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Paper No. 36
Filed: October 16, 2018

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 IPR2017-01050
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. 1201, "the '413 Patent"). Paper 2 ("Pet."). Patent Owner, Rovi Guides, Inc. ("Rovi"), filed a Preliminary Response. Paper 6. 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 and all the grounds presented the Petition. Paper 8 ("Dec. on Inst.").

During the course of trial, Rovi filed a Patent Owner Response (Paper 14, "PO Resp."), and Comcast filed a Reply to the Patent Owner Response (Paper 25, "Pet. Reply"). A consolidated oral hearing with related Cases IPR2017-00950, IPR2017-00951, IPR2017-00952, IPR2017-01048, IPR2017-01049, 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.").

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).

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 IPR2017-01048 and IPR2017-01049). 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. 1201, [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. 1201, 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. 1201, 7:15–39.

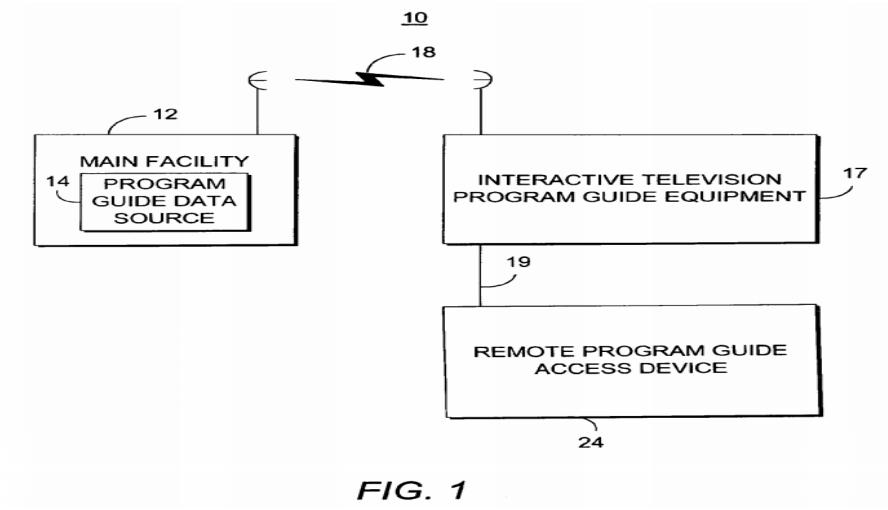


FIG. 1

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. 1201, 8:16–34.

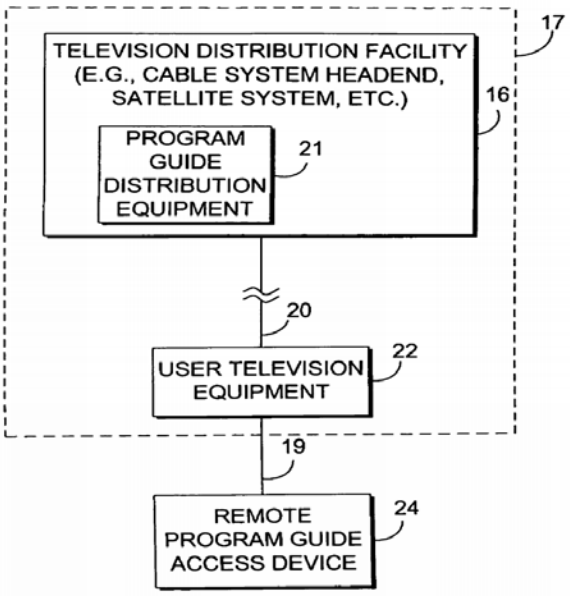


FIG. 2a

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. Ex. 1201, 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. 1201, 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 claim 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. 1201, 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. 35.

References	Basis	Challenged Claims
Blake[1,2] and Killian [3]	§ 103(a)	1, 3–10, and 12–18
Blake, Killian, and Lawler[4]	§ 103(a)	2 and 11

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

[1] PCT Int'l Pub. No. WO 98/10589; filed Sept. 2, 1997, published Mar. 12, 1998 (Ex. 1222, "Blake").

[2] Blake incorporates by reference U.S. Patent No. 4,706,121 (Ex. 1223, "Young").

[3] U.S. Patent No. 6,163,316; issued Dec. 19, 2000 (Ex. 1208, "Killian").

[4] U.S. Patent No. 5,805,763, issued Sept. 8, 1998 (Ex. 1209, "Lawler").

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 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. 9. Rovi, however, proposes that the proper constructions for these claims 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*. at 10. 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 10–11 (citing Ex. 2201, 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. 11. Rovi asserts that, because each of Comcast's asserted grounds fails under 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 11–14.[5]

In its Reply, Comcast counters with the following: (1) its arguments apply the broadest reasonable interpretation standard; (2) it relies on Rovi's arguments from the related ITC proceeding regarding the proper scope and meaning of the claim terms "local/remote access interactive television program guides" as evidence of the broadest reasonable interpretation of these claims terms in this proceeding; and (3) it disagrees with Rovi's proposed constructions both in this proceeding and in the ITC proceeding. Pet. Reply 1 n.1.

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. 10. On the other hand, Rovi argues that both our constructions and the ITC's constructions "are consistent with

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[5] For the first time at the oral hearing, 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 9, 3 (cautioning Rovi that "any arguments for patentability not raised in the response will be deemed waived").

respect to the relevant aspects (e.g., navigation and selection)" of a local/remote access interactive television program guide. *Id.* at 11. 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 the proceeding." *Id*. (emphasis added); *see also* Ex. 2211 ¶ 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 the proper scope and meaning of the 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. 1201, 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 the plain language of independent claims 1 and 10 indicates 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. 1201, 12:20–23 ("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. 9 (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')," but readily admits that "these additions merely restate the language of the broader claim limitation[s]." PO Resp. 14 (citing Ex. 2201, 193, 198, 409). 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 includes user television equipment."[6]

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. 1202 ¶ 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. 1245, 56; Ex. 1246, 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. 1252 ¶ 15. To support this testimony, he directs us to the different arrangements of software and hardware in the '413 Patent. *Id.* (citing Ex. 1201, 7:16–19, 33–35, 43–47, 9:36–38, 10:41–48, Figs. 1, 2a–2d).

Dr. Shamos's Declaration in the ITC proceeding serves as further evidence as to what element or elements constitute a "guide." Although we

[6] 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.

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 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 testifies that the claim term "local interactive television program guide" could be an "extensive collection of hardware and software." Ex. 1254 ¶ 169. He also testifies "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 exclude 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 suggests 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. 11. 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. 1201, 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. Obviousness Over the Combined Teachings of Blake 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 Blake and Killian. Pet. 21–59. 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. 1202 ¶¶ 94–212. In its Patent Owner Response, Rovi presents a number of arguments as to why the combined teachings of Blake and Killian do not render the limitations of independent claims 1 and 10 obvious. PO Resp. 20–41. Rovi relies upon the Declaration of Dr. Shamos to support its positions. Ex. 2211 ¶¶ 97–99, 161–191.

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, followed by brief overviews of Blake 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. 14–15 (quoting Ex. 1202 ¶ 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 [these] technologies." *Id*. at 15 (quoting Ex. 1202 ¶ 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. 2211. Given Dr. Shamos's silence 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. Blake Overview

Blake generally relates to a television schedule system with enhanced recording capability. Ex. 1222, 1:17–19. Blake specifically describes the enhanced recording capability with reference to Figures 12 and 13. *Id*. at 16:11–18:29.

Figure 12 of Blake is reproduced below:

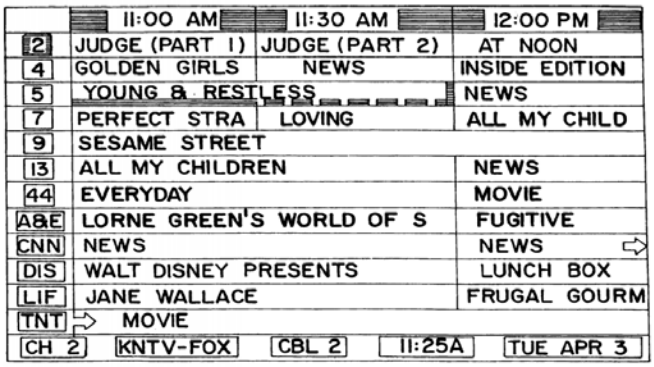


FIG. 12.

Figure 12 of Blake illustrates an example of a television schedule guide that provides television schedule information in a grid-like display on a television screen. Ex. 1222, 16:12–14. Through a user interface, a user may scroll through the television schedule information and may tune to a program by highlighting and selecting a program displayed in the guide. *Id.* at 16:17–19. Also, the user may select one or more programs for automatic, unattended recording. *Id.* at 16:17–19, 16:22–25. Peripheral devices—which may be televisions, video cassette recorders ("VCRs"), or set-top boxes—store time and channel information entries for programs to be recorded. *Id.* at 4:28–30, 16:26–28.

Blake incorporates by reference the entirety of Young. Ex. 1222, 2:3–5. Blake presents Young as background information and describes it in similar terms to that of Figure 12—namely, Blake explains that Young discloses a system that provides television schedule information on a user's television screen, and allows for user selection of programs and the automatic, unattended recording of programs that are listed in the television schedule information. *Id.* at 1:23–24, 1:27–30.

Figure 13 of Blake is reproduced below:

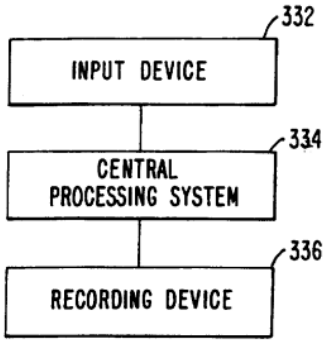


FIG. 13.

Figure 13 of Blake illustrates an arrangement for scheduling recordings from a remote location. Ex. 1222, 4:5–6. According to Blake, the user's ability to schedule recordings from a remote location enhances the recording capability of the schedule guide. *Id.* at 17:1–2. In Figure 13, a user who is away from home employs input device 332 to access and communicably connect to central processing system 334. *Id.* at 17:3–5. Input device 332 may be any device capable of transmitting data from a remote location, including a personal or laptop computer or cellular telephone. *Id.* at 17:5–8. Recording device 336 may be a VCR or any device with video and/or audio recording capabilities. *Id.* at 17:19–21.

Input device 332 transmits user input in one of several forms, including: a code; channel, date, time, and length information; the title; or theme data. Ex. 1222, Claims 4–7, 17:8–10, 17:15–16, 17:25–26, 18:1–2. Where the input information is theme data, the user first chooses to select a program to record by themes. *Id.* at 18:5–7. For example, if the user wishes to record the Chicago Bulls v. Los Angeles Lakers game, the user selects sports when presented with a list of theme selections, and further selects

basketball. *Id.* at 18:5–8. The user is presented with a list of basketball games that are either being played or are scheduled to be played, and then selects the Bulls v. Lakers game. *Id.* at 18:8–10. Alternatively, the user may enter "Bulls," and processing system 334 will present a list of Bulls games, and the user may select one or more of the games to record. *Id.* at 18:10–12. The input data are received by processing system 334, which stores the information and activates recording device 336 to record the program at the appropriate time. *Id.* at Claim 1, 17:10–19, 17:29–30, 18:12–16.

4. Killian Overview

Killian generally relates to an electronic programming guide that operates on a computing platform using information from the Internet for display on a television. Ex. 1208, 2:1–3, 3:18–23. Killian uses viewer profiles to generate a preferred programming schedule that allows viewers to more intelligently select programs that may be desirable for viewing or recording. *Id.* at 10:61–66. Each viewer associated with a television receiver may generate a viewer profile for storage in a database, and the database may include an arrangement of information at one or more locations that are integral to or separate from the television receiver. *Id.* at 9:10–25. The preferred schedule that is generated according to the user profile indicates the desirability of a particular program relative to other programs. *Id.* at 2:11–12.

5. Claims 1 and 10[7]

In its Petition, Comcast contends that Blake's television schedule system accounts for each of the limitations recited in independent claims 1 and 10. Pet. 21–50 (citing Ex. 1222, 4:24–30, 17:1–21, 18:1–16, Figs. 12–13; Ex. 1202 ¶¶ 71–78, 86–88, 94–109, 114–117, 120–180); *id.* at 30–31 (showing correspondence among the limitations in the independent claims). For instance, Comcast relies on Blake's illustration of a television schedule guide in Figure 12 as an example of a display generated by a "local interactive television program guide." *Id.* at 23–24. Comcast also relies on Blake's input device 332 as a "mobile device" (*id.* at 27, 39), and the ability of the user in Blake to select a program to record according to themes, which allows for navigating program listings and making program selections, as establishing a "remote access interactive television program guide" (*id.* at 25–26).

To the extent Blake does not disclose certain limitations, Comcast presents alternative arguments. Pet. 36–38 ("remote access interactive television program guide"); *id.* at 28–30 ("user profile"); *id.* at 32 ("Internet communications path"); *id.* at 47–49 ("local interactive television program guide"). Of particular importance to this case, Comcast relies on Killian's viewer profiles (i.e., user profile data) to teach the claimed "user profile." *Id.* at 28–30. Here, Comcast argues that it would have been obvious to one of ordinary skill in the art to implement Killian's viewer profiles in the

[7] Comcast contends that independent claims 1 and 10 stand or fall together. Pet. 11–12. Rovi does not dispute Comcast's assertion in this regard. *Accord* PO Resp. 20–41 (treating independent claims 1 and 10 as standing or falling together).

remote user interface on Blake's input device 332 to better track a user's preferences and generate more effective user interfaces that better identify desired/undesired content. *Id.*

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. 11–12, *with* PO Resp. 20–41. Beginning with the preamble of independent claim 1, Comcast contends that Blake teaches "[a] system for selecting television programs over a remote access link comprising an Internet communications path for recording" because Blake discloses selecting programs for recording using a remote user interface on input device 332. Pet. 31 (citing Ex. 1222, 18:1–10; Ex. 1202 ¶¶ 114, 115). According to Comcast, these selections are sent to central processing system 334, which, in turn, stores program selections made remotely and activates recording device 336 to record the selected program. *Id*. (citing Ex. 1222, 17:13–15, 18:12–16; Ex. 1202 ¶ 114).

Comcast further argues that, to the extent Blake does not disclose "a remote access link comprising an Internet communications pathway," this limitation would have been obvious in light of Blake's system. Pet. 31–32 (citing Ex. 1202 ¶ 115). Comcast argues that Blake discloses that input device 332 "transmit[s] data from a remote location," and the Internet was a common way of transmitting date from a remote location, as evidenced by Killian. *Id*. at 32 (quoting Ex. 1222, 17:5–8) (citing Ex. 1208, 3:18–20, 3:38–43; Ex. 1202 ¶¶ 116, 117). Comcast asserts that a person of ordinary skill in the art would have found it obvious to try using the Internet to

transmit Blake's program guide information because Internet transmission was well-known as an identified, predictable solution to data transmission that provides predictable benefits. *Id*. (citing Ex. 1202 ¶¶ 116, 117).

Comcast contends that Blake teaches "local interactive television program guide equipment on which a local interactive television program is implemented," as recited in independent claim 1, because Blake discloses television equipment within a user's home that includes software that uses television schedule information to generate a local guide. Pet. 32–33 (citing Ex. 1222, 4:10–16, 4:26–30, 5:1–3, Fig. 12; Ex. 1202 ¶ 120). Comcast argues that Blake discloses a local guide that displays television program listing information to a user on a television or monitor, and allows the user to interact with the local guide via a remote control or other interface to schedule program recordings. *Id*. at 33 (citing Ex. 1222, 6:18–20, 15:3–5, 16:12–16, 16:26–33, Fig. 12; Ex. 1202 ¶¶ 121–122). Comcast argues that Young, which Blake incorporates by reference in its entirety, further discloses a local guide with interactive features that users may personalize based on user preferences, such as themes. *Id*. (citing Ex. 1222, 2:8–9; Ex. 1223, 10:13–18, 10:45–47, 11:26–28, 12:46–54, 13:1–5, 13:61–63; Ex. 1202 ¶ 124).

Comcast argues that Blake 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 Blake's local guide generates and displays television schedule information in a grid-like display on the television screen. Pet. 33–34 (citing Ex. 1222, 1:20–31, 6:5–13, 6:18–19, 15:29–30, 16:12–16, Fig. 12). Comcast further contends that Blake teaches "wherein

the local interactive television program guide equipment includes user television equipment located within a user's home and includes user television equipment," as recited in independent claim 1, because Blake implements a portion of the local guide on television equipment in a user's home, which may include devices such as set-top boxes, personal computers, personal computer televisions, and VCRs. *Id*. at 35 (citing Ex. 1222, 4:24–26, 4:28–32, 5:2–6, Fig. 1). Comcast argues that Blake's central processing system 334 also constitutes part of the claimed "local interactive television program guide equipment" because it provides program guide functionality on equipment in the user's home, such as the scheduling of recordings. *Id*. (citing Ex. 1222, 17:1–5, 18:5–16; Ex. 1202 ¶ 130). Notably, Comcast argues that, when applying the broadest reasonable interpretation standard, the claimed "local interactive television program guide" is not limited to an implementation solely on equipment within the user's home and, therefore, Comcast asserts that Blake's central processing system 334 properly constitutes part of the claimed "local interactive television program guide equipment." *Id*. (citing Ex. 1202 ¶¶ 36, 130).

Comcast argues that Blake teaches "wherein a mobile device communicates with the local interactive television program guide equipment," as recited in independent claim 1, because Blake's input device 332 may be a "laptop computer" or "cellular telephone," both of which are mobile devices. Pet. 36 (quoting Ex. 1222, 17:5–8) (citing Ex. 1202 ¶ 131). Comcast further contends that Blake teaches "wherein the mobile device, on which a remote access interactive television program guide is implemented, is located outside of the user's home," as recited in independent claim 1, because Blake's input device 332 allows "a user who is away from home to

record a program remotely by . . . access[ing] and communicably connect[ing] to central processing system 334." *Id*. at 38 (quoting Ex. 1222, 17:3–5) (citing Ex. 1202 ¶¶ 131–136). Comcast further argues that the remote user interface on Blake's input device 332 constitutes software that allows the user to view and navigate television program listings, make program selections, and control recording device 336 to record a selected program. *Id*. at 36 (citing Ex. 1222, 17:1–15, 18:1–16, 18:18–27; Ex. 1202 ¶¶ 132). Comcast asserts that, because the remote user interface on Blake's input device 332 presents television program listings and receives selections of programs for recording, a person of ordinary skill in the art would have understood that it constitutes the claimed "remote access interactive television program guide." *Id*. at 38 (citing Ex. 1202 ¶¶ 135, 136).

Comcast contends that Blake 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, when applying the broadest reasonable interpretation standard, a person of ordinary skill in the art would have understood that the remote user interface on Blake's input device 332 constitutes the claimed "remote access interactive television program guide." Pet. 39 (citing Ex. 1222, 18:8–10, 17:22–24; Ex. 1202 ¶¶ 140, 141). Comcast also argues that, to the extent Blake does not disclose explicitly that the remote user interface on input device 332 displays a "remote access interactive television program guide," a person of ordinary skill in the art would have found it obvious to display an interactive guide that includes television program listings on Blake's input device 332 using conventional television interactive

program guide features, such as those taught by Blake, Young, or Killian. *Id*. at 40–41 (citing Ex. 1202 ¶¶ 86–89, 146–148).

Comcast also contends that Blake 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 Blake discloses that a user may customize television program information "[b]y utilizing the user interface . . . [to] sort, mix, and create a special customized line-up of channels within the television schedule guide." Pet. 41–42 (quoting Ex. 1222, 16:20–22) (citing Ex. 1202 ¶¶ 153, 154). According to Comcast, Blake discloses that a user may filter television program listings by themes, which entails the remote guide generating a list of television programs matching a selected theme by taking into account the user's individual preferences/selections. *Id*. at 42 (citing Ex. 1222, 18:5–10; Ex. 1202 ¶¶ 153–157). Comcast further argues that Blake discloses that the user's preferences/selections are stored at central processing system 334, which is located remotely from input device 332. *Id*. (citing Ex. 1222, 18:12–14; Ex. 1202 ¶¶ 156, 157).

Alternatively, Comcast contends that, to the extent Blake does not teach the claimed "user profile," Killian teaches this limitation because it discloses software that generates guide displays based on viewer profiles 84 stored on profile database 80 located either locally or remotely. Pet. 43 (citing Ex. 1208, 1:20–41, 7:49–61, 9:10–25, 10:61–66, 11:20–21; Ex. 1202 ¶¶ 158–161). Comcast asserts that it would have been obvious to one of ordinary skill in the art to implement Killian's viewer profiles in Blake's remote user interface on input device 332 to better track a user's preferences

and generate more effective user interfaces that better identify desired/undesired content. *Id*. at 44 (citing Ex. 1202 ¶ 161).

Comcast contends that Blake 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 Blake discloses that the remote user interface on input device 332 displays a remote guide that allows a user to view and navigate television program listings according to themes, make program selections, and control recording device 336 to record a selected program. Pet. 45 (citing Ex. 1222, 14:26–32, 16:12–25, 17:8–18, 18:1–23, Fig. 12; Ex. 1202 ¶¶ 163–165). Comcast further argues that, once the user makes a selection (e.g., by selecting a basketball game) via the remote user interface on Blake's input device 332, processing system 334 will activate recording device 336 at the user's home to record the games. *Id*. (citing Ex. 1222, 18:1–10).

Comcast contends that Blake 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 Blake discloses that, after central processing system 334 receives a program recording request from input device 332 over a network, central processing system 334 activates recording device 336 (e.g., VCR 32 illustrated in Figure 1) to record the selected program. Pet.

46–47 (citing Ex. 1222, 17:13–15, 18:12–16; Ex. 1202 ¶¶ 168–171). Comcast further argues that, consistent with its proposed construction of the claim term "local interactive television program guide," Blake's central processing system 334 is part of the local guide because it implements guide functionality, including recording commands, in support of the local guide. *Id*. at 47 (citing Ex. 1202 ¶¶ 175, 176). Consequently, Comcast asserts that Blake's remote guide sending a recording request to central processing system 334 discloses this "transmitting" limitation because Blake's central processing system 334 constitutes part of the claimed "local interactive television program guide." *Id*. (citing Ex. 1202 ¶¶ 171–174).

Lastly, Comcast contends that Blake teaches "wherein the local interactive television program guide receives the communication," as recited in independent claim 1, because Blake discloses that the recording request sent from the remote guide is received at the home television/guide equipment for recording on recording device 336. Pet. 49 (citing Ex. 1222, 16:29–33, 17:1–5, 18:12–16). Comcast also contends that Blake teaches, "responsive to the communication, record[ing] the television program corresponding to the selected television program listing using the local interactive television program guide equipment," as recited in independent claim 1, because Blake discloses that, "[i]f a time slot for the time currently indicated by the clock indicates that a program is to be recorded then the channel broadcasting the program is selected and the VCR is controlled to record to the program." *Id*. at 49–50 (quoting Ex. 1222, 16:31–33) (citing Ex. 1222, 17:18–19, 18:10–16, 18:23–26; Ex. 1202 ¶ 178).

Turning to the rationale to combine, Comcast contends that it would have been obvious to one of ordinary skill in the art to implement Killian's

viewer profiles in the remote user interface on Blake's input device 332 to better track a user's preferences and generate more effective user interfaces that better identify desired/undesired content. Pet. 29 (citing Ex. 1202 ¶ 109), 42 (citing Ex. 1202 ¶ 155). Comcast argues that combining the teachings of Blake and Killian in this manner would have been nothing more than using known techniques (i.e., Killian's technique of storing user profile data) to improve a similar device (i.e., Blake's theme-filtered program interface display) in the same way to produce the predictable result of providing users with better access to desired program listings. *Id.* at 29, 42.

In its Patent Owner Response, Rovi presents a number of arguments that can be grouped as follows: (1) whether Comcast has demonstrated that Blake 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 Blake and Killian. *See* PO Resp. 20–41. We address these groupings of arguments in turn.

a. Limitations

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

Rovi contends that each independent claim requires two interactive television program guides—namely, "a local interactive television program guide" and "a remote access interactive television program guide"—in communication with each other. *See* PO Resp. 20–22. Rovi argues that, although Blake's television schedule system allows a user to schedule programs for recording remotely, Blake does not use a separate "remote access interactive television program guide" in communication with a "local

interactive television program guide" to schedule these remote recordings, as required by the claims. *Id*. at 24 (citing Ex. 2211 ¶¶ 97–99, 161–164). Instead, Rovi argues that Blake's central processing system 334 is responsible for implementing the transmitting and receiving functionalities of both (1) the remote user interface on Blake's input device 332; and (2) the local guide on central processing system 334. *Id*.

Rovi contends that Comcast's position that Blake's central processing system 334 is part of the claimed "local interactive television program guide" does not render the claim obvious because central processing system 334 uses a single guide to present content and functionality to input device 332 so that the user can select television recordings remotely. PO Resp. 25 (citing Ex. 1222, 17:10–18, 17:25–30, 18:10–16, 18:18–29; Ex. 2211 ¶¶ 166–168; Ex. 2204, 8–9; Ex. 2205, 18–19). That is, Rovi argues that Blake's central processing system 334 is the source of the information and functionality presented to the user on Blake's input device 332. *Id*. at 25–26 (citing Ex. 1222, 17:10–18, 17:25–30, 18:10–16, 18:18–29; Ex. 2204, 8, 9; Ex. 2211 ¶¶ 169–170). According to Rovi, Comcast's declarant, Dr. Tjaden, supports this line of reasoning because, during his deposition, he stated that Blake's input device 332 gets "its program guide functionality from" central processing system 334. *Id*. at 26 (quoting Ex. 2210, 139:15–17) (emphasis omitted) (citing *id*. at 139:2–140:8). Consequently, Rovi argues that Blake does not teach two separately identifiable guides because it is central processing system 334—and not input device 332 or a separate remote interactive television program guide—that provides any purported remote guide functionality. *Id*. at 26–27 (citing Ex. 2211 ¶¶ 169, 170). Notably,

Rovi asserts that Blake's central processing system 334 is used the same way in Blake's "theme" embodiment. *Id*. at 27.

Rovi contends that the prosecution history of the '413 Patent supports its argument that Blake only teaches a single guide. PO Resp. 28. Rovi argues that, not only did the applicants explain that Blake does not teach a remote guide, but they also submitted the Declaration of Dr. George T. Ligler during prosecution of a related application that further explains why Blake only teaches a single guide. *Id*. (citing Ex. 2204, 8–9; Ex. 2205, 18–19; Ex. 1234 ¶ 40). Rovi argues that the Examiner subsequently allowed the claims. *Id*. (citing Ex. 2206).

Next, Rovi takes issue with the cross-examination testimony of Dr. Tjaden, particularly his testimony that Blake's central processing system 334 is somehow not part of the claimed "remote access interactive television program guide." PO Resp. 29–30 (citing Ex. 2210, 140:2–8). Rovi argues that Dr. Tjaden did not provide any support for this testimony and, according to Rovi, it is contrary to his other cross-examination testimony, arguments presented and developed in the Petition, and his Declaration accompanying the Petition. *Id*. at 30 (citing Ex. 2210, 139:15–17; Pet. 35; Ex. 1202 ¶¶ 109, 157, 172). For example, Rovi argues that Dr. Tjaden testifies that Blake's central processing system 334 implements guide functionality for the local guide and, therefore, is part of the local guide, but when confronted as to whether central processing system 334 implements guide functionality for the remote guide, he testifies that it is somehow not part of the remote guide. *Id*. (citing Ex. 1202 ¶¶ 157; Ex. 2210, 139:15–17). Rovi argues that it is illogical and internally inconsistent for Comcast and Dr. Tjaden to argue that, when Blake's central processing system 334 implements functionality

for the local guide, it is part of the local guide, but when central processing system 334 implements functionality for the remote guide, it is somehow not part of the remote guide. *Id.* at 31. Rovi then asserts that, because Blake's central processing system 334 implements both the local and remote guide, and because any testimony from Dr. Tjaden suggesting the contrary is internally inconsistent, Blake does not render obvious the requirement that the claimed "remote access interactive television program guide" be implemented on "a remote program guide access device." *Id.* (citing Ex. 2211 ¶¶ 174–177).

In its Reply, Comcast contends that Rovi's declarant, Dr. Shamos, readily admits that Blake teaches a separate remote guide that communicates with the local guide. Pet. Reply 3–4. Comcast argues that Dr. Shamos testified at the ITC that a selection made using the remote user interface on Blake's input device 332 is communicated to Blake's local guide. *Id.* (citing Pet. 48; Ex. 1246, 1138:5–15). Comcast argues that, even though Dr. Shamos admits this testimony is correct in his Declaration accompanying the Patent Owner Response, he argues that the Board mischaracterized his testimony in the Decision on Institution and clarifies that he never testified that Blake's input device implements a remote guide. *Id.* at 4 (citing Ex. 2211 ¶¶ 80–82). Comcast, however, asserts that the logical conclusion of Dr. Shamos's testimony is that, if it were obvious to one of ordinary skill in the art for the remote user interface on Blake's input device 332 to include a separate guide, then it also would have been obvious to have guide-to-guide communication. *Id.*

Notwithstanding Dr. Shamos's admission at the ITC, Comcast presents three reasons as to why it disagrees with Rovi's argument that the remote user interface on Blake's input device 332 is not a separate guide. Pet. Reply 5. First, Comcast contends that the remote user interface on Blake's input device 332 performs all the functions of the claimed "remote access interactive television program guide" and, therefore, satisfies the broadest reasonable interpretation of an "interactive television program guide." *Id*. at 5–9. Second, Comcast contends that Rovi ignores certain aspects of the claimed "local/remote access television program guides" that undermine its arguments. *Id*. at 5, 9–13. In particular, Comcast argues that Blake teaches two guides that interact in the same way as the claimed "local/remote access television program guides." *Id*. at 5, 12–13 (citing Ex. 1201, 16:20–26; Ex. 1252 ¶ 36). Third, Comcast contends that, in arguing that Blake teaches a single guide, Rovi mischaracterizes the supporting testimony of Comcast's declarant, Dr. Tjaden, and misunderstands the relevant technology. *Id*. at 5–6, 14–15.

Based on the record developed during trial, we agree with Comcast that Blake teaches two separately identifiable guides in communication with each other. *See* Pet. 32–50. Beginning with the claimed "local interactive television program guide," Comcast argues—and we agree—that Blake's central processing system 334, together with recording device 336, teach the claimed "local interactive television program guide equipment on which a local interactive television program is implemented." *See id*. at 23–24, 32–38. Figure 12 of Blake illustrates an example of a television schedule guide that provides television schedule information in a grid-like display on a television screen. Ex. 1222, 16:12–14. Blake describes the remote

recording capabilities of this television schedule guide with reference to Figure 13. *Id*. at 17:1–2. Figure 13 of Blake illustrates that a user who is away from home employs input device 332 to access and communicably connect to central processing system 334. *Id*. at 17:3–5.

With respect to Blake's "theme" embodiment, Blake states that processing system 334 "present[s] a list of [basketball] games to the user, and the user may select one or more games to record." Ex. 1222, 18:10–12. After the user has made his/her selection, processing system 334 confirms the user's selection, stores that information upon receiving confirmation from the user, and, at the appropriate time, activates recording device 336 located at the user's home to record the selected game. *Id*. at 18:12–16. Based on these disclosures in Blake, we find that Blake's central processing system 334, together with recording device 336, implements the claimed "local interactive television program guide."

Our finding in this regard is consistent with the plain language of the independent claims of the '413 Patent. These claims delineate the functions of the "local interactive television program guide," "remote access interactive television program guide," and "local interactive television program guide equipment." In particular, it is the responsibility of the "local interactive television program guide" to "receive[ ] the communication and responsive to the communication record[ ] the television program . . . using the local interactive television program guide equipment." Ex. 1201, 40:43–47; *see also id*. at 42:6–11 (reciting similar limitations). Similar to the claimed "local interactive television program guide," Blake's central processing system 334 also receives a communication identifying a

television program to be recorded and then uses recording device 336 to record the program. Ex. 1222, 18:12–16.

Our finding that Blake's central processing system 334 implements, in part, the claimed "local interactive television program guide" also is consistent with our construction of "interactive television program guide." In our claim construction section above, we determine that the broadest reasonable interpretation of 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." *See supra* Section II.A. We clarify that neither the intrinsic or extrinsic record limits the "guide" to a single software application. *See supra* Section II.A. Consequently, when the software on Blake's central processing system 334 works in conjunction with input device 332 to render a television schedule guide that allows a user to select desired programs for recording according to themes, we find that it effectively operates as part of an "interactive television program guide" because it displays program listings and allows the user to navigate through the listings, make selections, and control recording functions.

Comcast's declarant, Dr. Tjaden, provides testimony supporting our finding that Blake's central processing system 334 implements, in part, the claimed "local interactive television program guide." In his Declaration accompanying the Petition, Dr. Tjaden testifies that "the local guide may also be implemented at least in part on a server or other device outside the user's home." Ex. 1202 ¶¶ 36, 130. Dr. Tjaden further testifies that the "local guide equipment and local guide could include hardware and software of a central data server, such as software that is implemented on central

processing system 334 to activate recording a program on . . . recording device [336]." *Id.* ¶ 130. We credit the aforementioned testimony of Dr. Tjaden because it takes into account the reasonable inferences one of ordinary skill in the art would draw to explain how Blake's central processing system 334 works in conjunction with input device 332 to render a television schedule guide that allows a user to select desired programs for recording according to themes at recording device 336. *See KSR*, 550 U.S. at 418 (explaining that an obviousness evaluation "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ").

Turning to the claimed "remote access interactive television program guide," Comcast argues—and we agree—that the remote user interface on Blake's input device 332 teaches the claimed "remote access interactive television program guide." *See* Pet. 25–26, 38–40. With respect to Blake's "theme" embodiment, the user enters input in the form of theme data into input device 332, which may be, among other things, a personal or laptop computer. Ex. 1222, 17:5–8, 18:1–12, Claims 1, 7. In this embodiment, the user first selects to record a program by themes, then selects sports, then basketball, at which time the user is presented with a list of basketball games, and the user selects the game to be recorded. *Id.* at 18:5–10. Based on these disclosures in Blake, we conclude that the remote user interface on Blake's input device 32 implements the claimed "remote access interactive television program guide."

Our finding in this regard is consistent with the plain language of the independent claims of the '413 Patent. As we explain previously, these

claims delineate the functions of the "local interactive television program guide," "remote access interactive television program guide," and "local interactive television program guide equipment." In particular, it is the responsibility of the "remote access interactive television program guide" to "generate[] a display . . . comprising a plurality of program listings for display on the mobile device"; "receive[] a user selection of the television program for recording"; and "transmit[] . . . a communication identifying the television program for recording" to the local interactive television program guide. Ex. 1201, 40:22–42; *see also id.* at 41:21–42:11 (reciting similar limitations). Similar to the claimed "remote access interactive television program guide," the remote user interface on Blake's input device 332 also generates a display by rendering a television schedule guide that permits selections according to themes, receives selections within the display, and then transmits those selections to central processing system 334, which, as we explain previously, partially implements the claimed "local interactive television program guide." Ex. 1222, 18:1–12.

Our finding that the remote user interface on Blake's input device 332 implements the claimed "remote access interactive television program guide" also is consistent with our construction of "interactive television program guide." In our claim construction section above, we determine that the broadest reasonable interpretation of 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." *See supra* Section II.A. When the remote user interface on Blake's input device 332 generates a display by rendering a television schedule guide that allows a user to select

desired programs for recording according to themes, we find that it effectively operates as an "interactive television program guide" because it displays program listings and allows the user to navigate through the listings, make selections, and control recording functions.

Comcast's declarant, Dr. Tjaden, provides testimony supporting our finding that the remote user interface of Blake's input device 332 implements the claimed "remote access interactive television program guide." Dr. Tjaden testifies that "[a person of ordinary skill in the art] . . . would have concluded that Blake's input device 332 implements control software for interactively selecting programs for recording by themes and transmitting program selections." Ex. 1252 ¶ 32 (citing Ex. 1222, 17:1–8, 18:1–23). Dr. Tjaden further testifies that "[t]his control software, which is implemented on Blake's remote personal computer (*i.e.*, [Blake's] input device 332), is separate from the local program guide software on Blake's central processing system 334 and [recording equipment 336]." *Id.* ¶ 33 (citing Ex. 1222, Fig. 13). We credit the aforementioned testimony of Dr. Tjaden because it takes into account the reasonable inferences one of ordinary skill in the art would draw to explain how the remote user interface of Blake's input device 332 generates a display by rendering a television schedule guide that permits selections according to themes, receives selections within the display, and then transmits those selections to central processing system 334. *See KSR*, 550 U.S. at 418.

Rovi's declarant from the ITC proceeding, Dr. Shamos, who is also Rovi's declarant in this proceeding, admitted that the user's selection made at Blake's input device 332 is communicated to the local guide. This testimony provides:

> Q Doctor - - okay. My question is when a program is chosen for recording at input device 332, that's going to be communicated to central processing system 334; right?
>
> A That's correct.
>
> Q And then that selection at - -that would be at central processing system 334 is going to be communicated to the VCR 32; right?
>
> A Yes.
>
> Q So that selection is going to be communicated to the local interactive program guide in figure 1; right?
>
> A Yes, it is.

Ex. 1246, 1138:5–15.

In his Declaration accompanying the Patent Owner Response, Dr. Shamos acknowledges this testimony at the ITC and admits "[t]hat testimony was correct, and I stand by it." Ex. 2211 ¶ 80. Nevertheless, Dr. Shamos avers that he did not testify that Blake's "input device 332 implemented a remote [guide]." *Id.* ¶ 82.

Although Dr. Shamos asserts that this testimony is mischaracterized because it does not indicate that input device 332 implements a remote guide, Dr. Shamos still stands by his testimony, which acknowledges that a recording selection made at input device 332 is communicated to the local guide. Ex. 2211 ¶ 80. Dr. Shamos's testimony may not expressly identify that the remote user interface of Blake's input device 332 makes and communicates the recording selection by way of a remote guide, but at the same time Dr. Shamos does not dispute Dr. Tjaden's point that Blake's input device 332, as a remote personal or laptop computer, implements control software for interactively selecting programs for recording by themes. *See* Ex. 1202 ¶¶ 101, 144; Ex. 1252 ¶¶ 32, 33. This control software that is

implemented on the remote personal or laptop computer (i.e., the remote user interface of Blake's input device 332) constitutes the remote guide and is separate from the local guide to which the communication is being directed. Ex. 1252 ¶¶ 32, 33. Accordingly, the user's selection referred to in Dr. Shamos's testimony reproduced above is communicated between the remote guide implemented on the remote user interface of Blake's input device 332 (i.e., the control software that is implemented on the remote personal or laptop computer) and a local guide implemented, in part, on Blake's central processing system 334.

If we were to accept Rovi's argument that Blake only teaches a single guide, then it is not clear to us how the user's selection, referred to in Dr. Shamos's testimony reproduced above, is communicated between the remote user interface of Blake's input device 332 and a local guide implemented, in part, on Blake's central processing system 334. In essence, Dr. Shamos would be testifying that Blake teaches a single guide that communicates with itself. This is illogical. Neither Rovi nor Dr. Shamos adequately explain how or why a single guide would need to communicate a user's selection to itself, unless, as Comcast asserts, Blake teaches two separately identifiable guides in communication with each other.

We do not agree with Rovi's argument that Blake teaches a single guide because input device 332 receives some of its program guide functionality from central processing system 334. *See* PO Resp. 25–27. The specification of the '413 Patent does not preclude the remote guide from receiving some of its program guide functionality from the local guide. Indeed, the specification discloses that remote and local guides may be the same guide compiled to run on two different platforms. Ex. 1201, 15:15–18.

The specification also discloses that the "remote access interactive television program guide" derives some functionality from the "local television program guide." For instance, with reference to the steps involved in providing remote access to interactive television program guide features in accordance with the principle of the '413 Patent, the specification discloses that "the remote access program guide provides the user with the opportunity to remotely access functions of the interactive program guide over the remote access link." *Id.* at 23:36–39. These program guide functions include, among other things, "*accessing program guide information*." *Id.* at 16:20–26 (emphasis added); *see also* Ex. 2211 ¶ 17 (Dr. Shamos testifies that the interactive television program guides of the '413 Patent "allow users to access additional information about television program listings"). Consequently, the claimed "remote access interactive television program guide" derives some program guide functionality from the claimed "local interactive television program guide," such as accessing program guide information that is presented to the user remotely. Similarly, the remote guide implemented on the remote user interface on Blake's input device 332 derives some program guide functionality from the local guide implemented, in part, on central processing system 334 by accessing program guide information that is presented to the user remotely. Ex. 1222, 18:1–23.

We also do not agree with Rovi's argument that the prosecution history of the '413 Patent supports its argument that Blake only teaches a single guide. *See* PO Resp. 25–26. The applicants prosecuting the '413 Patent did not have the benefit of (1) our construction of the claim terms "local/remote access interactive television program guides," particularly our clarification that neither the intrinsic or extrinsic record limits the "guide" to

a single software application (*see supra* Section II.A); (2) the testimony from Dr. Shamos at the ITC that Blake's input device 332 communicates the user's selection to the local guide (Ex. 1246, 1138:5–15); and (3) the supporting testimony of Comcast's declarant, Dr. Tjaden, who consistently takes the position that Blake teaches two separately identifiable guides in communication with each other (*see* Ex. 1202 ¶¶ 36, 130; Ex. 1252 ¶¶ 31, 33). In addition, the Examiner's position during prosecution was that Blake disclosed a remote guide, and the Examiner disagreed with the applicants' argument that Blake only disclosed a single guide. Case IPR2017-00952, Ex. 1239, 4–5.[8] Although the Examiner's Notice of Allowance generally cites back to previous arguments made by the applicants addressing multiple issues (Case IPR2017-00952, Ex. 1234, 18[9]; *see also* Ex. 2204, 7–11 (arguing that Blake only discloses a single guide)), it is not clear to us whether the Examiner changed his mind as to the specific issue of whether Blake disclosed a remote guide. Instead, the Examiner allowed the application over several amendments that included, among other things, that the remote guide generates a display of program listings "based on a user profile stored at a location remote from the remote program guide access device." Case IPR2017-00952, Ex. 1234, 8–18.

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[8] All references to the page numbers of Exhibit 1239 are to the page numbers inserted by Comcast at the bottom center of each page (from a related case; filing omitted from this proceeding). Although not filed as an exhibit in this proceeding, the prosecution history as to related U.S. Patent No. 8,006,263 B2 is a public record, and we properly consider it here.
[9] All references to the page numbers of Exhibit 1234 are to the page numbers inserted by Comcast at the bottom center of each page.

Lastly, we do not agree with Rovi's arguments that the supporting testimony of Comcast's declarant, Dr. Tjaden, is illogical and internally inconsistent. *See* PO Resp. 29–31. Rovi takes issue with Dr. Tjaden's testimony that Blake's central processing system 334 provides some program guide functionality to the remote user interface on input device 332, but that central processing system 334 itself is not part of the remote guide. Ex. 1202 ¶¶ 109, 157, 172; Ex. 2210, 139:15–17, 140:2–8. We do not view Dr. Tjaden's testimony in this regard as illogical and internally inconsistent. In his Declaration accompanying the Reply, Dr. Tjaden testifies that "Blake's remote input device 332 would necessarily get its program guide information from the central processing system 334, . . . [b]ut it is Blake's remote input device 332 that executes the control functionality . . . , and therefore implements the remote guide under the broadest reasonable interpretation." Ex. 1252 ¶ 35. As we explain above, we credit Dr. Tjaden's testimony that "Blake's input device 332 implements control software for interactively selecting programs for recording by themes and transmitting program selections" (*id.* ¶ 32), which "is separate from the local program guide software on Blake's central processing system 334 and [recording equipment 336]" (*id.* ¶ 33). In other words, we agree with Comcast and Dr. Tjaden that, although Blake's input device 332 interacts with central processing system 334, the remote user interface of input device 332 implements its own separately identifiable remote guide. Pet. Reply 14. We also agree with Comcast and Dr. Tjaden that the remote user interface of Blake's input device 332 falls within the broadest reasonable interpretation of the claimed "remote access interactive television program guide," even if

it receives program guide information and some functionality from central processing system 334. *Id.* at 15 (citing Ex. 1252 ¶¶ 40–42).

As we explain above, although the remote user interface on Blake's input device 332 receives some of its program guide functionality from central processing system 334, we agree with Dr. Tjaden that it is still the remote user interface on Blake's input device 332 that implements the remote guide—not central processing system 334. Indeed, the remote guide implemented by the remote user interface on Blake's input device 332 interacts with the local guide implemented, in part, on central processing system 334 in the same manner as the claimed "local/remote access interactive television program guide" interact with one another because both sets of guides permit the remote guide to access certain functions of the local guide, such as accessing program guide information that is presented to the user remotely. *Compare* Ex. 1222, 17:1–5, 18:1–16, *with* Ex. 1201, 16:20–26, 23:36–39.

ii. Blake's Remote User Interface on Input Device 332 Includes Interactive Features

Rovi contends that, even assuming that the remote user interface on Blake's input device 332 is a separate guide, and that guide is implemented on input device 332 (and not on central processing system 334), Comcast does not demonstrate that any purported interface on Blake's input device 332 constitutes an "interactive television program guide," as claimed. PO Resp. 31–32. Rovi argues that Blake does not disclose the appearance or content of the remote user interface on input device 332, such as whether the content includes the following: (1) television program listings with channel and start time information; (2) television program listings generated based

on a user profile; and (3) the ability of the user to navigate through the television program listings, or otherwise control software functions. *Id*. at 32 (citing Ex. 2211 ¶¶ 71–75, 79).

Rovi contends that Blake is devoid of any disclosure with respect to Figure 13 as to how the program guide is displayed on the remote user interface of input device 332. PO Resp. 33 (citing Ex. 2211 ¶¶ 70–72, 165; Pet. 26–28; Ex. 2210, 145:14–146:3). According to Rovi, Comcast never asserts that the television schedule guide illustrated in Blake's Figure 12, or any guide that resembles it, is displayed in the remote user interface of input device 332 illustrated in Figure 13. *Id*. With respect to Blake's "theme" embodiment, Rovi argues that this embodiment is silent as to how, and in what form, the television program listing is provided to the user. *Id*. at 33–34 (citing Ex. 2211 ¶¶ 75, 78, 79, 165, 171, 182). Indeed, Rovi argues that Blake contemplates, when a user dials in by telephone, he/she may be presented with "themes" and make a selection orally. *Id*. at 34 (citing Ex. 1222, [57]; Ex. 2211 ¶¶ 70, 75; Ex. 2210, 144:19–145:4).

Rovi further contends that there is no disclosure with respect to Blake's "theme" embodiment that suggests presenting the user with a display of television program guide information, including things like channel information or television program start times, as would be required by the claimed "interactive television program guide." PO Resp. 34 (citing Ex. 1222, 12:12–23, 18:1–16; Ex. 2211 ¶¶ 78, 79). Rovi further argues that there is also no disclosure that Blake's "theme" embodiment is capable of generating a display based on a user profile, as opposed to generating a display in response to user input. *Id*. (citing Ex. 2211 ¶ 182).

Lastly, Rovi asserts that Blake does not teach using a "remote access

interactive television program guide." PO Resp. 35. Rovi argues that, by choosing not to implement a "remote interactive television program guide" on the remote user interface of input device 332, Blake offers the user greater versatility, including allowing the user to submit requests via telephone or email. *Id*. (citing Ex. 1222, [57], 18:28–30; Ex. 2211 ¶¶ 75, 82, 165, 179). Rovi further argues that most of the embodiments disclosed in Blake are silent as to whether input device 332 has any display at all or, in many instances, these embodiments clearly indicate that input device 332 has no such display. *Id*. As additional support for this argument, Rovi contends that an "interactive television program guide" would be unnecessary for other embodiments disclosed in Blake, such as those where the user enters a predetermined program code or the title of a television program via input device 332. *Id*. (citing Ex. 2211 ¶ 180).

In its Reply, Comcast contends that the testimony of Dr. Ligler during prosecution of a related application supports its argument that the remote user interface on Blake's input device 332 displays television program listings. Pet. Reply 4. According to Comcast, Dr. Ligler recognized that the remote user interface on Blake's input device 332 displays a guide when he testified that Blake "disclose[s] display of program listings on input device 332 (when selecting a program according to themes)." *Id*. at 4–5 (quoting Ex. 1234 ¶ 35).

Notwithstanding Dr. Ligler's admission during prosecution of a related application, Comcast provides a number of reasons as to why it disagrees with Rovi's argument that Blake is silent as to the appearance and content of the remote guide implemented on the remote user interface of Blake's input device 332. Pet. Reply 15. Comcast argues that, beyond

displaying a program listing, which is taught by Blake, the claims do not require the appearance or content of the claimed "remote access interactive television program guide." *Id*. at 15–16. According to Comcast, after a basketball theme is selected, the remote guide may include a list of basketball games that may be displayed in time order. *Id*. at 16 (citing Ex. 1222, 12:12–15, 13:3–5, 18:1–16). Comcast acknowledges that, although Blake does not disclose what the remote guide "looks like," a person of ordinary skill in the art still would have understood from Blake's disclosure what content needs to appear and how that content may appear (e.g., how to sort the content). *Id*. (citing Ex. 1252 ¶¶ 25, 26). Comcast then reiterates that Blake clearly teaches using the remote user interface of input device 332 to navigate through program listings using theme selections. *Id*. at 16–17 (citing Pet. 38–40; Ex. 1202 ¶¶ 141–145; Ex. 1252 ¶¶ 25, 32, 39).

Based on the record developed during trial, we agree with Comcast that the remote user interface on Blake's input device 332 generates a display by rendering an interactive television schedule guide (i.e., a guide that is navigable, selectable, and capable of controlling certain functions or settings), similar to the one illustrated in Figure 12. *See* Pet. 38–49. As we explain previously, Figure 12 of Blake illustrates an example of a television schedule guide that provides television schedule information in a grid-like display on a television screen. Ex. 1222, 16:12–14. Blake describes the remote recording capabilities of this television schedule guide with reference to Figure 13. *Id*. at 17:1–5. With respect to Blake's "theme" embodiment, the user enters input in the form of theme data into input device 332, which may be, among other things, a personal or laptop computer. *Id*. at 17:5–8, 18:1–12, Claims 1, 7. In this embodiment, the user first selects to record a

program by themes, then selects sports, then basketball, at which time the user is presented with a list of basketball games, and the user selects the game to be recorded. *Id.* at 18:5–10. Based on these disclosures in Blake, we find that the remote user interface of input device 332 generates a display by rendering a television schedule guide that allows a user to select desired programs for recording according to themes.

Comcast's declarant, Dr. Tjaden, provides testimony supporting our finding in this regard. In his Declaration accompanying the Petition, Dr. Tjaden testifies that Blake's input device 332 includes control software that "allows a user to navigate through the program themes/listings, make theme/program selections, and control functions of the software (*e.g.*, scheduling a recording on . . . local recording device [336])." Ex. 1202 ¶ 144 (citing Ex. 1222, 17:16–24, 18:1–16). In his Declaration accompanying the Reply, Dr. Tjaden clarifies that "[a person of ordinary skill in the art] would have recognized this user interface as a menu-based guide that allows a user to navigate through a menu structure to access the sorted program listings." Ex. 1252 ¶ 25 (citing Ex. 1222, 13:1–5, 18:5–10). We credit Dr. Tjaden's aforementioned testimony because it is consistent with the disclosures in Blake identified above.

Dr. Ligler's testimony submitted during prosecution of a related application also supports our finding that the remote user interface of Blake's input device 332 generates a display by rendering a television schedule guide that allows a user to select desired programs for recording according to themes. *See* Pet. Reply 4. With reference to the embodiments on page 18 of Blake, which includes the "theme" embodiment, Dr. Ligler testifies that Blake "disclose[s] display of program listings on input device

332 (when selecting a program according to themes)." Ex. 1234 ¶ 35. This testimony from Dr. Ligler undermines Rovi's argument that Blake's "theme" embodiment does not present the user with a display of television program guide information, as required by our construction of an "interactive television program guide." *See* Pet. 31–32.

We recognize that, when testifying that Blake's input device 332 displays program listings according to themes, Dr. Ligler immediately follows this testimony by averring that the embodiments on page 18 of Blake "do not disclose the claimed 'two guide' approach." Ex. 1234 ¶ 35. We, however, accord Dr. Ligler's testimony in this regard little, if any, weight because he did not have the benefit of (1) our construction of the claim terms "local/remote access interactive television program guides," particularly our clarification that neither the intrinsic or extrinsic record limits the "guide" to a single software application (*see supra* Section II.A); (2) the testimony from Dr. Shamos at the ITC that Blake's input device 332 communicates the user's selection to the local guide (Ex. 1246, 1138:5–15); and (3) the supporting testimony of Comcast's declarant, Dr. Tjaden, who consistently takes the position that Blake teaches two separately identifiable guides in communication with each other (*see* Ex. 1202 ¶ 130; Ex. 1252 ¶¶ 31, 33). In addition, there is not a clear indication on this record as to whether the Examiner found this specific testimony by Dr. Ligler to be persuasive.

We do not agree with Rovi's arguments that Blake does not disclose the appearance or content of the remote user interface on input device 332 and, therefore, cannot teach the claimed "remote access interactive television program guide." *See* PO Resp. 31–36. This argument is not commensurate in scope with independent claims 1 and 10 because these claims do not require the claimed "remote access interactive television program guide" to have a specific appearance or to include certain content. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (explaining that limitations not appearing in the claims cannot be relied upon for patentability). Instead, as Comcast correctly notes in its Reply (*see* Pet. Reply 15–16), these claims only require that the system "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" (Ex. 1201, 40:22–25, 41:21–24), without specifying the appearance of such display or the inclusion of certain content. Consequently, Rovi's attempt to patentably distinguish independent claims 1 and 10 from Blake's television schedule system based on features not required by these claims is misplaced.

To the extent Rovi argues that the remote user interface of Blake's input device 332 does not display a television schedule guide generated based on a user profile, these arguments either ignore or fail to appreciate Comcast's reliance on the teachings of Killian. *See* PO Resp. 32, 35. As we explain previously, Comcast presents arguments that either Blake or Killian teaches a "user profile," as recited in independent claims 1 and 10. *See* Pet. 27–28, 41–44. Killian, however, more clearly teaches a "user profile" because it explicitly discloses user profile data. In particular, Killian

discloses software that generates program guide displays based on viewer profiles 84 stored on profile database 80 located either locally or remotely. Ex. 1208, 9:10–25, 10:61–66. Comcast also provides sufficient reasoning as to why one of ordinary skill in the art would have been prompted to modify Blake's television schedule system to include Killian's viewer profiles, which we discuss below in more detail. *See infra* Section II.B.5.b.

iii. Remaining Limitations

In its Patent Owner Response, Rovi does not address separately whether the combined teachings of Blake and Killian account for the remaining limitations of independent claims 1 and 10. *See generally* PO Resp. 20–36. 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. 11–12, 21–59.

b. Comcast Presents a Sufficient Rationale to Combine the Teachings of Blake 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 Blake's television schedule system to include Killian's viewer profiles. PO Resp. 37. According to Rovi, Comcast relies on conclusory statements that are insufficient to support a conclusion of obviousness. *Id*. (citing Ex. 2211 ¶¶ 184, 185).

Rovi contends that a person of ordinary skill in the art would not have combined the teachings of Blake and Killian because these references have fundamentally different teachings and purposes. PO Resp. 38. Rovi argues that Blake is directed to scheduling a recording from a remote location using

a variety of remote input devices, whereas Killian is directed to offering a viewer an optimized local television program guide with local viewer profiles. *Id*. Rovi further argues that Blake's "theme" embodiment allows a user to narrow programs by categories of interest. *Id*. According to Rovi, Comcast offers no motivation as to why Killian's viewer profiles, which offer an alternative to identify and narrow desired content, would be needed in Blake's television schedule system. *Id*. (citing Ex. 2211 ¶ 186).

Moreover, Rovi contends that Comcast fails to address how a person of ordinary skill in the art would have provided Killian's viewer profiles to Blake's input device 332. PO Resp. 38 (citing Ex. 2211 ¶ 186). Rovi argues that reconfiguring Blake's television schedule system to incorporate Killian's viewer profiles would unnecessarily complicate Blake's system because Blake offers simple remote user interfaces, whereas Killian stores viewer profiles accessed by a "suggest module" on a JAVA-based platform coupled to profile database 80 and "provide[s] more sophisticated collective displays than were possible using prior systems." *Id*. at 38–39 (quoting Ex. 1208, 2:1–11, 5:34–38) (citing Ex. 2211 ¶¶ 89, 184–188).

Next, Rovi contends, that even if it were to assume that Comcast clearly explains how a person of ordinary skill in the art would have implemented Killian's viewer profiles in Blake's television schedule system, Comcast fails to explain the necessary motivation for doing so. PO Resp. 39 (citing Ex. 2211 ¶¶ 188–190). Rovi argues that Comcast fails to identify the problem in Blake a person of ordinary skill in the art would have been motivated to solve by implementing Killian's viewer profiles. *Id*. (citing Ex. 2211 ¶ 190). According to Rovi, Killian's viewer profiles would serve no purpose in most of Blake's embodiments, such as those where the user

enters a predetermined program code or calls via telephone to schedule the recording. *Id*. (citing Ex. 2211 ¶ 188). Rovi argues that Comcast's rationale to combine the teachings of Blake and Killian depends entirely upon a person of ordinary skill in the art being motivated to modify only a subset of Blake's user input devices (i.e., those devices capable of rendering a display) for only one of four separately disclosed embodiments (i.e., Blake's "theme" embodiment). *Id.* Consequently, Rovi asserts that Comcast's rationale to combine the teachings of Blake and Killian is based on conjecture and, therefore, does not amount to a sufficient motivation to combine. *Id*. at 39–40.

In its Reply, Comcast maintains that a person of ordinary skill in the art would have recognized that Killian's viewer profiles would work in Blake's television schedule system. Pet. Reply 22–23 (citing Pet. 28–30, 43–44; Ex. 1202 ¶¶ 158–162). Comcast argues that, although Blake's remote and local guides differ in function, they are similar to the extent that both display and allow user selection of program listings. *Id*. at 23 (citing Ex. 1252 ¶¶ 48–52). Comcast, therefore, argues that it would have been obvious to one of ordinary skill in the art to apply Blake's teachings with respect to the local guide to its remote guide. *Id*. Next, Comcast argues that Blake teaches that its guides present a customized line-up of channels. *Id*. (citing Ex. 1222, 16:20–22; Ex. 1202 ¶¶ 154, 155). Similarly, Comcast argues that Killian's viewer profiles are used to generate tailored displays of program listings. *Id*. (citing Pet. 28–30, 43–44; Ex. 1202 ¶¶ 158–162). Given these similarities, Comcast asserts that a person of ordinary skill in the art would have found it obvious to use Killian's viewer profiles to improve Blake's local and remote guides. *Id*. (citing Ex. 1252 ¶¶ 61–64).

Comcast further contends that Killian's viewer profiles are complementary to and compatible with Blake's theme selections. Pet. Reply 23. According to Comcast, Killian's viewer profiles beneficially "track a user's preference" to "generate more effective user interfaces." *Id*. at 24 (citing Pet. 29–30). Comcast then asserts that a person of ordinary skill in the art would have viewed Blake's theme selections and Killian's profile-specific listings as complementary techniques, both of which are capable of being employed in Blake's remote guide. *Id*. (citing Ex. 1252 ¶ 64). Comcast further argues that, because Blake's remote guide already offered multiple ways to select programs, some of which may have been preferred over others, it would have been obvious to one of ordinary skill in the art to improve Blake's local and remote guides with Killian's viewer profiles. *Id*. (citing Ex. 1252 ¶¶ 62–64).

Comcast also disagrees with Rovi's argument that integrating Killian's viewer profiles into Blake's television schedule system would unnecessarily complicate Blake's system. Pet. Reply 23. Comcast argues that, in the scenario where Blake's input device 332 is a laptop computer, it would be well-equipped to implement sophisticated user interfaces, such as those taught by Killian. *Id*. (citing Ex. 1252 ¶ 65).

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 viewer profiles in Blake's television schedule system. When, as here, a technique has been used to improve one device (i.e., Killian's technique of generating program guide displays based on viewer profiles), 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 technique to Blake's television schedule system, thereby allowing the remote user interface on Blake's input device 332 to generate a display by rendering television program listings based on user preferences), using the technique is obvious unless its actual application is beyond the skill level of an ordinary skilled artisan. *See* Pet. 28–30, 44; Ex. 1202 ¶¶ 109, 159–161. The record includes credible evidence explaining why applying Killian's technique to Blake's television schedule system would not have been uniquely challenging or otherwise beyond the skill level of an ordinary skilled artisan. Comcast's declarant, Dr. Tjaden, provides the necessary motivation for doing so—namely, "to better track a user's preferences and generate more effective user interface[s]" in order to "better [identify] . . . desired/undesired content." Ex. 1202 ¶¶ 109, 161.

We do not agree with Rovi's arguments that Blake and Killian have fundamentally different teachings and purposes. *See* PO Resp. 38–39. As an initial matter, Blake generally relates to a television schedule system with enhanced recording capability. Ex. 1222, 1:17–19. In particular, Blake discloses that a user may select a program for automatic, unattended recording by highlighting and selecting the desired program in a television schedule guide, such as the one illustrated in Figure 12. *Id.* at 16:12–14, 16:17–19, 16:22–25. Similarly, Killian generally relates to an electronic programming guide that operates on a computing platform using information from the Internet for display on a television. Ex. 1208, 2:1–3, 3:18–23; *see also* Ex. 1202 ¶ 108 (Dr. Tjaden testifies that "[t]he general area of technology of Killian is also the same as Blake; namely, that of interactive electronic program guides . . . , and remote or local access to and use of [interactive electronic program guides] to control end-user video equipment." (citing Ex. 1208, [54], 1:7–9)). Consequently, we find that Blake and Killian fall in the same field of endeavor.

Dr. Tjaden's testimony supports our finding that Blake and Killian are not fundamentally different and incompatible. In his Declaration accompanying the Petition, Dr. Tjaden testifies that the remote user interface on Blake's input device 332 "allows the user to filter program listings according to themes, tracks the user's selections, and stores that information at [central] processing system 334." Ex. 1202 ¶ 109 (citing Ex. 1222, 18:1–10, 18:12–14). Dr. Tjaden then testifies that Killian teaches customizing program guides "based on user profile information stored locally or remotely." *Id.* (citing Ex. 1208, 9:10–25, 11:20–21). Because the systems of Blake and Killian both store information specific to each user, Dr. Tjaden

testifies that "[a person of ordinary skill in the art] would have recognized that Killian's [viewer profiles] could be used to store information about user preferences in Blake[']s television schedule system]. . . . This would be done for the purpose of customizing the remote access guide (i.e., the 'remote theme guide'), providing the advantages discussed in Killian." *Id.* (emphasis omitted). In his Declaration accompanying the Reply, Dr. Tjaden clarifies that "a [person of ordinary skill in the art] would not have had to replace or discard Blake's theme selections to implement [Killian's] profile-based selections. The addition of Killian's profile-based selections would be a usability gain without any tradeoffs for the user." Ex. 1252 ¶ 63 (citing Ex. 1202 ¶ 161).

We also do not agree with Rovi's argument that integrating Killian's viewer profiles into Blake's television schedule system would unnecessarily complicate Blake's system. *See* PO Resp. 38–39. This argument is predicated on the notion Comcast's proposed combination of Blake and Killian somehow includes the bodily incorporation of Killian's "suggest module" on a JAVA-based platform. *See id.* Killian's "suggest module" on a JAVA-based platform, however, is not relevant to Comcast's ground based on the combined teachings of Blake and Killian—only Killian's technique of generating program guide displays based on viewer profiles. *See In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973) ("Combining the *teachings* of references does not involve an ability to combine their specific structures."). Stated differently, Comcast does not advocate combining Killian's "suggest module" on a JAVA-based platform with Blake's television schedule system. Instead, Comcast argues that applying Killian's technique of generating program guide displays based on viewer profiles to Blake's

television schedule system would allow the remote user interface on Blake's input device 332 to generate a display by rendering television program listings based on user preferences. For the reasons we identify above, the evidence of record supports Comcast's explanation in this regard. *See* Pet. 28–30, 44; Ex. 1202 ¶¶ 109, 159–161.

In any event, even if we were to assume that Comcast's proposed combination of Blake and Killian somehow includes the bodily incorporation of Killian's "suggest module" on a JAVA-based platform, which, as we explain above, it does not, Comcast presents supporting testimony from Dr. Tjaden that indicates Blake's input device 332 would be capable of implementing a JAVA-based user interface. In his Declaration accompanying the Reply, Dr. Tjaden testifies that, because Blake discloses a scenario where input device 332 is a laptop computer, "[the laptop computer] would have had no problem implementing Killian's JAVA-based user interfaces if desired." Ex. 1252 ¶ 65 (citing Ex. 1222, 17:5–8). We credit this testimony from Dr. Tjaden because there is no evidence of record to suggest that, in the scenario where Blake's input device 332 is a laptop computer (Ex. 1222, 17:5–8), the laptop computer is anything other than a general purpose computer capable of implementing a variety of software platforms, including one based on JAVA.

In addition, we do not agree with Rovi's arguments that Comcast must identify a problem in Blake that a person of ordinary skill in the art would have been motivated to solve in order to implement Killian's viewer profiles in Blake's television schedule system. *See* PO Resp. 39. If we were to accept this line of argument, it would run contrary to the principles of law articulated in *KSR*. In *KSR*, the Supreme Court emphasized "an expansive

and flexible approach" to an obviousness evaluation. 550 U.S. at 415; *see also Jazz Pharm., Inc. v. Amneal Pharm., LLC*, 895 F.3d 1347, 1363 (Fed. Cir. 2018) ("*KSR* did not impose a rigid requirement to identify . . . a problem to be solved in the art . . . ."). The Court stated that, "[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents," amongst other things, "to determine whether there was apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR*, 550 U.S. at 418. Moreover, the Court explained that, "[u]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id.* at 420.

Comcast's analysis is in line with these principles of law. Relying on the supporting testimony of Dr. Tjaden as evidence of the background knowledge of one ordinary skill in the art, Comcast looked to the interrelated teachings of Blake and Killian—specifically, their overlapping teachings with respect to television program guides and storing information specific to each user—to ascertain whether there was a sufficient reason to combine certain aspects of those elements to arrive at the claimed invention. *See* Pet. 28–30, 44; Ex. 1202 ¶¶ 109, 159–161. Comcast further explained that using Killian's user profile data in Blake's television schedule system would have allowed the system to better track a user's preferences, generate more effective user interfaces, and better identify desired and undesired content. Pet. 29, 44. Rovi does not direct us to, nor are we aware of, any persuasive authority that requires a party to demonstrate obviousness by specifically identifying a problem in a first prior art reference that a person of ordinary

skill in the art would have been motivated to solve in order to implement the interrelated teachings of a second prior art reference.

Lastly, we do not agree with Rovi's argument that Comcast's rationale to combine the teachings of Blake and Killian is based on conjecture and, therefore, does not amount to sufficient motivation to combine. *See* PO Resp. 39–40. As we explained above, both Comcast and Dr. Tjaden provide sufficient reasoning as to why it would have been obvious to one of ordinary skill in the art to combine the teachings of Blake and Killian. *See* Pet. 28–30, 44; Ex. 1202 ¶¶ 109, 159–161. This reasoning is not based on conjecture because it is directed specifically to the subject matter at issue in independent claims 1 and 10, and there is a sufficient basis in the record to support such reasoning. As a result, instead of presenting reasoning that is based on conjecture, as asserted by Rovi, Comcast has articulated sufficient reasoning with rational underpinnings to support a conclusion of obviousness—namely, use of a known technique (i.e., Killian's technique of generating program guide displays based on viewer profiles) to improve similar devices (i.e., Blake's television schedule system) in the same way (i.e., by allowing the remote user interface on Blake's input device 332 to generate a display by rendering television program listings based on user preferences).

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 Blake and Killian.

6. Claims 3–9 and 12–18

In its Patent Owner Response, Rovi does not address separately whether the combined teachings of Blake and Killian account for the limitations of dependent claims 3–9 and 12–18. *See generally* PO Resp. 20–41. 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 Blake with those of Killian, and we agree with and adopt Comcast's analysis. *See* Pet. 50–59. Comcast, therefore, has demonstrated 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 Blake and Killian.

C. Obviousness Over the Combined Teachings of Blake, Killian, and Lawler

Comcast contends that claims 2 and 11 of the '413 Patent are unpatentable under § 103(a) over the combined teachings of Blake, Killian, and Lawler. Pet. 59–61. 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. 1202 ¶¶ 216–222. 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 Blake and Killian. PO Resp. 41.

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. 1209, 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 the local interactive television program guide records the television program corresponding to the selected television program listing at a television distribution facility." Ex. 1201, 40:48–51. Dependent claim 11 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. 60 (citing Ex. 1209, 2:24–29, 13:26–38;

Ex. 1202 ¶¶ 217, 218). Comcast then argues that, as a substitute for recording programs locally, it would have been obvious to modify the Blake 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.* (citing Ex. 1209, 2:24–29, 10:56–59, 13:26–38; Ex. 1202 ¶¶ 218, 219). 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 Blake and Killian television schedule system), and would produce a predictable result that provides the stated benefits of Lawler. *Id.* at 60–61 (citing Ex. 1209, 13:33–38; Ex. 1202 ¶ 219).

In its Patent Owner Response, Rovi contends that Comcast's explanations for combining the teachings of Blake, Killian, and Lawler are conclusory and, therefore, fail to provide a sufficient reason for making the proffered combination. PO Resp. 41. According to Rovi, Comcast fails to explain how or why one of ordinary skill in the art would have incorporated Lawler's technique for recording programs at a television distribution facility into the combined television schedule system of Blake and Killian. *Id.* In particular, Rovi argues that Comcast does not explain how a person of ordinary skill in the art would have moved the recorder to Lawler's television distribution facility, while still retaining the operability of the combined television schedule system of Blake and Killian, including the

ability for the user to control operation of Blake's recording device 336 local to the user's system. *Id*.

In its Reply, Comcast counters that Lawler's centralized recording still would allow the user to view recorded content at his/her home using Blake's television schedule system. Pet. Reply 25. Comcast argues that integrating this teaching in Lawler into the combined television schedule system of Blake and Killian would provide the added advantage of allowing the physical storage of content to occur at Lawler's television distribution facility, which was, and remains, a well-known method for increasing storage efficiency. *Id*. (citing Ex. 1252 ¶ 66).

As an initial matter, Rovi does not address separately Comcast's explanations and supporting evidence as to how the combined teachings of Blake, Killian, and Lawler account for the limitations of dependent claims 2 and 11. *See generally* PO. Resp. 41. 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. 59–61.

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 modify the combined television schedule system of Blake 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 Blake 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. 59–61; Ex. 1202 ¶¶ 216–219. The record includes credible evidence explaining why applying Lawler's technique to the combined television schedule system of Blake 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. 1209, 13:33–35.

We do not agree with Rovi's argument that Comcast does not explain how a person of ordinary skill in the art would have moved the recorder to Lawler's television distribution facility, while still retaining the operability of the combined television schedule system of Blake and Killian *See* PO Resp. 41. As Comcast explains in the Petition, modifying the Blake and Killian combination to include recording programs at a television distribution facility, as taught by Lawler, serves as a substitute for the user's ability to record programs locally on Blake's recording device 336. *See* Pet. 60. For instance, instead of using Blake's recording device 336 to record programs, which still remains a viable option, a user would communicate with Lawler's television distribution facility to record programs via Blake's central processing system 334. Dr. Tjaden testifies—and we agree—that recording programs at Lawler's television distribution facility, in lieu of recording programs locally on Blake's recording device 336, would increase storage efficiency by making these recordings available to other users and it

would eliminate the need for each user to maintain a separate recorder. *See* Ex. 1202 ¶ 2019; Ex. 1252 ¶ 66.

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

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