosed in Killian. *Id*. at 34–35 (citing Ex. 1008, 1:20–41, 7:49–61, 9:10–25, 11:20–21; Ex. 1002 ¶¶ 149–152). Comcast also asserts that it would have been obvious to utilize Killian's user profile data stored locally or remotely to implement the customized HTML program guides of Humpleman because this would have allowed the system to better track a user's preferences and generate more effective user interfaces, and would have entailed the use of a known technique to improve a similar feature to produce a predictable result. *Id*. at 35–36 (citing Ex. 1006, 2:31–39, 22:47–59; Ex. 1008, 9:10–25, 11:20–21; Ex. 1002 ¶¶ 145, 149–153).

Comcast also contends that Humpleman teaches "receiv[ing] a user selection of the television program for recording by the local interactive television program guide, wherein the user selects the television program by selecting a television program listing from the plurality of television program listings displayed, by the remote access interactive television program guide, on the mobile device," as recited in independent claim 1, because Humpleman discloses that once a selection is made via the HTML guide, "button 'click'" information is provided which the interface receives and passes along to the VCR to accomplish a recording of the selected

program. *Id*. at 36–37 (citing Ex. 1006, 14:5–14, 22:30–59; Ex. 1007, 2 ¶ 2, 4 ¶ 2; 6 ¶ 6, 10, 14 ¶ 4, Fig. 2; Ex. 1002 ¶¶ 155–158).

Comcast contends that Humpleman teaches "transmit[ting], to the local interactive television program guide over the Internet communications path, a communication identifying the television program for recording corresponding to the television program listing selected by the user with the remote access interactive television program guide," as recited in independent claim 1, because Humpleman discloses that a message is sent to the DSS control application by the remote device over the Internet in response to the user making a selection in a displayed HTML program guide, instructing it to control DVCR hardware to record the selected program. *Id*. at 37–38 (citing Ex. 1006, 20:42–51; Ex. 1007, 14 ¶¶ 1–4, 12 ¶ 1, Fig. 9; Ex. 1002 ¶¶ 161–165).

Lastly, Comcast contends that Humpleman teaches "wherein the local interactive television program guide receives the communication and, responsive to the communication, records the television program corresponding to the selected program listing using the local interactive television program guide equipment," as recited in independent claim 1, because Humpleman discloses that a user is allowed to schedule a recording for an event on local equipment from a remote location via the Internet. *Id*. at 40 (citing Ex. 1006, 20:42–51; Ex. 1002 ¶ 171). Comcast further argues that the Humpleman Provisional explains that it is desirable to allow users to set recordings solely through the DSS interface, rather than requiring the user to schedule a channel time on the DSS and then schedule a separate recording operation on the VCR. *Id*. (citing Ex. 1007, 12 ¶ 1, 14 ¶¶ 1–4; Ex. 1002 ¶ 171).

In its Patent Owner Response, Rovi presents a number of arguments that can be grouped as follows: (1) whether Comcast has demonstrated that Humpleman and Killian, either alone or in combination, account for all the limitations of independent claims 1 and 10; and (2) whether Comcast has demonstrated that a person of ordinary skill in the art would have had a sufficient reason to combine the teachings of Humpleman and Killian. *See* PO Resp. 23–48. We address these groupings of arguments in turn.

a. Limitations

i. Humpleman Teaches Two Interactive Television Program Guides in Communication with Each Other

Rovi contends that Humpleman "fails to disclose two guides, let alone two ***interactive*** program guides." PO Resp. 24 (emphasis in original). Rovi points out that "the claims do not allow for the remote access guide to bypass the Local IPG by communicating directly with the local interactive television program guide equipment," which Rovi alleges that Humpleman's system does. *See id*. at 24–26. Further, Rovi argues that, even assuming the two guides are present in Humpleman, the two guides are not in communication because Humpleman's disclosed HTML guide "communicates with a different software application on the DSS (the HTTP Mini-Server program) ***and not*** the alleged Local IPG." *Id*. at 25 (emphasis in original). Rovi also argues that the alleged remote guide in Humpleman does not transmit the recording request and the "dss server" is not part of the alleged local guide. *Id*. at 35–36 (citing Ex. 2011 ¶¶ 114, 120).

In its Reply, Comcast contends that "Humpleman has a local guide and a remote guide, that the guides would be made interactive in view of Killian, and that the guides would communicate to schedule recordings."

Pet. Reply 7. Additionally, Comcast asserts that the "dss server," referred to in Humpleman, is the full "DSS-NIU Mini-Server," and has been conflated by Rovi to merely encompass the "HTTP Mini-Server program." *Id*. at 7–8. Comcast also argues that the DSS-NIU Mini-Server must have additional control software to provide the specialized functionality of the One Touch Record feature of Humpleman Provisional, which would be inapplicable to other servers that do have record functions, such as DVD 108. *Id*. at 8–9 (citing Ex. 1052 ¶ 29; Ex. 1006, 6:31–37).

Comcast further argues, when the "dss server" is properly understood, Humpleman teaches that "the HTML user interfaces would be supplemental to the native user interfaces (such as the local EPG)," and uses would remain for the native user interfaces because they are more convenient and provide advanced functionality. *Id*. at 20.

Based on the record developed during trial, we disagree that DSS control application, or local guide of Humpleman, is confined to the HTTP Mini-Server program. *See* Dec. on Inst. 22. For this determination, we look to our construction of the claim term "interactive television program guide" above and, in particular, to Dr. Shamos's testimony in the related ITC proceedings. *See supra* Section II.A. By Dr. Shamos's own testimony, "the local interactive television guide . . . can comprise an extensive collection of hardware and software located both near the user and at the cable headend, or at other locations." Ex. 1054 ¶ 169.

When critical to a findings of fact, it is in the interest of justice to consider sworn inconsistent testimony on an identical issue when minimal burden for do so. *Ultratec, Inc. v. CaptionCall, LLC*, 872 F.3d 1267, 1275 (Fed. Cir. 2017) (holding that the Board abused its discretion during an *inter*

partes review when it refused to admit and consider an expert's inconsistent trial testimony from a relevant district court case). Therefore, when applying the proper construction of an "interactive television program guide," we agree with Comcast that the local guide may extend beyond just the software application on a HTTP Mini-Server program in Humpleman.

Additionally, Rovi contends that Humpleman teaches a single HTML program that does not communicate with any other program guide. PO Resp. 17–18, 24–25. We have previously decided, and Rovi does not appear to dispute, that Humpleman Provisional discloses communication between two guides. *See* Dec. on Inst. 22 (citing Ex. 1007, 2–3); discussion *supra* regarding "transmit" element of independent claim 1. As such, we are persuaded that the DSS control application and HTML program guide displayed on the remote device disclose a local guide and remote guide, respectively, in communication with each other.

Rovi also argues that Comcast's expert, Dr. Tjaden, cannot identify what he considers the local IPG within Humpleman, and suggests that this apparent confusion demonstrates that Comcast has not been clear about what portions of Humpleman constitute the local IPG. PO Resp. 26–31. Regardless of any apparent confusion at Dr. Tjaden's deposition, we remain persuaded that Comcast's analysis in the Petition is clear as to what portions of Humpleman are equivalent to the local and remote guides. *See* Pet. 20–23 ("Humpleman Provisional discloses that a message is sent to the DSS control application (i.e., the local guide) by the remote device over the Internet responsive to the user making a selection in a displayed HTML program guide (i.e., the remote guide), instructing it to control DVCR

hardware to record the selected program. (Ex-1007, p. 14, ¶4; Ex-1002, ¶97)").

Rovi also contends that Humpleman fails to disclose a conventional EPG because merely providing data to build the HTML program guide does not require a conventional EPG as recited in the claims. PO Resp. 32. Further, Rovi asserts that Humpleman does not disclose a conventional EPG because the language "[m]ost digital satellite services provide programming information through an Electronic Programming Guide (EPG)" says nothing about Humpleman's specific limitations. *Id*. at 31–32.

Although we agree with Rovi that the cited paragraph speaks to the general field of EPGs, this argument is not detrimental in consideration of Humpleman, as a whole. As Comcast points out, Humpleman Provisional describes software to access the off-air EPG hardware and system. Pet. Reply 12–13 (citing Ex. 1007, 22). We are persuaded that the off-air EPG hardware and system would function through the Humpleman system where televisions are offline or using specialized services such as pay-per-view. *See* Tr. 23:1–13; Pet. Reply 20. Further, we agree with Comcast that "nothing in Humpleman supports the conclusion that Humpleman's system would suppress the conventional EPG that it relies on to build its HTML program guide." Pet. Reply 13 (citing Ex. 1052 ¶¶ 30, 43). Additionally, under the rubric of obviousness, one of ordinary skill would have considered the disclosed, conventional EPG, even if its specific use in the system of Humpleman was not disclosed. "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332–33

(Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009 (CCPA 1968)).

Alternatively, Comcast argued at the Oral Hearing that "[w]e've used Humpleman and Killian in combination to show the local EPG." Tr. 24:6–20. We agree that the Petition supports this assertion. We are mindful, however, that considering arguments raised at oral argument may deprive a patent owner from substantively and properly responding to those arguments, which our reviewing Court has emphasized.

This case is distinct from circumstances previously considered by the Federal Circuit in which the Court found that new arguments or evidence introduced for the first time at an oral hearing may deprive the patent owner of its right to respond. *See In re Nuvasive*, 841 F.3d 966, 972–73 (Fed. Cir. 2016) (finding the Board's refusal to permit the patentee to file a motion for strike, a sur-reply, or present the new arguments during the final oral hearing violated the patent owner's due process and Administrative Procedure Act rights); *Dell Inc. v. Acceleron*, LLC, 818 F.3d 1293, 1301 (Fed. Cir. 2016) (holding the "Board denied [patent owner of] its procedural rights by relying in its decision on a factual assertion introduced into the proceeding only at oral argument, after [patent owner] could meaningfully respond"). While these cases provide circumstances in which a petitioner asserted new evidence in the reply or oral hearing, Comcast put the Rovi on notice of this argument in the Petition itself:

> It would have been obvious to incorporate the features of Killian's local IPG into Humpleman's local guide. A [person of ordinary skill in the art] would readily implement the conventional interactive features of Killian in Humpleman's

> local guide to provide users with expected and typical television control functionality through a local IPG. (Ex-1002, ¶¶ 119).

Pet. 28.

Thus, Comcast argues—and we agree—that Humpleman in view of Killian also teaches a local EPG. We determine that one of ordinary skill in the art would have sought to implement the interactive guide features taught by Killian, on both the remote guide, as well as the local guide, where Killian illustrates the display of a local electronic program guide on a television, i.e., a local guide. *See* Ex. 1008, 10:66–11:21, Fig. 5. As such, even if we were to assume that the specific system of Humpleman, as implemented, would not have had an electronic program guide like conventional digital satellite services, it would have been obvious to implement such a local electronic program guide in the combined system based on the disclosure of Killian.

To be clear, on either basis, i.e., relying on Humpleman's disclosure alone, i.e., Humpleman's teaching of a local EPG though its DSS, or in combination with Killian, such that the local EPG is rendered obvious in view of the combination of Humpleman and Killian, we determine that the resulting system would have a local EPG that would be distinct from the remote guide, and would meet the requirements of the claimed "local interactive television program guide."

ii. Remaining Limitations

In its Patent Owner Response, Rovi does not address separately whether the combined teaching of Humpleman and Killian account for the remaining limitations of independent claims 1 and 10. *See generally* PO Resp. 16–37. We have reviewed Comcast's explanations and supporting

evidence as to how this proffered combination teaches these remaining limitations, and we agree with and adopt Comcast's analysis. *See* Pet. 10–12, 20–47.

b. Comcast Presents a Sufficient Rationale to Combine the Teachings of Humpleman and Killian

Rovi contends that Comcast fails to explain how or why one of ordinary skill in the art would have been prompted to modify Humpleman's television schedule system to include Killian's viewer profiles. PO Resp. 38–39. Rovi further contends that a person of ordinary skill would not have modified either of Humpleman's alleged guides by incorporating features of Killian. *Id*. at 39. Rovi argues that "the very purpose of Humpleman is to eliminate any need to rely on conventional device-control interfaces and instead utilize the common HTML pages across all devices." *Id*. at 40 (citing Ex. 2011 ¶¶ 119–121) (emphasis omitted).

Rovi also relies on Dr. Shamos's testimony, that such a modification would be unnecessary, if not inapposite, in view of Humpleman's express purpose of replacing conventional EPGs with HTML guides, as showing that one of ordinary skill in the art would not have combined Humpleman and Killian. *Id*. at 39 (citing Ex. 2011 ¶¶ 119–121). Rovi further asserts that a person of ordinary skill in the art would not have looked to Killian because use of its device-specific guide is contrary to Humpleman's goal of utilizing a common HTML interface. *Id*. at 44. According to Rovi, Killian discloses a locally installed and implemented IPG, whereas Humpleman's HTML guides operate a client/server interface. *Id*. at 45–46. Thus, Rovi concludes that Killian's architecture "is fundamentally different from Humpleman's

system and would discourage [a person having ordinary skill in the art] from implementing Killian's interactive features in Humpleman." *Id*. at 45.

In its Reply, Comcast emphasizes that Killian is cited for limited features and would have been nothing more than using known techniques to improve similar devices in a similar manner, achieving the predictable result of a local guide that "allows viewers to more intelligently select, schedule, and record their viewing opportunities." Pet. Reply 19 (citing Pet. 25; Ex. 1008, 1:20–23; Ex. 1002, ¶¶ 105–106). Comcast also contends that a person of ordinary skill in the art would have readily integrated Killian's JAVA-based interactive program guide features into Humpleman's system. *Id*. at 21–22 (citing Ex. 1052 ¶ 44). To support this argument, Comcast asserts that Humpleman explicitly suggests JAVA-based systems could be implemented for presenting client interfaces. *Id*. (citing Ex.1006, 4:4–11). Comcast also contends that adding interactive features to either guide in Humpleman would have no impact on the principles of operation of Humpleman's system. *Id*. at 20 (citing Ex. 1052 ¶ 47).

The Supreme Court has held that an obviousness evaluation "cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents." *KSR*, 550 U.S. at 419. Instead, the relevant inquiry is whether Comcast has set forth "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), *cited with approval in KSR*, 550 U.S. at 418. When describing examples of what may constitute a sufficient rationale to combine, the Supreme Court elaborated that, "if a technique has been used to improve one device, and a person of

ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR*, 550 U.S. at 417.

Based on the record developed during trial, we agree with Comcast that one of ordinary skill in the art would have had a sufficient reason to implement Killian's enhancements in Humpleman's system. When, as here, a technique has been used to improve one device (i.e., Killian's interactive features), and one of ordinary skill in the art would have recognized that it would improve similar devices in the same way (i.e., applying Killian's interactive features to Humpleman's system, thereby allowing viewers to more intelligently select, schedule, and record their viewing opportunities), using the technique is obvious unless its actual application is beyond the skill level of an ordinary skilled artisan. *See* Pet. 23–25; Ex. 1002 ¶¶ 102–106. The record includes credible evidence explaining why applying Killian's features to Blake's system would not have been uniquely challenging or otherwise beyond the skill level of an ordinary skilled artisan. Comcast declarant, Dr. Tjaden, provides the necessary motivation for doing so—namely, "allowing viewers to more intelligently select, schedule, and record their viewing opportunities." Ex. 1002 ¶ 106.

Also based on the record developed during trial, we are persuaded by Comcast that a person having ordinary skill in the art would have known that a JAVA-based system, such as the one taught by Killian, could be used to implement a client interface because Humpleman explicitly instructs a person having ordinary skill in the art to do so. Comcast points out the relevant section of Humpleman, which is reproduced below:

> In an exemplary embodiment of the present invention, a browser based home network uses Internet technology to control and command home devices that are connected to a home network. Each home device contains interface data (e.g. . . . JAVA . . .or any other format useful for the intended purpose) that provides an interface for the commanding and controlling of the home device over the home network.

See Pet. Reply 21 (citing Ex. 1006, 4:4–11) (emphasis added). Contrary to Rovi's argument that "the very purpose of Humpleman is to eliminate any need to rely on conventional device control interfaces and instead utilize the common HTML pages across all devices" (PO Resp. 40), Humpleman explicitly contemplates an embodiment in which the interface utilizes JAVA to provide the client interface. *See* Ex. 1006, 4:4–11.

Further, Rovi argues that a person of ordinary skill in the art would not have modified Humpleman's HTML pages to incorporate Killian's interactive features. PO Resp. 41. According to Rovi, "[t]he HTML guide approach 'neatly solves the [graphical user interface] problem by making the DTV a rendering browser and no interface command set is needed for human control of the home network device,'" and that Humpleman implements a session manager to access HTML pages. *Id*. at 42–44 (citing Ex. 1007, 16). In its Reply, Comcast argues that "there is no reason to conclude that Humpleman's HTML user interfaces would replace every native user interface on household devices." Pet. Reply 20 (citing Ex. 1052 ¶¶ 11, 30, 43). Comcast also argues that "the session manager would still require each client to generate a rendered interface to facilitate [an] interaction." *Id*. at 22 (citing Ex. 1052 ¶¶ 45–47).

Based on the record developed during trial, we are persuaded by Comcast that it would have been obvious to implement Humpleman's session manager using Killian's interactive features. Comcast declarant, Dr. Tjaden,

provides the necessary motivation for implementing Killian's interactive features—namely, "Humpleman expressly teaches the use of JAVA and JAVASCRIPT programming languages to implement functionality on its devices, as each device requires an interface of some kind in order to facilitate interaction with a user and/or other devices." Ex. 1052 ¶ 44. As such, we are persuaded that one of ordinary skill in the art would have found it obvious to improve the guides of Humpleman with the interactive features of Killian because it would have been obvious to one of ordinary skill in the art to incorporate Killian's explicitly interactive program guides into Humpleman system that allows for remote and local programming of connected devices. *See* Pet. 24–25.

c. Summary

In summary, Comcast has demonstrated by a preponderance of the evidence that the subject matter of independent claims 1 and 10 would have been obvious over the combined teachings of Humpleman and Killian.

6. Claims 3–9 and 12–18

In its Patent Owner Response, Rovi does not address separately whether the combined teaching of Humpleman and Killian account for the limitations of dependent claims 3–9 and 12–18. *See generally* PO Resp. 23–47. We have reviewed Comcast's explanations and supporting evidence as to how this proffered combination teaches these limitations, as well as its explanations as to how one ordinary skill in the art would have combined the relevant teachings of Humpleman with those of Killian, and we agree with and adopt Comcast's analysis. *See* Pet. 41–47. Comcast, therefore, has demonstrated a by a preponderance of the evidence that the subject matter of

dependent claims 3–9 and 12–18 would have been obvious over the combined teachings of Humpleman and Killian.

D. Obviousness Over the Combined Teachings of Humpleman, Killian, and Lawler

Comcast contends that claims 2 and 11 of the '413 Patent are unpatentable under § 103(a) over the combined teachings of Humpleman, Killian, and Lawler. Pet. 47–48. Comcast explains how this proffered combination teaches or suggests the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify or combine the references' respective teachings. *Id.* Comcast also relies upon the Declaration of Dr. Tjaden to support its positions. Ex. 1002 ¶¶ 200–204. In its Patent Owner Response, Rovi contends that Comcast does not present sufficient reasoning as to why one of ordinary skill in the art would combine the teachings of Lawler with those of Humpleman and Killian. PO Resp. 47–48. Rovi relies upon the Declaration of Dr. Shamos to support his positions. Ex. 2011 ¶¶ 124–130.

We begin our analysis with a brief overview of Lawler, and then we address the parties' contentions with respect to the claims at issue in this asserted ground.

1. Lawler Overview

Lawler generally relates to a system for recording a program on an interactive viewing system and, in particular, to a system that allows a user to identify a program for recording using an interactive program guide and then designate the identified program for automated recording at some later time. Ex. 1009, 1:8–13. According to one aspect of the invention disclosed

in Lawler, the recording device is associated with a head end. *Id.* at 2:24–25. At the direction of the head end, the recording device records the selected program and digitally stores it in a memory at the head end. *Id.* at 2:25–27. The recorded program may then be retrieved from the head end by the user for display at a viewer station. *Id.* at 2:27–29. Lawler discloses that this process would allow multiple users to access a single recording of the program, as well as make the program available to other users who did not set the recording, but nonetheless wish to view the program at some later time. *Id.* at 13:34–38.

2. Claims 2 and 11

Dependent claim 2 recites "wherein local interactive television program guide records the television program corresponding to the selected television program listing at a television distribution facility." Ex. 1001, 40:48–51. Dependent claim 11 also recites a similar limitation. *Id.* at 42:12–15.

In its Petition, Comcast contends that Lawler teaches recording programs at a central head end (i.e., a television distribution facility) in lieu of recording programs locally. Pet. 48 (citing Ex. 1009, 2:25–29, 13:26–38; Ex. 1002 ¶¶ 202–203). Comcast then argues that, as a substitute for recording programs locally, it would have been obvious to modify Humpleman and Killian combination to include recording programs at a television distribution facility, as taught by Lawler, because there are certain advantages to recording programs at the television distribution facility, such as making recorded programs available for other subscribers and eliminating the need for a separate recorder. *Id.* at 48 (citing Ex. 1002 ¶¶ 203–204). According to Comcast, this proffered combination would be nothing more

than using a known technique (i.e., Lawler's centralized recording at a television distribution facility) to improve a similar system (i.e., the combined Humpleman and Killian television schedule system), and would produce a predictable result that provides the stated benefits of Lawler. *Id.*

In its Patent Owner Response, Rovi contends that Lawler's recording of programs at a television distribution facility would undermine Humpleman's stated goals by eliminating the user's ability to identify all available content on the home network. PO Resp. 47. Rovi argues that Humpleman discloses the creation of HTML guides for each home device that stores multimedia materials, and that Comcast's proposed combination (i.e., moving the recording device to a remote location) would eliminate the home network's ability to identify watchable content. *Id*. at 47–48 (citing Ex. 1006, 2:19–22, 22:60–23:10; Ex. 2011 ¶¶ 124–130).

In its Reply, Comcast counters that Rovi has identified only one object of Humpleman, among many others, and that the content material, which is "*associated with* a home device *connected to* the home network," need not be located within the home or even on the home network. Pet. Reply 23–24 (citing Ex. 1006, 15:25–32, 14:19–59). Comcast argues that Humpleman identifies program listings for content originating from broadcast sources, and the physical storage of content at a television distribution facility would not preclude the content from being accessible and viewable within the home. *Id*. at 24 (citing Ex. 1052 ¶¶ 48–49).

As an initial matter, Rovi does not address separately Comcast's explanations and supporting evidence as to how the combined teachings of Humpleman, Killian, and Lawler account for the limitations of dependent claims 2 and 11. *See generally* PO. Resp. 47–48. We have reviewed

Comcast's explanations and supporting evidence as to how this proffered combination teaches these limitations, and we agree with and adopt Comcast's analysis. *See* Pet. 47–48.

Based on the record developed during trial, we agree with Comcast that that one of ordinary skill in the art would have had a sufficient reason to modify the combined television schedule system of Humpleman and Killian to include recording programs at a television distribution facility, as taught by Lawler. When, as here, a technique has been used to improve one device (i.e., Lawler's centralized recording at a television distribution facility), and one of ordinary skill in the art would have recognized that it would improve similar devices in the same way (i.e., applying Lawler's technique to the combined television schedule system of Humpleman and Killian to make recorded programs available for other subscribers and to eliminate the need for a separate recorder), using the technique is obvious unless its actual application is beyond the skill level of an ordinary skilled artisan. *See* Pet. 47–48; Ex. 1002 ¶¶ 200–204. The record includes credible evidence explaining why applying Lawler's technique to the combined television schedule system of Humpleman and Killian to make recorded programs available to multiple subscribers at a television distribution facility would not have been uniquely challenging or otherwise beyond the skill level of an ordinary skilled artisan. Indeed, Lawler itself provides the necessary motivation for doing so—namely, "[to] allow multiple users to access a single recording of the program." Ex. 1009, 13:33–35.

We do not agree with Rovi's argument that Lawler's recording of programs at a television distribution facility would undermine Humpleman's stated goals by eliminating the user's ability to identify all available content

on the home network. Although Rovi posits that moving the recording device to a remote location would eliminate the home network's ability to identify watchable content, the combined system could still identify all the watchable content, even if the content is not stored locally. In other words, the watchable material associated with a home device need not reside on that home device, similarly to the way that pay-per-view material need not reside on the local device, although it can be associated with that local device. As Dr. Tjaden testifies—and we agree—Humpleman's home program guide would not logically exclude content external to the home network, as Rovi proposes, because it includes content delivered by broadcast sources (i.e., external to the home network). *See* Ex. 1052 ¶ 48.

In summary, Comcast has demonstrated by a preponderance of the evidence that the subject matter of dependent claims 2 and 11 would have been obvious over the combined teachings of Humpleman, Killian, and Lawler.

E. Obviousness Over the Combined Teachings of Kondo, Killian, and Kawamura

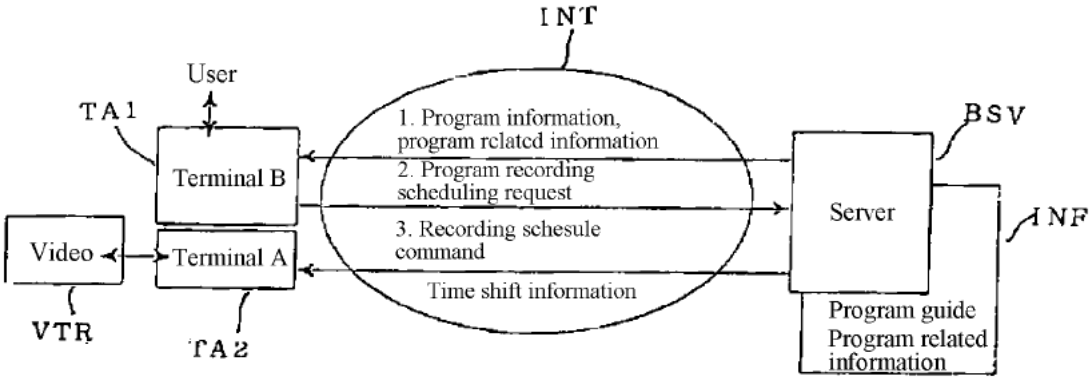
Comcast contends that claims 1, 3–10, and 12–18 of the '413 Patent are unpatentable under § 103(a) over the combined teachings of Kondo, Killian, and Kawamura. Pet. 49–72. Comcast explains how this proffered combination teaches or suggests the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify or combine the references' respective teachings. *Id.* Comcast also relies upon the Declaration of Dr. Tjaden to support its positions. Ex. 1002 ¶¶ 210–294. As we explain in our Introduction section

above, the parties waived briefing on this ground, as well as consideration of this ground at the consolidated oral hearing. *See supra* Section I. For the reasons discussed below, we are not persuaded that Comcast sufficiently demonstrates that the combined teachings of Kondo, Killian, and Kawamura teach or suggest all of the limitations of independent claims 1 and 10.

We begin our analysis with brief overviews of Kondo and Kawamura, and then we address whether Comcast demonstrates that the teachings of Kondo, Killian, and Kawamura teach or suggest all of the limitations of the independent claims.

1. Kondo Overview

Kondo describes a network service system that allows a user to schedule television program recordings on the user's home video recorder over the Internet using a communication terminal connected to a server. Ex. 1012, [57], ¶ 8. Figure 1 of Kondo, reproduced below, illustrates an embodiment of the network service system disclosed in Kondo.

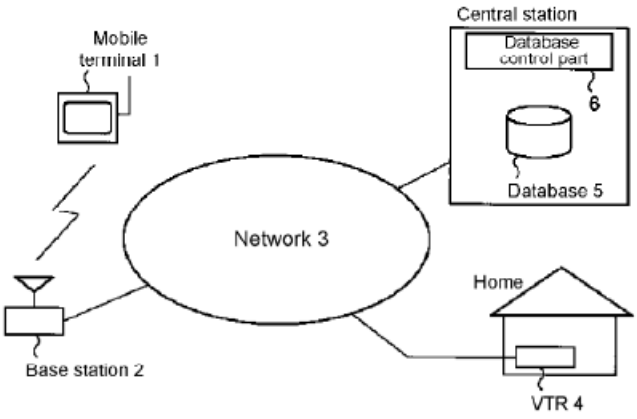


As shown in Figure 1 reproduced above, Kondo's system includes first communication terminal TA1 (also labeled "Terminal B") and second communication terminal TA2 (also labeled "Terminal A"), both of which

communicate with server BSV via network INT. *Id.* ¶¶ 10, 12. Communication terminal TA1 is a "general communication terminal," and communication terminal TA2 connects to videotape recorder VTR. *Id.* ¶¶ 10, 11. To schedule video recording, a user may use terminal TA1 to access server BSV via network INT to acquire a broadcast program guide stored on server BSV and select a program for recording. *Id.* ¶ 12. When a user selects a program for recording from terminal TA1, server BSV sends a recording command to terminal TA2 to schedule a recording on videotape recorder VTR. *Id.* ¶¶ 13, 14. A user also can use terminal TA2 to acquire a broadcast program guide from server BSV and then select a program for recording on videotape recorder VTR. *Id.* ¶¶ 12, 13.

2. Kawamura Overview

Kawamura describes a remote control system that allows a user to control a videotape recorder ("VTR") in the user's home by operating a remote mobile terminal. Ex. 1014 ¶¶ 1, 23. Figure 1 of Kawamura, reproduced below, illustrates one embodiment of the remote control system described in Kawamura.



As shown in Figure 1 reproduced above, Kawamura's system includes mobile terminal 1 connected to network 3 by way of base station 2. *Id.* ¶ 24. Database 5 contains a listing of television broadcast programs, or information relating to the content of each program, and is connected to network 3. *Id.* ¶ 27. When a user who is away from home wishes to schedule a program recording on VTR 4, but does not know the channel or time of the program, the user can use mobile terminal 1 to access database 5 by way of network 3. *Id.* ¶¶ 30–31. Mobile terminal 1 displays program listing information obtained from database 5. *Id.* ¶ 32. The user refers to the displayed program listing and schedules a recording of the desired program by transmitting the broadcast channel, starting time, and other confirmed information to VTR 4. *Id.* ¶ 33.

3. Claims 1 and 10

Comcast generally relies on Kondo for teaching the system of independent claim 1. Pet. 43–45. Comcast also cites Killian and Kawamura for teaching certain details regarding the claimed "local interactive television program guide" and "remote access interactive television program guide," respectively. *Id.* at 49–51.

Of particular importance to this ground, independent claim 1 recites, in relevant part, that the mobile device "transmits, *to* the *local* interactive television program guide over the Internet communications path, a communication identifying the television program for recording corresponding to the television program listing *selected* by the user *with* the *remote access* interactive television program guide." Ex. 1001, 40:37–42 (emphases added). Similar limitations are also found in independent claim

10.

With respect to this limitation, Comcast argues that, in Kondo, a recording request for a program is transmitted from terminal TA1 to server BSV to schedule a reservation, wherein server BSV then sends a reservation command to local terminal TA2 to schedule a recording on a connected videotape recorder VTR. Pet. 65 (citing Ex. 1012 ¶¶ 12–14). As discussed in our Decision on Institution, it is not clear to us whether Kondo teaches two guides in communication with each other, nor is it clear that Comcast has demonstrated, by a preponderance of the evidence, that Comcast's citation of one terminal communicating with another, via server BSV, meets the communications between two guides required by independent claim 1. *See* Dec. on Inst. 33–34.

Kondo makes clear that a user may use either communication terminal, TA1 or TA2, to access the broadcast program guide and request scheduling of a specific program recording. Ex. 1012 ¶ 12. If the user is at terminal TA2, the recording request is locally routed to a connected VTR, i.e., independent claim 1 would not be satisfied. *Id.* ¶ 13. If the user is at terminal TA1, the request is sent to terminal TA2 for subsequent recording. *Id.* However, Kondo only specifies the acquisition of the broadcast program guide or the information related to the broadcast programs to the terminal that the user is at. There is no apparent disclosure of any guide being acquired by the unattended terminal. Thus, if the user is at terminal TA1, with a guide thereon, there would be no need for terminal TA2 to have the same or similar guide connected to the VTR. As such, both terminals TA1 and TA2 would not need to have guides resident at each, and, therefore, there would be no way for such guides to transmit or receive a

communication over an Internet communication path to each other.

In addition, given the nature of the recording request, there would be no need for the receiving terminal, TA2, to necessarily have a program guide, interactive or not. Terminal TA2 could process the recording request without the need for a broadcast programming guide. Additionally, even if users were at both terminals TA1 and TA2, requesting recordings, i.e., so that both terminals would have guides implemented thereon, there would be no reason that a recording request received from a remote terminal would be processed by the local guide and not merely some other portion of the terminal.

As well, the additional disclosures of Killian and Kawamura, with their additional details about interactive guide features, would not require the presence of a guide at each terminal, nor do they teach or suggest communication between two separate guides. Comcast has also failed to provide any suggestion or motivation for each terminal in Kondo possessing its own guide, with those guides themselves exchanging communications.

In summary, Comcast has not presented sufficient argument or evidence to support its position that the combined teachings of Kondo, Killian, and Kawamura teach or suggest all of the limitations of independent claims 1 and 10. Accordingly, Comcast has not demonstrated by a preponderance of the evidence that the subject matter of independent claims 1 and 10 would have been obvious over the combined teachings of Kondo, Killian, and Kawamura.

4. Claims 3–9 and 12–18

Because we determine that Comcast has not demonstrated that the teachings of Kondo, Killian, and Kawamura account for all of the limitations

of independent claims 1 and 10, Comcast has also not demonstrated a reasonable likelihood that it would prevail on its assertion that the subject matter of dependent claims 3–9 and 12–18 would have been obvious over the combined teachings of Kondo, Killian, and Kawamura.

F. Remaining Obviousness Ground Based on the Teachings of Kondo, Killian, Kawamura, and Lawler

Comcast also contends that claims 2 and 11 of the '413 Patent are unpatentable under § 103(a) over the combined teachings of Kondo, Killian, Kawamura, and Lawler. Pet. 72–73. Because we determine that Comcast has not demonstrated that the teachings of Kondo, Killian, and Kawamura account for all of the limitations of independent claims 1 and 10, as discussed above, Comcast has not demonstrated by a preponderance of the evidence that the subject matter of dependent claims 2 and 11 would have been obvious over the combined teachings of Kondo, Killian, Kawamura, and Lawler.

III. CONCLUSIONS

Comcast has demonstrated by a preponderance of the evidence that (1) claims 1, 3–10, and 12–18 are unpatentable under § 103(a) over the combined teachings of Humpleman and Killian; and (2) claims 2 and 11 are unpatentable under § 103(a) over the combined teachings of Humpleman, Killian, and Lawler. Comcast, however, has not demonstrated by a preponderance of the evidence that (1) claims 1, 3–10, and 12–18 are unpatentable under § 103(a) over the combined teachings of Kondo, Killian,

and Kawamura; and (2) claims 2 and 11 are unpatentable under § 103(a) over the combined teachings of Kondo, Killian, Kawamura, and Lawler.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that claims 1–18 of the '413 Patent are held to be unpatentable; and

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

For PETITIONER:

Frederic M. Meeker
Bradley C. Wright
Scott M. Kelly
Azuka C. Dike
Joshua Davenport
Jared Radkiewicz
Camille Sauer
BANNER AND WITCOFF, LTD.
fmeeker@bannerwitcoff.com
bwright@bannerwitcoff.com
skelly@bannerwitcoff.com
adike@bannerwitcoff.com
jdavenport@bannerwitcoff.com
jradkiewicz@bannerwitcoff.com
csauer@bannerwitcoff.com

For PATENT OWNER:

Mark D. Rowland
Gabrielle E. Higgins
Scott A. McKeown
Scott S. Taylor
Andrew Sutton
James Batchelder (*pro hac vice*)
Josef Schenker (*pro hac vice*)
Henry Huang (*pro hac vice*)
David Chun (*pro hac vice*)
ROPES & GRAY LLP
Mark.Rowland@ropesgray.com
Gabrielle.Higgins@ropesgray.com
Scott.McKeown@ropesgray.com
Scott.Taylor@ropesgray.com
Andrew.Sutton@ropesgray.com
James.Batchelder@ropesgray.com
Josef.Schenker@ropesgray.com
Henry.Huang@ropesgray.com
David.Chun@ropesgray.com