

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Comcast Cable Communications, LLC,

Petitioner,

v.

WhereverTV, Inc.,

Patent Owner

Patent No. 8,656,431

Filing Date: July 10, 2006

Issue Date: February 18, 2014

Title: GLOBAL INTERACTIVE PROGRAM GUIDE
APPLICATION AND DEVICE

Inter Partes Review No.: IPR2019-01483

PETITION FOR *INTER PARTES* REVIEW

UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 *et seq.*

Petition 2 of 2

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1101	U.S. Patent No. 8,656,431 (“431 patent”)
1102	Prosecution History of U.S. Patent No. 8,656,431
1103	Plaintiff’s Objections and Answers to Defendant’s Interrogatories (Nos. 1-2), <i>WhereverTV, Inc. v. Comcast Cable Communications, LLC</i> , Civil Action No. 2:18-cv-529-FTM-99CM (FLMD Aug 1, 2018)
1104	Plaintiff’s Amended Notice of Asserted Patent Claims, <i>WhereverTV, Inc. v. Comcast Cable Communications, LLC</i> , Civil Action No. 2:18-cv-529-FtM-99CM (FLMD Aug 1, 2018)
1105	Deposition of Mark Cavicchia (named inventor on U.S. Patent No. 8,656,431) dated May 15, 2019 (excerpts)
1106	Declaration of Dr. Andrew Lippman
1107	Patent Owner’s proposed claim constructions in the Florida action
1108	McGraw-Hill Dictionary of Scientific and Technical Terms, 6th ed. (2003) (definition of “server”)
1109	Microsoft Press Computer User’s Dictionary (1998) (definition of “server”)
1110	U.S. Patent No. 7,546,623 (“Ramraz”)
1111	U.S. Patent No. 7,373,652 (“Bayrakeri”)
1112	Comcast Corporation’s Form 10-K 2004 Annual Report
1113	“2004 Form 10-K, The DirecTV Group,” U.S. Securities and Exchange Commission (March 17, 2004)
1114	U.S. Patent Publication No. 2006/0235800 (“Furlong”)
1115	U.S. Patent No. 6,009,116 (“Bednarek”)

1116	U.S. Patent No. 7,260,538 (“Calderone”)
1117	KRON-TV, https://en.wikipedia.org/wiki/KRON-TV (last visited August 16, 2019)
1118	KRON-TV webpage from www.archive.org dated December 28, 2004
1119	American Broadcasting Company, https://www.wikizero.com/en/ABC_(United_States) (August 9, 2019)
1120	KABC-TV, https://en.wikipedia.org/wiki/KABC-TV (August 9, 2019)
1121	About ABC7 Los Angeles, https://abc7.com/community-events/about-abc7-los-angeles/50642/ (August 9, 2019)
1122	Erin Joyce, TV: the Next Portal War, Internet News (August 8, 2003)
1123	Evaluating DRM: Building a Marketplace for the Convergent World, Center for Democracy and Technology (Sept. 2006)

Petitioner Comcast Cable Communications, LLC (“Comcast” or “Petitioner”) seeks institution of *inter partes* review of claims 1 and 3-9 of U.S. Patent No. 8,656,431 (“’431 patent”) (Ex. 1101).

I. MANDATORY NOTICES (37 C.F.R. § 42.8)

A. Real Party-In-Interest & Related Matters Under 37 C.F.R. § 42.8(b)(1) & (b)(2)

Petitioner is the real party-in-interest for this *inter partes* review petition (“petition”). Out of an abundance of caution, Petitioner identifies each of the following entities as a real-party-in-interest because each was previously named as a defendant in the action described below: Comcast Corporation, Comcast Cable Communications Management, LLC, and Comcast Business Communications LLC. No unnamed entity is funding, controlling, or directing this petition or Petitioner or otherwise has an opportunity to do so at any time.

The ’431 patent is asserted against Petitioner in an action captioned *WhereverTV, Inc. v. Comcast Cable Communications, LLC*, Civil Action No. 2:18-cv-529-FTM-99CM (FLMD Aug 1, 2018) (“Florida action”). The ’431 patent is also at issue in another Comcast petition for *inter partes* review, IPR2019-01482.

B. Lead and Back-Up Counsel and Service Information Under 37 C.F.R. §§ 42.8(b)(3) & (b)(4)

Petitioner submits a power of attorney and designates the following counsel:

Lead Counsel	Back-Up Counsel
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ComcastWhereverTVIPR@bakerlaw.com.

II. REQUIREMENTS FOR A PETITION FOR *INTER PARTES* REVIEW

A. Payment of Fees Under 37 C.F.R. § 42.103

The Director is authorized to charge Deposit Account No. 23-3050 for all fees associated with this Petition.

B. Grounds for Standing under 37 C.F.R. § 42.104(a)

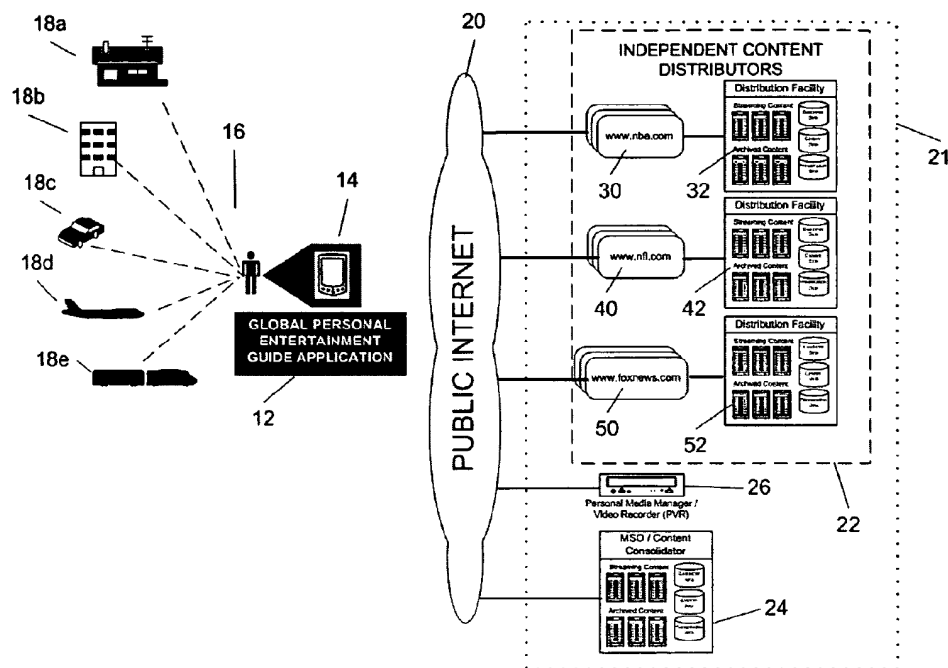
Petitioner certifies that the '431 patent is eligible for *inter partes* review and that Petitioner is not barred or estopped from requesting review.

III. OVERVIEW OF THE '431 PATENT

A. Specification

The '431 patent, titled “Global Interactive Program Guide Application and Device,” describes an internet-connected mobile device 14 and an interactive program guide (IPG) application 12 that runs on the mobile device 14, as shown in

Figure 1:



Ex. 1101 at 9:28-10:3, Fig. 1. The user 16 can watch video content on the mobile device 14 obtained over the Internet from disparate sources, such as from an “MSO” 24 like Comcast or CableVision or from “independent content distributors” 22 such as internet-based sources like www.nba.com 30, www.nfl.com 40, or www.foxnews.com 50. *Id.* at 8:63-9:23. The mobile device 14 includes a screen to

watch video content and alternatively can be used as a remote control when viewing the content in a television, as shown in Figure 6:

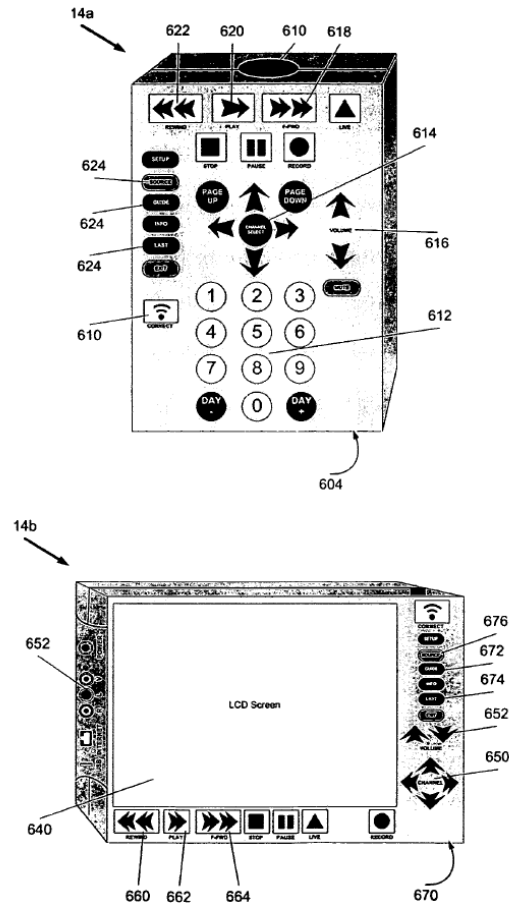


FIG. 6

Id. at 13:54-14:26, Fig. 6.

The IPG 12 lists available programming by channel and time. *Id.* at 1:54-62. A user can program the IPG 12 to display, in addition to information about MSO-provided video content, information about video content from independent content distributors and can otherwise “organize, customize, and personalize the

organization of content into specific channels based on user preferences.” *Id.* at 11:5-8, 11:36-39, 15:21-58, Figs. 3-5.

B. Summary of Prosecution of the ’431 Patent

As-filed claim 1 appears to have been directed to the described mobile device having the disclosed IPG:

1. A portable content manager device for receiving and viewing content comprising:

an acquisition module that obtains content and data that describes said content from a web server over a communications link; and

an interface module that presents the data that describes said content to a user and receives input from said user.

Ex. 1102 at 1102.0031.

Aside from “content manager device” in the preamble, the issued claim bears no resemblance to as-filed claim 1, having been entirely rewritten over the course of ten Office and advisory actions. *Id.* In the end, the examiner suggested that the claims be amended to recite that the IPG application “allows for the IPG to be configured by a user with respect to adding or deleting channels from any of the one or more MSOs or the one or more MSOs’ [to] place the current application in conditions for allowance.” *Id.* at 1102.0735. The applicant followed this suggestion

and the examiner allowed the claims. Ex. 1101, claim 1.

In the Notice of Allowance, the examiner cited U.S. Patent Publication No. 2006/0150214, which is the published application for the primary reference that forms the invalidity grounds in this petition, Ramraz. Ex. 1102 at 1002.0743. However, as further explained in section VIII below, the examiner's citation to that application should not be a reason to deny institution under 37 U.S.C. § 325(d). The examiner merely identified the published application for Ramraz as "pertinent prior art" that was "made of record and not relied upon." *Id.* at 1102.0743. Therefore, although the examiner was apparently aware of the Ramraz application during prosecution, neither Ramraz nor its published application is cited on the face of the '431 patent and neither was relied upon during prosecution.

Also, in the Notice of Allowance, the examiner stated that the prior art did not disclose an IPG that was configurable with respect to adding or deleting channels. *Id.* at 1102.0735. As explained herein, Ramraz discloses all limitations of issued claim 1 other than that limitation. Bayrakeri, which was neither cited nor relied upon during prosecution, discloses the remaining limitation that the examiner believed was missing from the prior art.

C. Priority Date

The '431 patent is entitled to priority of July 10, 2006—its application filing date. In the Florida action, Patent Owner contends that the inventor conceived the

invention by May 2003 and reduced it to practice in spring 2006. Ex. 1103 at 1-3. Patent Owner does not mention diligence. In any event, Patent Owner's proof falls well short of that needed to demonstrate prior invention.

In support of prior conception, Patent Owner relies on an uncorroborated 11-page document supposedly written by the inventor.¹ *Id.* (“WTV 001654-001664”). But the inventor later admitted at deposition that he did not know when he supposedly wrote nine of the 11 pages and that they could have been written as late as the filing of the patent application. Ex. 1105 at 177:18-22; *see also id.* at 158:2-177:23. Therefore, nine of the 11-page “conception” document categorically cannot be used to prove prior conception. *Taurus IP, LLC v. DaimlerChrysler Corp.*, 726 F.3d 1306, 1323 (Fed. Cir. 2013) (stating that evidence of conception must encompass all limitations of the claimed invention).

As for the two pages purportedly dated May 2003, these two pages do not encompass all limitations of the claimed invention. But even if they did, Patent Owner has not provided any corroborating evidence. *Taurus*, 726 F.3d at 1323. To the contrary, the inventor testified under oath that there is no corroborating evidence because only he knew anything about his supposed invention and the contents of his

¹ Comcast does not provide the 11-page document as part of this petition because Patent Owner labeled it “confidential” under the governing protective order.

supposed notebook until he engaged patent counsel in 2006. Ex. 1105 at 178:19-22; *see also id.* at 162:9-163:2, 178:1-22; *Transocean Offshore Deepwater Drilling, Inc. v. Globalsantafe Corp.*, 443 F. Supp. 2d 836, 851, 852, 856 (Fed. Cir. 2006) (“[A]n inventor’s own unwitnessed documentation does not corroborate an inventor’s testimony about inventive facts”) (internal citation omitted).² Thus, Patent Owner has no corroborating evidence establishing prior conception, let alone reduction to practice or diligence between conception and reduction to practice. *Taurus*, 726 F.3d at 1323; *Transocean*, 443 F.Supp.2d at 851, 852, 856.

D. Claim Construction (37 C.F.R. § 42.104(b)(3))

The claim terms of the ’431 patent are to be construed using the same standard applied in federal courts, “including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b). The following proposed constructions relate only to those terms upon which controversy may likely be raised with respect to this petition and are proffered only to the extent necessary to resolve any such controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

² The handwritten document’s 2003 date is also inadmissible because it is hearsay not subject to any hearsay exception.

Additionally, Petitioner is contending invalidity of the Challenged Claims for both lack of written description and indefiniteness in the Florida action. For purposes of this petition only, Petitioner contends that the claim boundaries are sufficiently described and definite to at least encompass the teachings of the cited references or otherwise applies Patent Owner’s constructions.

1. “server”

“Server” in claim 1 is properly construed as “*a computer on a network that supplies information when it receives requests via the network.*” Ex. 1106 ¶ 26.

Claim 1 recites a server “resident on a network” that supplies information via the network to the device, namely, “descriptive program data.” *Id.* ¶ 27; Ex. 1101, claim 1. Otherwise, the specification does not mention the word “server.” Ex. 1106 ¶ 28.

The prosecution history does not describe the claimed server either. Although the as-filed claims recited a “web server,” the applicant deleted that language in response to the first office action, and amended the claims to recite the server of issued claim 1 without further describing it. *Id.* at 1102. 1102.0245, -0346.

Extrinsic evidence further supports the construction. Ex. 1108 (*McGraw-Hill Dictionary*) (defining “server” as a “computer or software package that sends requested information to a client”); Ex. 1109 (*Microsoft Press Computer User’s Dictionary*) (defining “server” as “a computer or program that responds to

commands from a client”).

2. “multiple cable system operator (MSO)”

“Multiple cable system operator (MSO)” is properly construed as “*an aggregator of video content that provides user access to the video content in more than one community and that exercises control over what video content is made available to the user.*” Ex. 1106 ¶ 31.

Surrounding claim language supports that an MSO is an aggregator that “provides user access to the video content.” For example, claim 1 refers to “video content available from one or more multiple cable system operators (MSOs). . . .” Ex. 1001 at 16:33-36, 16:41-43; Ex. 1106 ¶ 32.

The specification supports that an MSO is “an aggregator of video content that provides user access to the video content” and that “exercises control over what video content is made available to the user.” Ex. 1001 at 2:38-43, 3:48-53, 9:7-14; Ex. 1106 ¶ 33:

- “[U]ser 16 can watch a traditional television content available from an MSO/content consolidator 24, such as Comcast” Ex. 1001 at 9:7-14;
- “[I]f the MSO chooses not to purchase rights to broadcast a specific content provider’s channel, the user cannot access or integrate that specific content provider’s channel” *Id.* at 3:48-53;
- “There are IPTV providers, which essentially are Internet-based MSO’s,

acting as a ‘content aggregation middleman’ where the MSO . . . is in control of what content is available.” *Id.* at 2:38-43.

Finally, the specification supports that an MSO provides user access to video content “in more than one community”: “The formation of the cable television content consolidator, also known as a Multiple System Operator (MSO) . . . signaled the birth of . . . viewing whereby a user could travel from one location to another . . . to access identical programming in distant locations. *Id.* at 1:36-43. Additionally, the specification recognizes both that Comcast is an MSO and that Comcast provided video content in more than one community, namely Philadelphia and Seattle. *Id.* at 6:19-20, Fig. 3; Ex. 1106 ¶ 34.

The prosecution file further supports this construction. Ex. 1106 ¶ 36. For example, the applicant argued that an MSO is “an aggregator of video content that provides user access to the video content” and that “exercises control over what video content is made available to the user”:

- “A cable company acquires rights to broadcast individual channels from the owners of those channels MSOs downlink content and then rebroadcast it from their head-end(s).” Ex. 1102 at 1102.0463-0464;
- “An MSO is the equivalent of a cable system that receives and broadcasts channels. An MSO controls content availability” *Id.* at 1102.0405;
- “Jump TV meets the above characteristics of an MSO. . . . JumpTV’s

system has complete control over what content customers can or cannot access.” *Id.*

The prosecution history also supports that an MSO provides user access to the video content “in more than one community.” Ex. 1106 ¶ 36. The applicant argued, “[m]ost system operators run cable systems in more than one community. Therefore, the vast majority of them are Multiple System Operators.” Ex. 1102 at 1102.0463, 0405.

In the Florida action, Patent Owner construed the phrase to mean, “a traditional cable or Internet television content consolidator that receives and rebroadcasts channels of video content.” Ex. 1107 at 1-2. While this construction is flawed, the challenged claims stand invalid even if this construction is applied.

A. Level of Ordinary Skill

The alleged invention relates generally to the field of network devices and applications for sending, receiving, managing, and displaying video content, and specifically to interactive program guides for use in conjunction with video content from one or more sources. Ex. 1101, Abstract, 1:6-11; Ex. 1106 ¶ 37. A person having ordinary skill in the art at the time of the alleged invention (“POSA”) would have had at least a bachelor’s degree in electrical engineering, computer engineering, computer science, or a similar discipline, and at least two years of experience in

designing or programming computer networks, or applications for transmitting or managing video content. Ex. 1106 ¶ 37.

IV. IDENTIFICATION OF CHALLENGE (37 C.F.R. § 42.104(B)(1) & (2)) AND REQUESTED RELIEF (37 C.F.R. § 42.22)

Petitioner challenges claims 1 and 3-9 of the '431 patent as obvious under 35 U.S.C. § 103(a) (pre-AIA) based on the following grounds:

Ground	Challenged Claims	Bases for Unpatentability
A	1, 5, and 7-9	Ramraz and Bayrakeri
B	3	Ramraz and Bayrakeri and Furlong
C	4	Ramraz and Bayrakeri and Bednarek
D	6	Ramraz and Bayrakeri and Calderone

V. SUMMARY OF ARGUMENT

As to independent claim 1, Ramraz discloses a content distribution system comprising a server that is distinct from an MSO (*e.g.*, a cable company) and non-MSO (*e.g.*, a local television station), wherein the server contains descriptive program data about video content from both sources. *E.g.*, Ex. 1110 at 2:56-60, 3:56-63. 4:20-48, Fig. 1, 12. It also discloses a user-configurable IPG that allows users to delete channels from the IPG. *E.g.*, *id.* at 3:64-67, 10:43-49, 14:22-27. Bayrakeri discloses an IPG that is also user-configurable with respect to adding channels to the IPG. *E.g.*, Ex. 1111 at 25:19-37.

It would have been obvious by the '431 patent's priority date to incorporate

the feature of Bayrakeri's IPG application that allows users to configure an IPG with respect to adding channels to Ramraz's disclosed IPG application. As Dr. Lippman explains, doing so would, for example, allow a user to better manage which channels are viewable and provide easier and quicker access to channels using the Ramraz IPG, thereby providing for a more user-friendly program guide, more control over content availability, and an overall better user experience. Ex. 1106 ¶ 94.

As for dependent claims 3-9, those claims are obvious and well-known bells-and-whistles used in prior-art delivery of MSO and non-MSO video content and provision of IPGs to subscribers. *See* § VII.A.2-5 & VII.B-D below.

VI. SCOPE AND CONTENT OF THE PRIOR ART

Although the Ramraz published application was mentioned during prosecution, it was neither cited on the face of the patent nor substantively relied on as a ground for rejection. The examiner specifically stated that he did not rely on the Ramraz application, which likely accounts for why it is not cited on the patent. Ex. 1102 at 1102.0743. None of the other references presented here (Bayrakeri, Furlong, Bednarek, and Calderone) were identified or disclosed during prosecution. Nor were the arguments presented below raised or considered by the examiner.

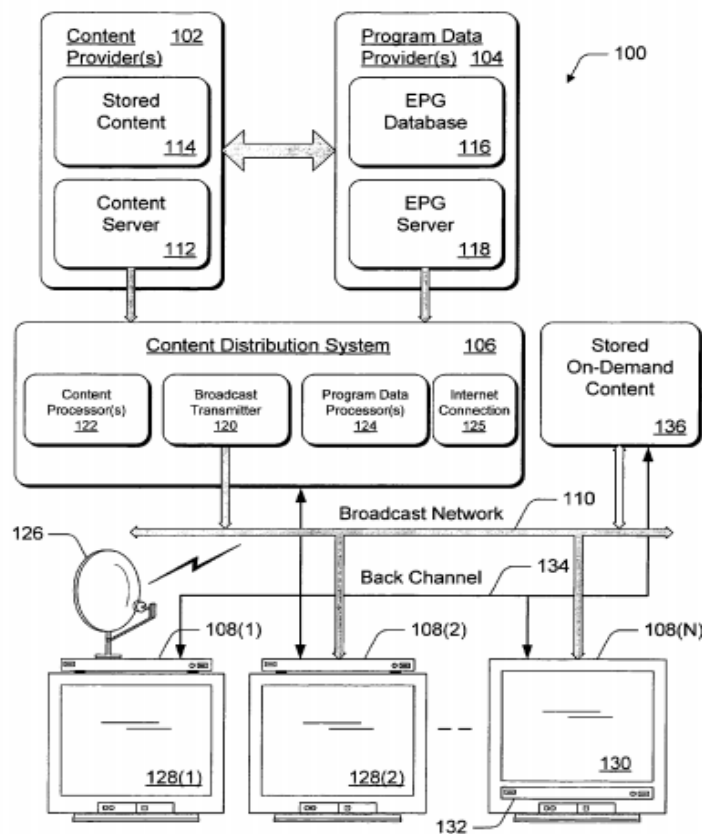
Each prior art reference is summarized below. In addition, Dr. Lippman explains the relevant state of the art in sections IX-X of his declaration. As he explains, the features recited in the Challenged Claims were well-known in the art,

and it would have been obvious to combine them to arrive at the alleged inventions recited in the Challenged Claims. Ex. 1106 ¶¶ 11.

A. Ramraz

Ramraz was filed on January 5, 2005 and issued June 9, 2009. Ex. 1110. Because it was filed before the priority date of the '431 patent (*i.e.*, July 10, 2006), it is prior art under 35 U.S.C. § 102(e) as of January 5, 2005.

Ramraz describes providing multi-source content in electronic program guides. *Id.*, Abstract. An exemplary system is depicted in Figure 1:



Ex. 1110, Fig. 1.

The system includes multiple content providers 102, which are defined as content

sources, such as cable and satellite television providers like “Comcast” and “DirectTV,” i.e., MSOs; as well as non-MSO sources like “antenna, camcorders, VCRs, and digital camera.” *Id.* at 2:56-60, 3:1-6. Content providers include stored content 114, such as “television programs,” “live” content, and “movies,” and content servers 112 for delivering the content to content distribution system 106. *Id.* at 3:48-56.

The system also includes program data provider(s) 104, which in turn include an electronic program guide (EPG) database 116 and an EPG server 118. *Id.*, Fig. 1. EPG database 116 stores electronic files of program data and is used to generate an EPG. *Id.* at 3:58-60. The program data includes “program titles, ratings, characters, descriptions, actor names, station identifiers, channel identifiers, schedule information, and so on.” *Id.* at 3:60-63. The EPG server 118 processes the program data to generate a published version, which contains programming information for all channels for one or more days. *Id.* at 3:64-67. The EPG server 118 distributes the published version to content distribution system 106. *Id.* at 3:67-4:8.

System 106 can be a network operator that provides EPG data and content to subscribers’ client devices 108. *Id.* at 4:46-48. It includes broadcast transmitter 120, processors 122, and program data processors 124. *Id.*, Fig. 1. Transmitter 120 broadcasts signals, such as cable, satellite, and antenna television signals, across

broadcast network 110. *Id.* at 4:20-21.

Network 110 can comprise a data network, such as the Internet. *Id.* at 4:21-31; *see also id.* at 5:14-15 (“[C]lient devices 108 may receive broadcast signals via the Internet”). Before transmission, content processor 122 and program data processor 124 process the received content and program data, respectively. *Id.* at 4:32-36.

Figure 12 shows an exemplary EPG for use with the disclosed system:

1200 →

Channel	12:00	12:30	1:00
2 NBC (Ant)			
2 NBC (Sat)			
3 ABC (Ant)			
3 ABC (Sat)			
⋮			
Video 1			
Video 2			

Ex. 1110, Fig. 12.

The exemplary grid would be displayed on a subscriber’s television screen. *Id.* at 3:15-20; 5:26-34; 10:40-49; Fig. 12. It includes the channel numbers, call signs of the channels (*e.g.*, NBC), a parenthetical indication of the sources (*e.g.*, “(Ant)” for antenna), and cells that include other EPG data such as the programs being broadcasted at a specific time. *Id.* at 10:41-49. The viewer can access the channels

by paging up or down, or by entering a channel number. *Id.* at 10:57-60. The subscriber can also select a specific channel to view programming on the channel. *Id.* at 8:26-30 (“One way is to navigate within the electronic program guide . . . , select a specific service and tune to it.”); 11:14-20 (“Assume now that the viewer wishes to select a particular channel for viewing In this case, the viewer might highlight the program and click ‘OK’ on the remote control.”).

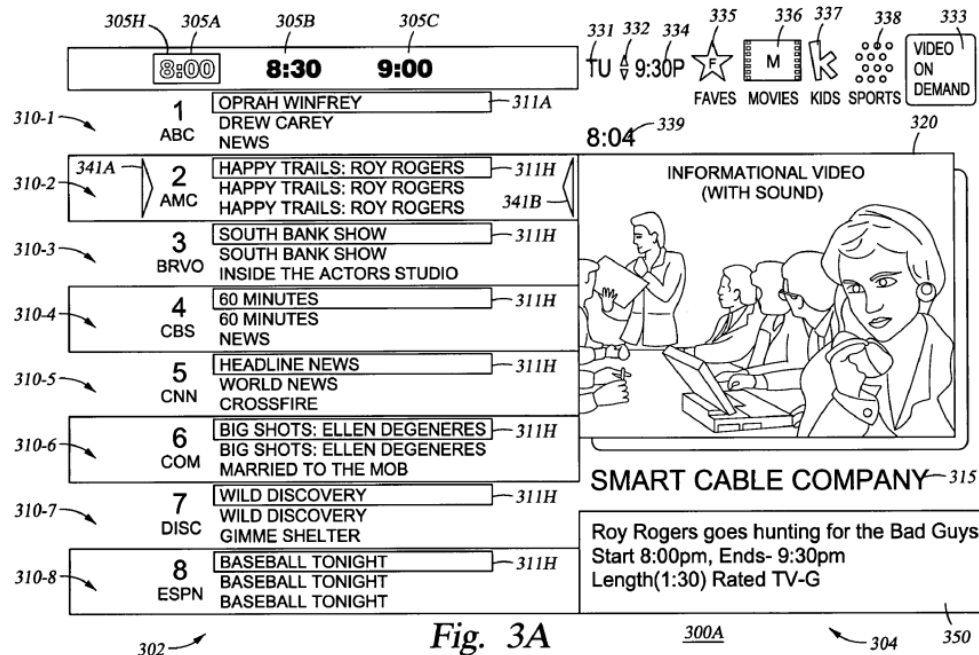
A subscriber can configure the guide by deleting channels from it. *Id.* at 14:21-27. The patent discloses that “a channel filtering mechanism” is provided to assist viewers in removing channels. *Id.* “[I]f a viewer decides that they do not wish to view guide information associated with channels 2 or 10 or the content on channels 2 or 10, then the viewer can opt to have the channel removed from the guide.” *Id.* Although Ramraz does not expressly disclose that the subscriber can “add” channels to the guide, that feature was well known in the prior art, as demonstrated in Bayrakeri.

B. Bayrakeri

Bayrakeri was filed on September 1, 2000 and issued May 13, 2008. Ex. 1111. Because it was filed before the ’431 patent’s priority date, it is prior art under § 102(e) as of September 1, 2000.

Bayrakeri discloses techniques for providing electronic program guides. *Id.*, Abstract. Similar to Ramraz, it discloses interactive guides for watching content in

the form of grids with times, channels, and program descriptions. An exemplary guide is illustrated in Figure 3A:



Ex. 1111, Fig. 3A.

Also like Ramraz, a subscriber using the Bayrakeri system can choose to remove channels from the guide that he or she does not wish to include. *Id.* at 25:19-26.

The disclosed system allows the subscriber to select channels to add to the program guides. *Id.* This process is described as to Figure 21:

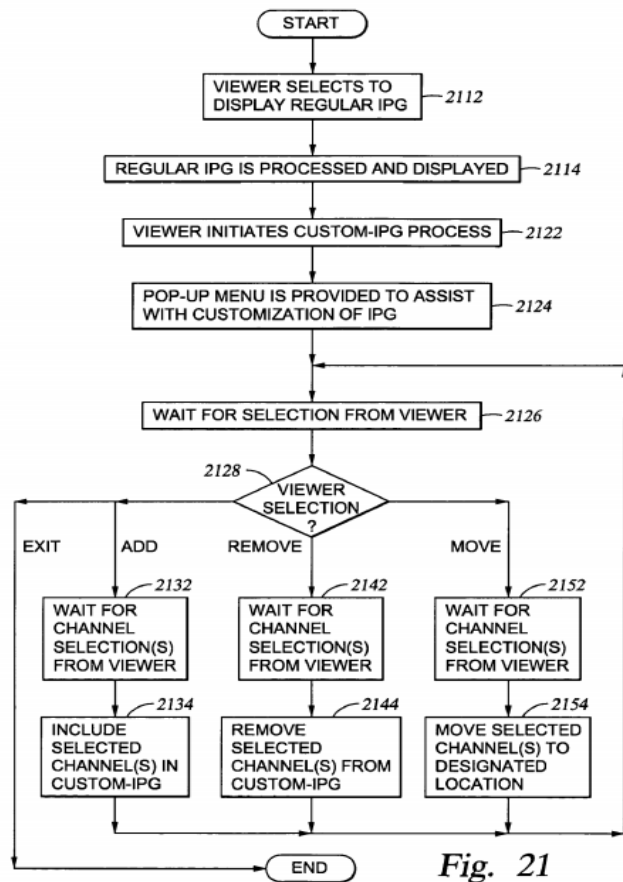


Fig. 21

Ex. 1111, Fig. 21.

As to steps 2126, 2128, and 2132, “[t]he viewer can elect to . . . (1) select a desired channel for inclusion in the custom-IPG, [and] (2) remove an undesired channel from the custom-IPG If the viewer’s selection is to add a channel to the custom-IPG, the process waits for the viewer’s selection of a particular channel or a set of channels to be included in the custom-IPG” *Id.* at 25:19-32. The system allows the viewer to enter a channel selection by “toggling a channel provided on the display . . . , by entering the desired channel (e.g., with the remote control unit), or by some other mechanism.” *Id.* at 25:32-37. Selected channels are then included in

the custom IPG. *Id.* at 25:37-38.

C. Furlong

Filed on April 18, 2005, Furlong published under 35 U.S.C. § 122(b) on October 19, 2006. Ex. 1114. Therefore, it is prior art to the '431 patent at least under § 102(e).

Titled “Digital Rights Management for Media Streaming Systems,” Furlong discloses a system that includes functionality for providing digital rights management (DRM) for broadcast television programming provided over a communications network. *Id.*, Abstract, ¶¶ [0013]-[0015]. A license is used to decrypt and view television-broadcasted content, preventing unauthorized use. *Id.* ¶¶ [0032], [0038], [0044], [0054]-[0058], Fig. 1. The license terms may limit viewing of a channel for a certain period of time, a maximum number of times, on a specified set-top box (STB), or based on the respective subscription. *Id.* ¶ [0048].

D. Bednarek

Bednarek issued on December 28, 1999. Ex. 1115. Because it issued more than one year before the filing date of the '431 patent, it is prior art under § 102(b).

Bednarek is titled a “GPS TV Set Top Box With Regional Restrictions.” It discloses a STB that includes “a global positioning system (GPS) receiver.” *Id.*, Abstract. The GPS receiver checks to see if the STB is at an “authorized location” and “allows descrambling of video signals only if the location is authorized.” *Id.*

The disclosed system is illustrated in Figure 2, which shows an antenna 36, which receives video content and GPS data signals that the STB filters. *Id.* at 9:57-62. A GPS data processor processes the GPS data signals to determine if the STB is at an authorized geographic location. If it is, the processor allows a key to be used to descramble the received video content. If it is not, the processor withholds the key, thus blocking the viewer from watching the video content. *Id.* at 9:63-10:22; 10:22-29; 11:6-11.

E. Calderone

Calderone was filed on January 7, 2003 and issued on August 21, 2007. Ex. 1116. Because Calderone was filed before the priority date of the '431 patent, it is prior art at least under § 102(e) as of January 7, 2003.

Calderone discloses a remote control that is used to issue voice commands for controlling a television. *Id.*, Abstract, 2:22-23. It teaches that a user may utter a voice command into a microphone contained in the remote control. *Id.*, Abstract. The verbal commands are converted to digital form and then transmitted to a cable head-end for voice and word recognition processing. *Id.*, Abstract, 2:21-33, 5:30-33, 5:52-56. Once a command function is determined, the function is transmitted back to the STB for performing the command. *Id.*, Abstract, 2:34-38.

VII. ALL CHALLENGED CLAIMS ARE UNPATENTABLE

The specific grounds below, as discussed and supported in the Declaration of Dr. Lippman, show the prior art disclosures that render the challenged claims unpatentable. Appended to this petition is a listing of the challenged claims showing the claim language as is is addressed below.

A. Ground A – Claims 1, 5, and 7-9 are obvious over Ramraz in view of Bayrakeri.

1. Independent Claim 1

a) Preamble – “A content manager device comprising”

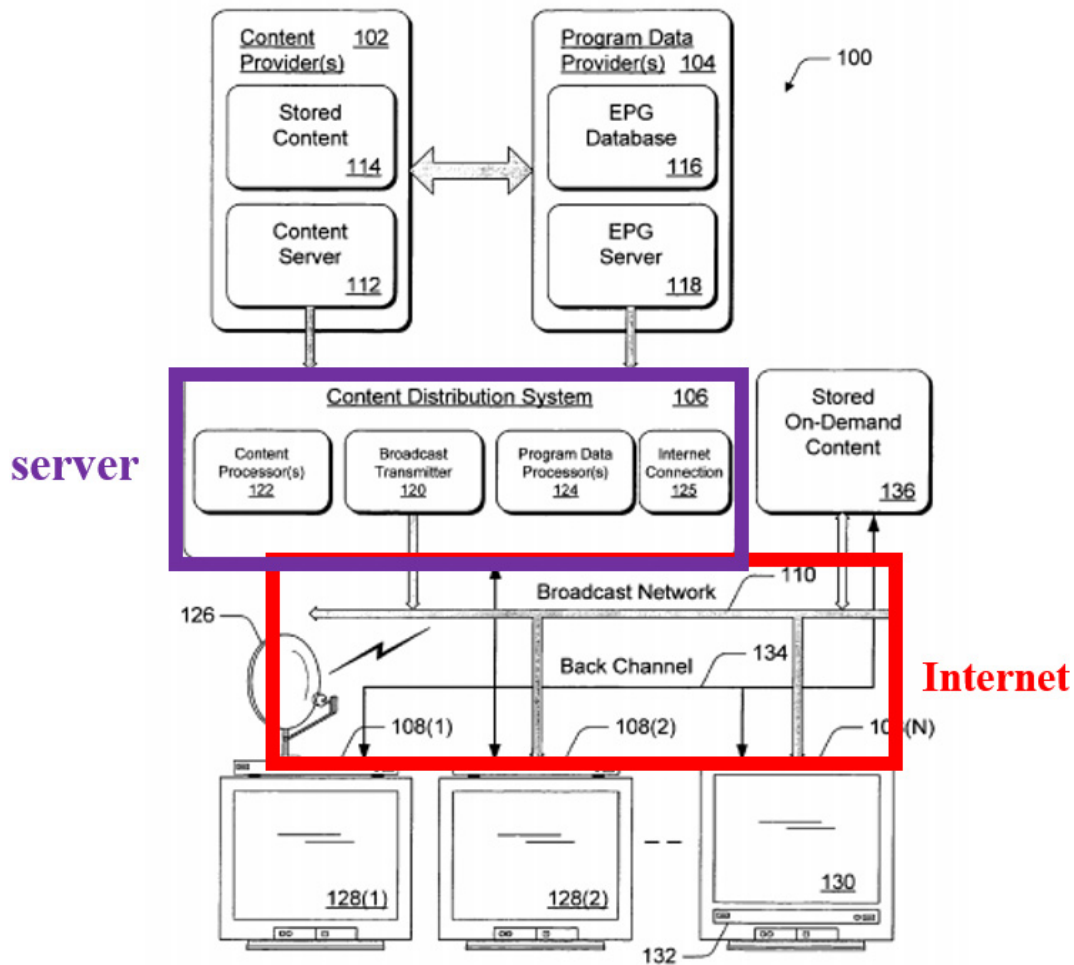
While the preamble is non-limiting for purposes of this petition, Ramraz discloses a “content manager device” as recited in the preamble of claim 1 of the ’431 patent. Ex. 1106 ¶ 58. Ramraz discloses a system “for providing multi-source content in electronic program guides (EPGs)” that “can present the viewer with a user interface, such as a grid, that is efficiently and intelligently assembled and managed to foster a desirable user experience.” Ex. 1110, Abstract. As shown in Figure 1 of Ramraz, the disclosed system includes “content distribution system 106,” which manages distribution of content from content providers 102 to client devices 108. *Id.* at 4:46-48 (“Content distribution system 106 is representative of a . . . network operator, which provides . . . content, to multiple subscribers.”), 4:32-36 (“A content processor 122 [of content distribution system 106] processes the content

received from content provider 102 prior to transmitting the content across broadcast network 110.”), 4:20-21 (“Broadcast transmitter 120 [of content distribution system 106] broadcasts signals, such as cable television signals, across broadcast network 110.”), 5:5-7 (“Client device 108(2) is . . . coupled to receive broadcast content from broadcast network 110 and provide the received content to associated television 128(2)), Fig. 1 (depicting content distribution system 106 and client devices 108).

Thus, Ramraz teaches a “content manager device” as recited in claim 1 of the ’431 patent, including content distribution system 106 and client devices 108. Ex. 1106 ¶ 58. And this is consistent with how Patent Owner has applied the claims in the Florida action. It has contended that a “content manager device” could be comprised of separate pieces of hardware. Based on that claim application, Ramraz discloses the preamble’s “content manager device.”

b) “a server resident on a network containing descriptive program data about video content available from one or more multiple cable system operators (MSOs) and one or more non-MSOs”

Ramraz discloses this limitation. Ex. 1106 ¶¶ 59-70. First, content distribution system 106 is the claimed server (depicted in a purple box in the annotated version of Figure 1 below) which is resident on a network (depicted in a red box), such as Broadcast Network 110 (e.g., the Internet):



Ex. 1110, Fig. 1 (annotated); 4:21-31 & 5:14-15 (describing Broadcast Network 110 as comprising, e.g., the “Internet”). Specifically, content distribution system 106 consists of software and hardware, including content processor 122, program data processor 124, broadcast transmitter 120, and an Internet connection 125. *E.g., id.* at 9:29-31, 12:5-7 (“The method can be implemented in connection with any suitable hardware, software, firmware or combination thereof.”). The software and hardware are for receiving and processing EPG data from program data provider 104, as well as video content, and transmitting it on broadcast network 110. *Id.* at 4:46-48

(“Content distribution system 106 . . . provides EPG data, as well as content, to multiple subscribers.”), 4:32-37 (“[P]rogram data processor 124 processes the program data received from program data provider 104 prior to transmitting the program data across broadcast network 110.”). Furthermore, content distribution system 106 resides on a network, such as the Internet. *Id.* at 4:20-24 (“Broadcast transmitter 120 broadcasts signals . . . across broadcast network 110. Broadcast network 110 can include a . . . data network, such as the Internet”), 5:14-15 ([C]lient devices 108 may receive broadcast signals via the Internet”); *see also id.* at 4:3-8 (“The EPG server 118 controls distribution of the . . . program data provider 104 to the content distribution system 106 using, for example, a file transfer protocol (FTP) over . . . [the] Internet”).

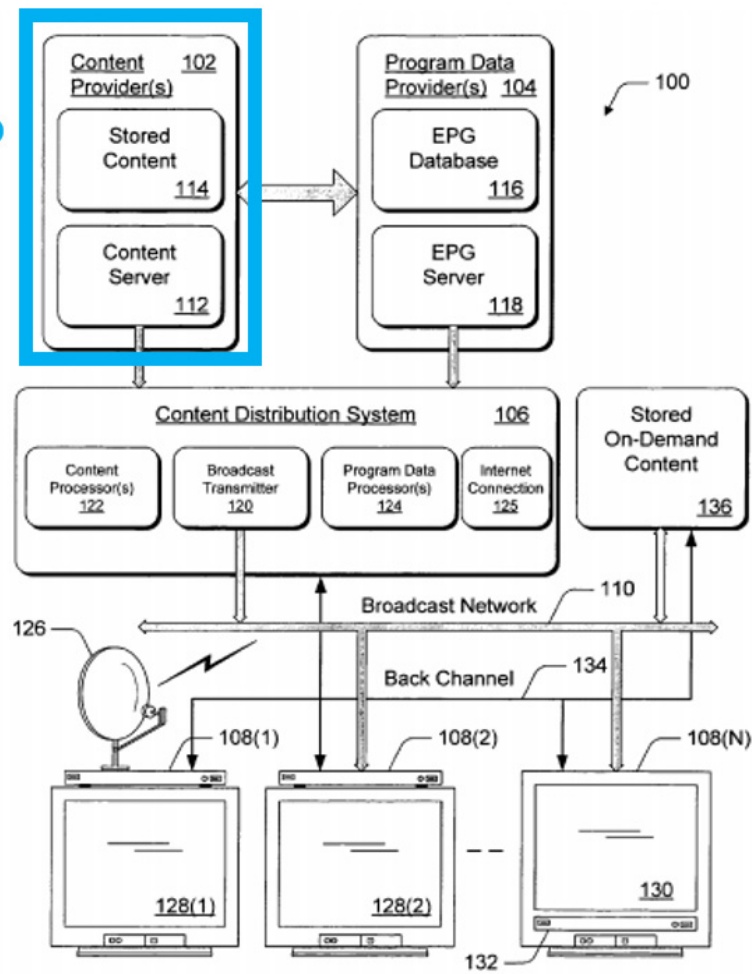
Because content distribution system 106 comprises computer hardware and software on a network (e.g., Internet) that supplies information (EPG data, broadcast television content, or on demand content) to a client (i.e., a client device 108), including when it receives requests (e.g., a subscriber selecting to view an on demand program) via the network, it comprises a “server resident on a network” as in claim 1. *Id.* at 4:3-8; 4:20-21; 4:46-48; 4:54-59; 5:14-15; 5:37-41; Ex. 1106 ¶¶ 59-60.

Second, content distribution system 106 “contain[s] descriptive program data about video content” as recited in claim 1. Ex. 1106 ¶ 61. “Program data provider

104 includes an electronic program guide (EPG) database 116 [that] . . . stores electronic files of program data and is used to generate an electronic program guide.” Ex. 1110 at 3:56-60. The program data includes “program titles, ratings, characters, descriptions, actor names, station identifiers, channel identifiers, schedule information, and so on.” *Id.* at 3:60-63. The patent further discloses that “program data processor 124 [of content distribution system 106] processes the program data received from program data provider 104. . . .” *Id.* at 4:34-37. Accordingly, content distribution system 106 comprises a server, which includes program data processor 124 (the claimed “descriptive program data about video content”).

Third, Ramraz discloses that the video content, about which the descriptive program data is contained in the content distribution system 106, is “available from one or more multiple cable system operators (MSOs)” as recited in claim 1. Ex. 1106 ¶¶ 62-64. Ramraz teaches that video content distributed by content distribution system 106 is provided by multiple content providers 102, depicted in the blue box below:

MSO and non-MSO content providers



Ex. 1110, Fig. 1 (annotated). Ramraz describes content providers 102 as “satellite” television providers like “DirectTV,” cable television providers like “Comcast,” as well as other sources like “antenna, camcorders, VCRs, [and] digital camera.” *Id.* at 2:56-60, 3:1-6. The content that the sources provide include “television programs,” “live” content, “movies,” and “similar video content.” *Id.* at 3:48-56. The content from content providers 102 is delivered to content distribution system 106 for distribution to subscribers. *Id.* at 3:51-53.

The descriptive program data contained in content distribution system 106 is about the video content from content providers 102. For example, before sending the program data to content distribution system 106, EPG server 118 processes the program data to generate a published version of the program data which contains programming information for “all channels.” *Id.* at 3:64-67; *see also id.*, Abstract (stating that the disclosed system pertains to providing “multi-source content in electronic program guides”), 9:35-38 (“[T]here might be four lineups—one from the satellite source, one from the antenna source, and two from the cable source”). For instance, annotated Figure 12 below depicts an exemplary EPG with descriptive program data for video content from multiple content providers (*e.g.*, antenna television sources, “Ant”; satellite television sources, “Sat”; and video sources (“Video”)):

1200

Descriptive program data

Channel	12:00	12:30	1:00
2 NBC (Ant)			
2 NBC (Sat)			
3 ABC (Ant)			
3 ABC (Sat)			
⋮			
Video 1			
Video 2			

Fig. 12

Id., Fig. 12 (annotated); 10:43-49 (“Each line of the grid is associated with a service and, for each service, all of the programs for the service are listed. . . . [T]he guide application presents . . . the channel numbers associated with a service and the programs offered through the service . . .”).

Ramraz also discloses that content providers 102 include one or more “MSOs.” Ex. 1106 ¶¶ 65-67. Content providers include cable television providers, such as “Comcast,” and satellite television providers, such as “DirectTV.” Ex. 1110 at 2:56-60 (“Sources can include . . . analog cable, digital cable, satellite, . . .”); 3:1-4 (“[A] content provider refers to a content source. Examples of content sources include, without limitation, Comcast and DirectTV”). Although Comcast and

DirectTV are not expressly shown in Figure 12 above, Ramraz discloses that the sources of channels in its program guide would include the content providers 102, which include Comcast and DirectTV. *Id.* at 3:1-4; 9:35-40 (noting that the exemplary lineups may include channels from cable (Comcast) sources, satellite (DirectTV), and local antenna sources); 10:45-49 (noting that the program guide in general presents the channel numbers associated with a source and the source associated with each particular service).

Moreover, Comcast, as the '431 patent states, was an MSO. Ex. 1101 at 6:20, 9:7-8. It was an aggregator of video content (e.g., from NBC and ABC) that provided user access to the video content in more than one community and that exercised control over what video content is made available to the user. *E.g.*, Ex. 1112 at 6, 8 (“We are the largest cable operator in the United States. As of December 31, 2004, our consolidated cable operations served 21.5 million subscribers in thirty-five states Our basic cable service typically consists of 10-20 channels of programming . . . provided by national television networks, local broadcast television stations, locally-originated programming”). For the same reason, DirectTV, which provided satellite television, also qualified as an MSO.³ Ex. 1113

³ The '431 patent expressly describes satellite operators as a type of MSO. Ex. 1101 at 15:15-17 (“There are three potential options . . . for the new content source that

at 4, 5 (“We are a leading provider of digital television entertainment in the United States. . . . DIRECTV U.S. currently distributes to its customers more than 1,200 digital video and audio channels. . . .”).

Therefore, Ramraz discloses that the video content about which descriptive program data is contained in content distribution system 106 is available from one or more MSOs as recited in claim 1 of the ’431 patent. Ex. 1106 ¶¶ 65-67.

Moreover, for the foregoing reasons, Ramraz discloses an MSO also under Patent Owner’s construction provided in the Florida action. *Id.* Specifically, as just explained, Ramraz disclosed “a traditional cable . . . content consolidator,” such as Comcast, that “receives and rebroadcasts channels of video content,” e.g., cable channels. Ex. 1107 at 1-2.

Fourth, with respect to the ’431 patent’s requirement that video content be “available from . . . one or more non-MSOs,” Ramraz teaches that the content distribution system contains descriptive program data about video content available from non-MSOs. Ex. 1106 ¶¶ 68-71. Ramraz explains that, in addition to cable, sources of video content include “antenna.” Ex. 1110 at 2:58-60. For example, Ramraz describes antenna sources such as channel 2 NBC, channel 3 ABC, and

include: a) traditional cable or satellite television services (one or more MSO subscriptions)”).

channel 4 KRON. *E.g., id.* at 9:35-38 (“[T]here might be four lineups— [including] one from the antenna source”), Figs. 7, 11-12 (referring to channel 2 “NBC (Ant),” channel 3 “ABC (Ant),” and channel 4 “KRON (Ant)”).

Stations that broadcast via antenna, including those that broadcasted NBC, ABC, KRON, and other local programming channels, were “non-MSOs” as recited in claim 1 of the ’431 patent. Ex. 1106 ¶ 69. For example, as of Ramraz’s filing date, channel 4 KRON was broadcasted locally in San Francisco, CA by an independent television station, KRON-TV. Ex. 1117 (“KRON-TV, virtual channel 4 . . . is a . . . television station licensed to San Francisco, California, United States and serving the San Francisco Bay Area.”). The local KRON-TV station, as well as the local antenna broadcast stations that broadcasted NBC and ABC,⁴ were therefore non-MSOs because they: (1) are not operators that aggregate rights to video content from owners of the video content (rather, they provide their own local programming content); and (2) do not provide user access to video content in more than one community (*e.g.*, KRON-TV provides television broadcasts to the San Francisco Bay Area, Ex. 1118). Ex. 1106 ¶ 69; *see* Ex. 1105 at 243:9-11; Ex. 1101 at 10:31-

⁴ To further confirm, ABC has been owned by Disney since 2000. Ex. 1119. And the named inventor of the ’431 patent acknowledged that Disney is a non-MSO. Ex. 1105 at 243:9-15.

40, Fig. 3 (listing local programming, including station KABC,⁵ in top row in contrast to MSOs in first column); Ex. 1102 at 1102.0463-0464 (“A cable company acquires rights to broadcast individual channels from the owners of those channels - i.e. Viacom, *NBC Universal*, News Corporation, etc. None of these companies are considered MSOs.”) (emphasis added). Ramraz also discloses other non-MSO sources of video content, including subscribers’ camcorders, VCRs, and digital cameras. Ex. 1110 at 2:56-60, 3:1-6; Ex. 1106 ¶ 69.

As with the MSOs, Ramraz discloses that the descriptive program data contained in content distribution system 106 is about the video content from the non-MSOs. For example, Figure 12 (shown above) depicts an EPG containing cells that would include descriptive program data about the programs available on channels 2-4 from antenna (“Ant”) sources. Ex. 1110 at 10:43-49 (“Each line of the grid is associated with a service and, for each service, all of the programs for the service are listed. . . . [T]he guide application presents . . . the channel numbers associated with a service and the programs offered through the service . . .”). It also includes

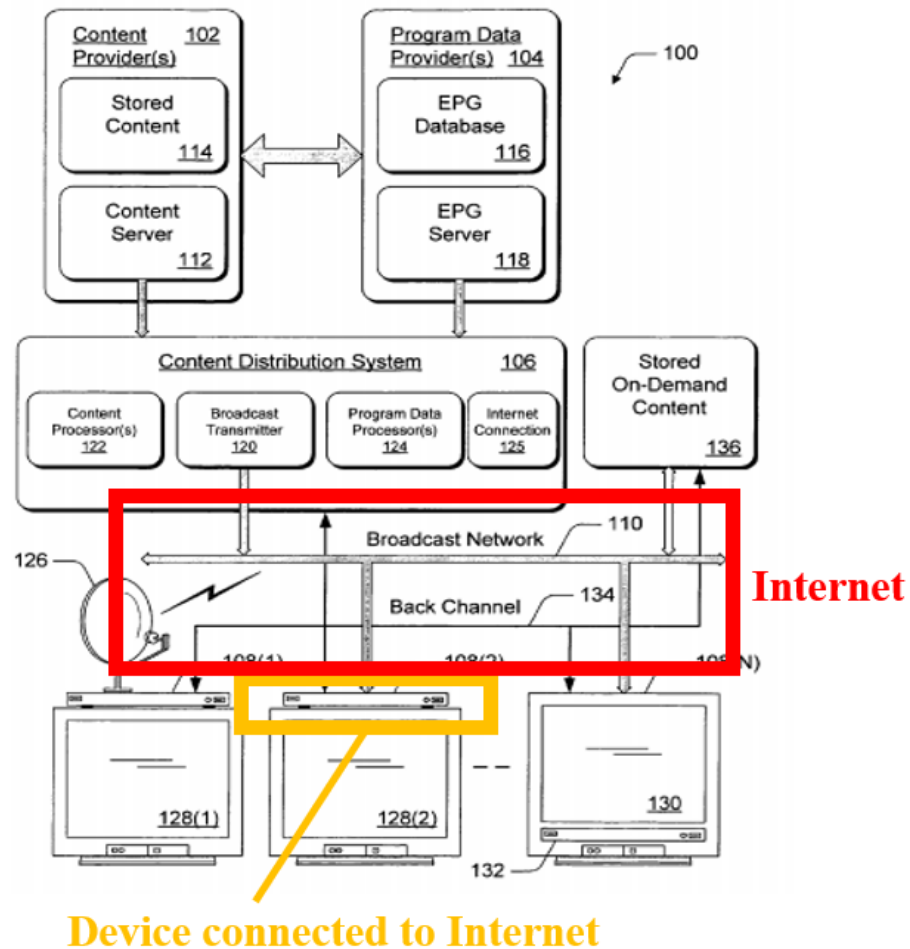
⁵ Since 1949, KABC-TV channel 7 has been an ABC, Inc. owned-and-operated television station, Ex. 1120, providing programming to Los Angeles, California residents, Ex. 1121. KABC-TV is not an MSO because it (ABC) owns its content and distributes its content locally. Ex. 1120, 1121; Ex. 1106 at ¶ 69 n.3.

descriptive program data, including call letters, for other non-MSO sources of video content, such as camcorders, VCRs, and digital cameras. *Id.* at 2:56-60, 3:1-6 (referring to, *e.g.*, “Video”), 15:23-24.

As explained above, the source of the descriptive program data in the EPG is the content distribution system 106, where the data is processed by program data processor 124. *Id.* at 4:32-48. Thus, Ramraz discloses a server (content distribution system 106) resident on a network (Internet) containing descriptive program data about video content available from one or more MSOs (*e.g.*, Comcast and DirecTV) and one or more non-MSOs (*e.g.*, local television station providers, camcorders, etc.). Ex. 1106 ¶ 71.

c) “a device capable of establishing and maintaining a connection with the network via a communications link”

Ramraz discloses this limitation. Ex. 1106 ¶ 72. With respect to Figure 1, Ramraz discloses client devices 108, such as device 108(2) depicted in the orange box below:



Ex. 1110, Fig. 1 (annotated).

The client devices also establish and maintain connections with network 110 (depicted in the red box) to receive video content from the content distribution system. Specifically, “[c]lient device 108(2) is . . . coupled to receive broadcast content from broadcast network 110” *Id.* at 5:5-6; *see also id.* at 3:37-39 (referring to “multiple client devices 108(1), 108(2), . . . , 108(N) coupled to the content distribution system 106 via a broadcast network 110.”), 5:62-65 (“Client device 108 receives one or more broadcast signals 210 from one or more broadcast

sources, such as from a . . . broadcast network, such as broadcast network 110[.]”). Ramraz also discloses a communications link in the form of software or hardware on the client device for connecting and maintaining the connection to the broadcast network for receiving the broadcast signals. *Id.* at 5:62-67 (“Client device 108 receives one or more broadcast signals 210 from one or more broadcast sources, such as from . . . broadcast network 110 Client device 108 includes hardware and/or software for receiving . . . broadcast signal 210[.]”).

Thus, Ramraz discloses a device (“client device 108”) capable of establishing and maintaining a connection with the network (Internet) via a communications link (hardware and software on the STB) as recited in claim 1 of the ’431 patent. Ex. 1106 ¶ 72.

- d) **“an interactive program guide application installed on the device that provides a user-configurable interactive program guide (IPG) listing at least one channel of video content available from each of the one or more MSOs and each of the one or more non-MSOs and descriptive program data from the server for the video content available on each of the channels”**

Ramraz discloses this limitation. *Id.* § XI.A.1(d). First, it discloses “an interactive program guide application” installed on client devices 108 that provides an interactive program guide (IPG). *Id.* ¶¶ 73-74. “Each client device 108 can run an electronic program guide (EPG) application that utilizes the program data.” Ex. 1110 at 5:26-27; *see also id.* at 7:5-7 (depicting an exemplary client device 108 and

stating that an “EPG application 320 is stored in memory 312 to operate on the EPG data and generate a program guide”). The EPG application installed on client devices 108 is shown as element 320 in Figure 3 of Ramraz. The client device 108 on which the EPG application is installed is the same client device 108 recited in the limitation of claim 1 addressed in section VII.A.1.c above (and is included in the client device recited in the preamble).⁶ An example of the program guide generated from the EPG application is depicted in Figure 12. *Id.*, Fig. 12.

Second, the program guide is interactive. Ex. 1106 ¶ 75. It allows the user to scroll through channel listings, select a particular channel to scroll to by entering a channel number, and choose a channel to watch. Ex. 1110 at 10:40-11:13. For example, Ramraz discloses that the program guide application “enables a television viewer to navigate through an onscreen program guide and locate television shows and other broadcast content of interest to the viewer [T]he television viewer can look at schedules of current and future programming, set reminders for upcoming programs, and/or enter instructions to record one or more television shows.” *Id.* at

⁶ In the Florida action, Petitioner contends that “the device” in recitation 1.f is indefinite because it could be referring to either the preamble’s device or the device of recitation 1.e. But because Ramraz discloses the 1.f “device” recitation under either interpretation, Petitioner’s indefiniteness position is not relevant here.

5:27-34.

Third, the program guide in Ramraz is user configurable. Ex. 1106 ¶ 76. A subscriber can configure the guide by deleting channels from it, for example. Ex. 1110 at 14:22-27. Ramraz discloses that “if a viewer decides that they do not wish to view guide information associated with channels 2 or 10 or the content on channels 2 or 10, then the viewer can opt to have the channel removed from the guide.” *Id.* at 14:22-27.

Fourth, the program guide also lists at least one channel of video content available from each of the MSOs and non-MSOs and descriptive program data from the server for the video content available on each of the channels. Ex. 1106 ¶ 77.

Figure 12 shows an exemplary listing:

1200 →

Descriptive program data

Channel	12:00	12:30	1:00
2 NBC (Ant)			
2 NBC (Sat)			
3 ABC (Ant)			
3 ABC (Sat)			
⋮			
Video 1			
Video 2			

Fig. 12

Ex. 1110, Fig. 12 (annotated). As shown, each “Channel” from the MSOs (*e.g.*, satellite and cable sources like DirectTV and Comcast) and non-MSOs (*e.g.*, antenna (“Ant”) broadcast stations that provide local programming) are listed in a first column in the program guide (television channels 2 and 3 and video channels 1 and 2). *See also id.*, Abstract (“Various embodiments pertain to methods and systems for providing multi-source content in electronic program guides (EPGs).”), 3:64-67 (“The EPG server 118 processes the program data prior to distribution to generate a published version of the program data which contains programming information for all channels for one or more days.”), Fig. 12.

Finally, as also shown in Figure 12, the guide lists descriptive program data for those channels. Ex. 1106 ¶ 78. Specifically, information about the service and source of the programming (*e.g.*, “NBC,” “Ant,” and “Video”) in the first cell and information about programs available at specific times in the other cells. Ex. 1110 at 10:43-49 (“[F]or each service, all of the programs for the service are listed [T]he guide application presents . . . the channel numbers associated with a service and the programs offered through the service”), Fig. 12.

- e) **“wherein each of the channels is selectable for receiving only or virtually entirely streaming video programming from its respective MSO or non-MSO source via the communications link and the network”**

Ramraz discloses this limitation.⁷ Ex. 1106 ¶ 79-84. First, Ramraz discloses that “each of the channels is selectable.” *Id.* ¶ 79. For example, the patent states that “[a]ssume now that the viewer wishes to select a particular channel for viewing In this case, the viewer might highlight the program and click ‘OK’ on the remote control.” Ex. 1110 at 11:14-20; *see also id.* at 8:26-30 (“One way is to navigate within the electronic program guide (e.g. the presented grid), select a specific service and tune to it.”). Therefore, Ramraz teaches that a user may select one of the MSO or non-MSO channels in the guide as recited in claim 1 of the ’431 patent.

Second, Ramraz also discloses that, upon selecting a channel, the user receives “only . . . streaming video programming” from its respective MSO or non-MSO source via the communications link and the network. Ex. 1106 ¶¶ 80-81. A

⁷ In the Florida action, Petitioner is contending that the phrase “virtually entirely” in the phrase “for receiving only or virtually entirely streaming video programming” is indefinite. But because Ramraz teaches that each channel is selectable “for receiving only. . . streaming video programming,” Petitioner’s indefiniteness argument is not relevant here.

user views video programming from one of the MSO or non-MSO channels listed in the guide by selecting an associated channel. Ex. 1110 at 11:14-20, 8:26-30. Upon selecting a channel, the user receives streaming video programming from the source of the selected channel. For example, the patent teaches that the content from content providers 102 is live broadcast television airing at specific time slots as shown in the program guide in Figure 12. The broadcast television is streamed by delivery in data packets over broadcast network 110, which may comprise the Internet. *Id.* at 4:21-23.

In other words, the video content from the MSO and non-MSO channels listed in the program guide at specific times is streamed over the Internet. Ex. 1106 ¶ 81. Thus, streaming video programming from the MSO and non-MSO channels are selectable “for receiving only . . . entirely streaming video programming from its respective MSO or non-MSO source” as recited in claim 1. *Id.*; *see also* Ex. 1110 at 5:37-41 (disclosing, in reference to on-demand content, which comprises content delivered over broadcast network 110, that “a viewer can enter instructions to *stream* a particular movie”) (emphasis added).

Third, Ramraz discloses that the channel-selected video content streamed over the Internet is received by the user “via the communications link and the network” as recited in claim 1. Ex. 1106 ¶¶ 82-84. Specifically, the video content is delivered over broadcast network 110. Ex. 1110 at 4:20-21; 4:32-34; 5:5-7. As explained in

section VII.A.1.b, broadcast network 110 is the same network that the content distribution 106 (*i.e.*, server) is resident on. *Id.* at 4:20-36, Fig. 1. As explained in section VII.A.1.c, broadcast network 110 is also the same network that the user device is connected to via the communications link that receives the video content. *Id.* at 5:62-67, Fig. 1.

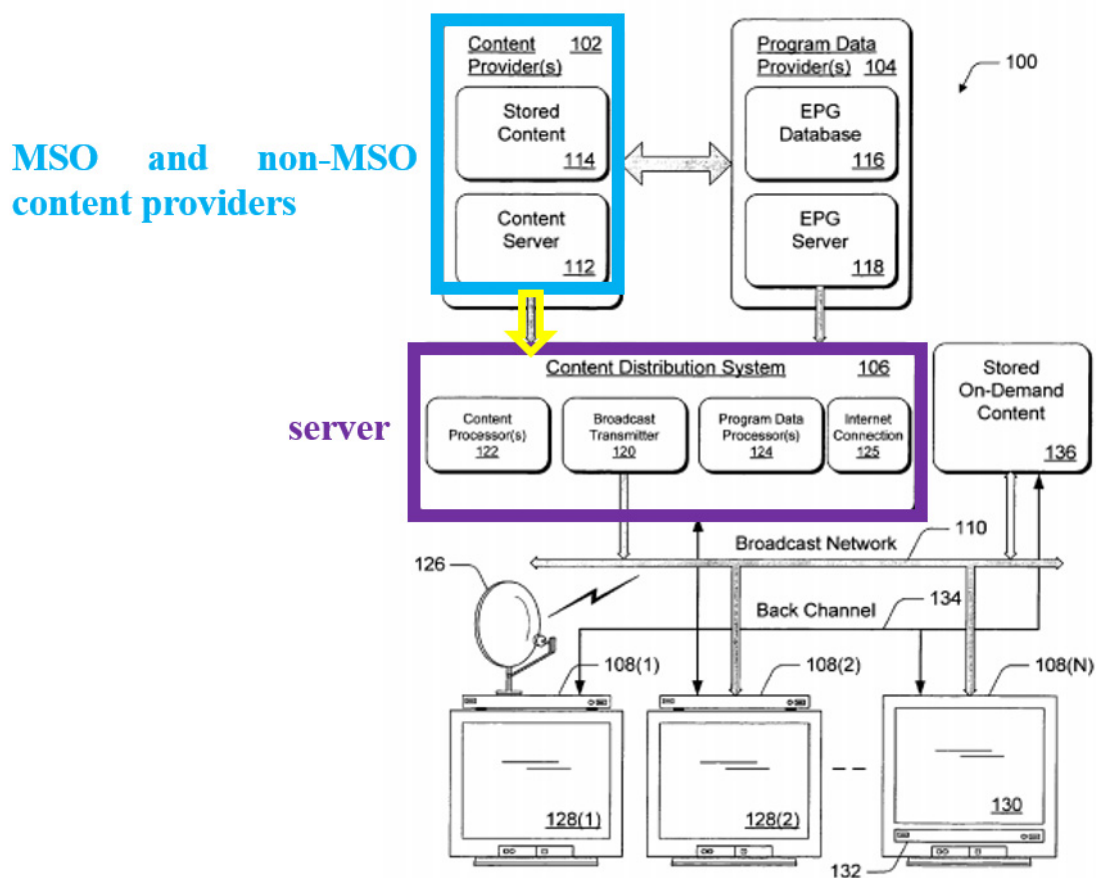
Patent Owner may try to argue that the video content from the various sources is not necessarily sent over the same network because other embodiments in Ramraz (*e.g.*, *id.* at 8:34-38) involve having multiple tuners or separate inputs for the various sources. But Ramraz specifically discloses the use of broadcast network 110, which may be the Internet, for transmitting the video content. *Id.* at 2:56-60, 3:1-6, 4:20-24. As such, Ramraz teaches receiving the video content over a network via the same communications link (*i.e.*, the hardware and software in user device 108(2) for receiving broadcast signals). *See also id.* at 5:62-65 (“Client device 108 receives one or more broadcast signals 210 from one or more broadcast sources, such as . . . ***from a broadcast network, such as broadcast network 110 (FIG. 1).***”) (emphasis added), 5:14-15 (“client devices 108 may receive broadcast signals via the Internet”), Fig. 2 (showing client device 108 receiving two broadcast signals 210 from a single broadcast network); Ex. 1106 ¶ 83.

Accordingly, Ramraz discloses that each of the IPG channels is selectable for receiving streaming video programming from its respective MSO or non-MSO

source via the communications link (on the STB) and the network (Internet) as recited in claim 1. Ex. 1106 ¶ 84.

- f) “wherein the server is distinct from at least one of the one or more MSOs and one or more non-MSOs, and”

Ramraz discloses this limitation. *Id.* § XI.A.1(f). Specifically, the server is identified in the purple box shown in annotated Figure 1 below:



Ex. 1110, Fig. 1 (annotated).

As indicated, the server is distinct from content provider 102 (shown in the blue box), which included both MSOs like DirectTV and Comcast (*id.* at 2:56-60) and the non-MSO content providers, such as KRON, ABC, NBC, and other local

television station providers (*id.* at 2:56-60, 3:1-6). The content distribution system is physically separated by a transmission line (the arrow) between it and the content providers. Ex. 1106 ¶ 85. The server is also not controlled by the MSOs or the non-MSOs. It is controlled by an entity, such as a network operator, that is separate from the content providers. Ex. 1110 at 4:32-34 (“A content processor 122 processes the content received from *content provider* 102”), 4:46-48 (“Content distribution system 106 is representative of a . . . *network operator*”) (emphases added).

- g) **“wherein the application allows for the IPG to be configured by a user with respect to adding or deleting channels from any of the one or more MSOs or the one or more non-MSOs”**

The combination of Ramraz and Bayrakeri discloses the last limitation relating to an IPG configurable by a user with respect to adding or deleting channels. Ex. 1106 ¶¶ 87-97. Specifically, Ramraz discloses an IPG that contains a listing of both MSO and non-MSO channels as shown in Figure 12 and described above in sections VII.A.1.c-f. As explained below, it also discloses that its system allows subscribers to delete channels from the IPG. But Ramraz does not expressly state that subscribers can add channels to the IPG. Bayrakeri does expressly disclose an IPG application that allows subscribers to add channels to an IPG. In addition, a POSA would have had a reason and motivation to combine this aspect of Bayrakeri with the IPG application of Ramraz.

- (1) **“wherein the application allows for the IPG to be configured by a user with respect to . . . deleting channels from any of the one or more MSOs or the one or more non-MSOs.”**

Ramraz discloses this portion of the “configured by a user” limitation. *Id.* ¶ 88. That is, Ramraz discloses that the application allows for the IPG to be configured by a user with respect to deleting channels from any of the one or more MSOs or the one or more non-MSOs. Ex. 1110, Fig. 12, 3:64-67, 10:43-49. Specifically, it discloses that “a channel filtering mechanism is provided to assist viewers in removing services that are presented in the guide.” *Id.* at 14:22-27. Using this mechanism, “if a viewer decides that they do not wish to view guide information associated with channels 2 or 10 or the content on channels 2 or 10, then the viewer can opt to *have the channel removed from the guide.*” *Id.* (emphasis added). As a result, Ramraz discloses allowing for the IPG to be configured by a user with respect to deleting the channels from the MSOs and non-MSOs.

- (2) **“wherein the application allows for the IPG to be configured by a user with respect to adding . . . channels from any of the one or more MSOs or the one or more non-MSOs.”**

The combination of Ramraz and Bayrakeri teaches this portion of the “configured by a user” limitation. Ex. 1106 ¶¶ 89-91. Specifically, Ramraz discloses an IPG that contains a listing of both MSO and non-MSO channels. Ex. 1110, Fig. 12, 3:64-67, 10:43-49. Although it also discloses configuring the IPG

with respect to deleting channels from the MSOs and non-MSOs (as explained in section VII.A.1.g, Ramraz does not expressly describe configuring the IPG with respect to adding channels. Bayrakeri, however, teaches this limitation. Ex. 1106 ¶¶ 89-91.

Bayrakeri teaches that “[t]he viewer can elect to . . . (1) select a desired channel for inclusion in the custom-IPG” Ex. 1111 at 25:19-32. “If the viewer’s selection is to add a channel to the custom-IPG, the process waits for the viewer’s selection of a particular channel or a set of channels to be included in the custom-IPG” *Id.* The viewer enters a channel selection, for example, by “toggling a channel provided on the display . . . , by entering the desired channel (e.g., with the remote control unit), or by some other mechanism.” *Id.* at 25:32-37. The selected channel(s) are then added as channels in the custom-IPG. *Id.* at 25:37-38.

Thus, Bayrakeri discloses an IPG that is configurable by a user with respect to adding channels that are available to the user to the IPG. Ex. 1106 ¶ 91. As previously explained in section VII.A.1.f, Ramraz discloses an IPG that includes channels from both MSOs and non-MSOs. Therefore, Ramraz, in combination with Bayrakeri, teaches an IPG application that “allows for the IPG to be configured by a user with respect to adding . . . channels from any of the one or more MSOs or the one or more non-MSOs.” *Id.* ¶¶ 89-91.

In addition, a POSA would have had a reason and motivation to combine the

functionality disclosed in Bayrakeri that allows users to configure an IPG with respect to adding channels to Ramraz’s user-configurable IPG application. *Id.* ¶¶ 92-97. First, Ramraz and Bayrakeri are analogous art from the same field of endeavor as the ’431 patent: network devices and applications for sending, receiving, managing, and displaying video content, and specifically interactive program guides. Ex. 1106 ¶ 93; *see, e.g.*, §§ III.A, VI.A, B above. Both references, like the ’431 patent, also involve problems related to managing transmission of video content for display on a television, including generating IPGs. Ex. 1110 at 1:39-41; Ex. 1111 at 1:6-9. Both involve the same types of video content (*e.g.*, cable and satellite television), similar content distribution networks for transmitting content and other programming-related data, the same content providers (*e.g.*, “Comcast”), the same network devices (*e.g.*, servers for distributing content, STBs, and televisions for displaying video signals), and customizable IPGs. Ex. 1106 ¶ 93; Ex. 1110 at 3:1-6, Fig. 1, 12; Ex. 1111 at 16:22, 20:15, 22:40, 23:66, Fig. 2, 3A. As such, a POSA faced with the problem to be solved in Ramraz (*i.e.*, managing video content transmission and generating IPGs) would have looked to other references in the same field, involving similar technologies and solutions to the same problem, such as Bayrakeri. *Id.*; *see also Philips Lighting N. Am. Corp. v. Wangs All. Corp.*, 727 F. App’x 676, 680 (Fed. Cir. 2018) (affirming PTAB decision finding motivation to combine where “both references address the same problem . . . and

propose similar solutions”).

Further, the prior art itself provides a motivation to combine. *Id.* As Bayrakeri explains, “[w]ith the increase in [network] bandwidth, the number of programming choices has also increased” and [w]ith this increase in the number of programming, it is oftentimes cumbersome for a viewer to find a desired program in a guide” Ex. 1111 at 1:54-55, 1:63-65. Thus, Bayrakeri’s customizable IPG “provide[s] the viewer with quick access to programming . . . to more easily locate a program in an unknown channel at an unknown time period[.]” *Id.* at 2:4-7.

Likewise, Ramraz discloses an IPG that could potentially include a significant number of channels, considering the IPG includes channels from multiple content sources. Ex. 1106 ¶ 95. Use of Bayrakeri’s customizable IPG, including the ability to add specific channels to the guide that the user likes (in combination with the user’s ability to delete undesired channels), would allow a user to better manage which channels are viewable and provide easier and quicker access to channels, thereby providing for a more user-friendly program guide, more control over content availability, and an overall better user experience. *Id.* Since Ramraz already allows deleting channels, a POSA would have been motivated to also include functionality for adding channels because, for example, a user may change his or her mind and want to add a deleted channel back to the guide, or another user of the same IPG may like a channel that another user previously deleted and want to add the channel

back to the IPG. *Id.*; see *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (holding motivation to combine may be found where combination involves “mere application of a known technique to a piece of prior art ready for the improvement”).

A POSA also would have had reason to combine the references because doing so would have merely involved incorporating well-known functionality for adding channels via a user interface into an IPG according to known programming methods to obtain the predictable result of an IPG customizable as to adding and deleting channels, and the use of a known technique (adding the ability to add and delete channels) to improve interactive user guides in the same way. Ex. 1106 ¶ 96; *KSR*, 550 U.S. at 416. Further, as of the '431 patent's priority date, there was a significant design need and market pressure for program guides that were interactive and customizable, including allowing adding (and deleting) channels to the guides, which would have led a POSA designing an IPG to include that functionality. Ex. 1106 ¶ 96; Ex. 1122 (generally); *KSR Int'l*, 550 U.S. at 421.

A skilled artisan would have also had a reasonable expectation of success in making the combination. Ex. 1106 ¶ 97. Doing so would have merely involved minor changes to the programming of the IPG disclosed in Ramraz to allow users to add channels into the guide. *Id.* The resulting combination would not have required any significant hardware changes. *Id.* The minor programming needed would have been well within the knowledge and skillset, and would have been routine, to a

skilled artisan as of the '431 patent's priority date. *Id.*

2. Dependent Claim 5

5. **“The content manager device of claim 1, wherein the streaming video programming, on at least one of the channels, comprises live television.”**

Ramraz discloses this limitation. Ex. 1106 ¶ 98. Ramraz discloses that the streaming video programming received from content server 112 is live television. Specifically, Ramraz teaches that content server 112 controls distribution of “live content (e.g., content that was not previously stored, such as live feeds)” Ex. 1110 at 3:52-55; *see also id.* at 1:46-49, 2:40-43, 17:4-6 (“various embodiments can enable a viewer to intelligently browse different channels while watching live television....”).

3. Dependent Claim 7

7. **“The content manager device of claim 1, further comprising a display device.”**

Ramraz discloses this limitation. Ex. 1106 ¶ 99. Ramraz discloses that client devices 108 are connected to televisions 128, which are display devices. *E.g.*, Ex. 1110 at 4:67-5:3 (“A particular client device 108 can be coupled to any number of televisions 128 and/or similar devices that can be implemented to display or otherwise render content.”), Fig. 1 (depicting client devices 108 coupled to televisions 128).

4. Dependent Claim 8

8. **“The content manager device of claim 1, further comprising a relay module for delivering the IPG and data to a display device.”**

Patent Owner contends “relay module” simply means “communications software and hardware components.” Ex. 1007 (Patent Owner’s proposed constructions in Florida action) at 9.⁸ If this construction is correct, then Ramraz discloses claim 8. Ex. 1106 ¶¶ 100-101.

Ramraz discloses client device 108 functionality that includes content processor 322 that processes the video content; functionality for displaying the program guide that contains the descriptive program data after it is generated by EPG application 320; and video output 332 for sending video content and other display content to a television. *See, e.g.*, Ex. 1110 at 7:28-30 (“Content processor 322 generates video and/or display content that is formatted for display on display device 128”), 7:5-7 (“An EPG application 320 . . . operate[s] on the EPG data and generate[s] a program guide.”), 10:57 (“the electronic program guide is displayed”), 7:56-60 (“Client device 108 also includes . . . video output 332 that provides signals

⁸ In the Florida action, Petitioner contends that “relay module” is indefinite because construction is governed by 35 U.S.C. § 112, paragraph 6 (pre-AIA), and the ’431 patent specification discloses no corresponding structure.

to television 128 or to other devices that process and/or display . . . video data.”), 6:16-18; Fig. 3 (depicting STB elements).

5. Dependent Claim 9

9. **“The content manager device of claim 1, wherein the interactive program guide application allows for customization of the IPG by a user with respect to a second, redundant one of the one or more MSOs or the one or more non-MSOs to be linked to each of the channels from which the streaming video programming may be received.”**

Ramraz discloses this limitation. Ex. 1106 ¶¶ 102-104. Ramraz discloses a “second, redundant one of the one or more MSOs or the one or more non-MSOs to be linked to each of the channels from which the streaming video programming may be received.” Specifically, it discloses a content manager device, as explained with respect to claim 1 (section VII.A.1.d), that merges channel lineups from multiple MSO and non-MSO sources. Ex. 1110 at 10:20-25; Fig. 12. Some of those sources are redundant sources. Ex. 1106 ¶ 103; Ex. 1010 at 10:29-34. For example, NBC broadcasts its programming as channel 2 (Ant) as shown in Figure 12 of Ramraz. Ex. 1110 at 10:20-25; Fig. 12. As also shown in that Figure, another source broadcasts NBC programming as channel 2 (Sat). *Id.* The two different sources of channel 2, which are both linked to the client devices 108 such that they provide linear NBC programming to the television (Ex. 1110 at 11:14-17), are redundant. Ex. 1106 ¶ 103. Channel 3 in Figure 12 also has redundant sources, as do channels

2, 3, and 4 in Figure 7.

Ramraz further teaches allowing the user to customize the IPG with respect to the second, redundant one of the one or more MSOs or the one or more non-MSOs to be linked to each of the channels from which the streaming video programming may be received. Ex. 1106 ¶ 103. Specifically, as explained in section VIII.A.1.g(2), Ramraz discloses that the user may remove one of the redundant sources (*e.g.*, channel 2) from the guide if the user does not wish to use it. Alternatively, if the user is experiencing problems in viewing the programming from that source, the user may instead use the other source for the channel. Ex. 1110 at 14:28-39 (“[A] user may decide that they do not wish to use Channel 2 (Ant) at all and may remove it from the lineup. As such, the system will not attempt to tune to Channel 2 (Ant). In addition, a user may experience problems in attempting to tune to Channel 2 (Ant). In this case, the user can remove Channel 2 (Ant) from the guide.”); Fig. 12.

B. Ground B – Dependent claim 3 is obvious over Ramraz in view of Bayrakeri, and further in view of Furlong.

3. “The content manager device of claim 1, further comprising a digital rights management module that obtains viewing rights for at least one of the channels.”

The combination of Ramraz, Bayrakeri, and Furlong discloses all limitations of claim 3. Ex. 1106 ¶¶ 105-110. In addition, at the time of the invention, a POSA would have found it obvious to combine the relevant aspects of those references to

arrive at the alleged invention of claim 3. Ex. 1106 ¶¶ 111-112.

Specifically, Patent Owner contends that “digital rights management module” is to be construed as “software and hardware that determines whether a user has the right to access a specific program or channel.”⁹ Ex. 1107 at 7. If Patent Owner’s construction is correct, then Furlong discloses claim 3’s additional limitation.

Furlong discloses a “DRM system and method that enables a content provider to deliver digital content securely to a user, and for managing the digital rights to the content so that the content provider can continue to effectively restrict the use of the content subsequent to transferring the content to the user.” Ex. 1114 ¶ [0014]. Furlong teaches a set-top box’s “ST license process 34,” which comprises a “digital rights management module” under Patent Owner’s construction that obtains viewing rights in the form of licenses from a license manager or digital rights management server 4 and stores them in the STB’s local memory 31. *Id.* ¶¶ [0032], [0038], [0044], Fig. 1. The licenses in Furlong authorize the STB to decrypt protected content for viewing by the subscriber when, for example, the subscriber registers for a channel or changes his or her subscription. *Id.* ¶¶ [0054], [0057], [0058].

⁹ In the Florida action, Petitioner contends that this term is indefinite because construction is governed by 35 U.S.C. § 112, paragraph 6 (pre-AIA), and the ’431 patent specification discloses no corresponding structure.

Also, a POSA would have had a reason and motivation to combine the DRM functionality in Furlong with the Ramraz-Bayrakeri combination. Ex. 1106 ¶ 108. Furlong and the Ramraz-Bayrakeri combination are analogous art from the same field of endeavor as the '431 patent (*i.e.*, network devices and applications for sending, receiving, managing, and displaying video content, and specifically interactive program guides). Ex. 1106 ¶ 108; Ex. 1110, Fig. 1, 12; Ex. 1111, Fig. 2, 3A; Ex. 1114 ¶¶ [0002], [0043], [0045], [0046] (disclosing system involving, *e.g.*, storing and using IPG data and electronic program guides for “playing and accessing broadcast channels”). In addition, those references, like the '431 patent, involve problems related to managing transmission of broadcast television signals for display on a television. Ex. 1106 ¶ 108; Ex. 1110 & 1111, Abstracts; Ex. 1114 ¶¶ [0002], [0043], [0045], [0046]. They also involve the same type of video content (*e.g.*, broadcast television), Ex. 1110, Fig. 12 & Ex. 1111, Fig. 3A (listing channels); Ex. 1114 ¶ [0015]; the same networks types for transmitting content and other programming-related data (*e.g.*, broadband or the Internet), Ex. 1110 at 4:21-31; Ex. 1111 at 4:12-21; Ex. 1114 ¶ [0032] (broadband IP network 3); and the same network devices, *e.g.*, STBs, displays for displaying video signals, and head-ends or other content providers for distributing video content, Ex. 1110, Fig. 1, Ex. 1111, Fig. 2, Ex. 1114 ¶¶ [0032], [0040]. As such, a POSA faced with the problems in Ramraz (*e.g.*, managing transmission of video content and data for display on a television)

would have looked to other references in the same field, involving similar technologies and solutions to the same problems, such as Furlong. Ex. 1106 ¶ 108.

Ramraz discloses digital cable television programming, and as Dr. Lippman explained, cable television providers required content protection measures, like DRM, as of the '431 patent's priority date. Ex. 1106 ¶ 110. As Furlong explains, “[t]ypically, a content provider wishes to distribute the digital content to users in exchange for a license fee or some other consideration, and to restrict what the users can do with the distributed digital content.” Ex. 1114 ¶¶ [0004]-[0005]. “[D]igital content is relatively easy to copy illegally since the distribution channels are insecure. After distribution has occurred, the content provider has very little if any control over the distributed content.” *Id.* ¶ [0006]. As a result, “Digital Rights Management technology focuses on making difficult, if not practically impossible, illegal use of digital content.” *Id.* ¶ [0008]. Use of Furlong's DRM functionality would allow an administrator to enforce content provider DRM restrictions on users of Ramraz's television system as modified by Bayrakeri. Ex. 1106 ¶ 110. This would allow administrators to provide a larger variety of video content through the Ramraz-Bayrakeri system, rather than having to exclude content from providers that impose DRM restrictions, which would make for a more desirable and marketable television system for subscribers. *Id.*

A skilled artisan would have also had reason to combine the references

because it would have merely involved utilizing a well-known DRM scheme to restrict content usage in a television system as in Furlong according to known methods of programming to obtain predictable results (a DRM compliant television system), and the use of a known technique (employing licenses to decrypt content for consumption) to improve television systems in the same way (allowing enforcement of DRM restrictions to prevent unauthorized usage of content), to achieve the alleged invention. Ex. 1106 ¶ 111. Further, at the time of the alleged invention, there was a design need and market pressure for providing DRM restrictions imposed by content providers, which would have driven a skilled artisan to pursue the known solutions, including the DRM scheme described in Furlong. *Id.*; *see generally* Ex. 1123 (explaining that DRM has as of 2006, and is likely to continue to, play a major role in the media marketplace).

A skilled artisan would have also had a reasonable expectation of success in making the combinations. Ex. 1106 ¶ 112. It would have merely involved minor changes to the client device 108 disclosed in Ramraz as part of the Ramraz-Bayrakeri combination. *Id.* The Ramraz-Bayrakeri combination would merely need to be adapted such that, for example, its client device 108 included an ST license process and license memory for storing licenses for decrypting secure content. *Id.* The minor adaptations needed would have been well within the knowledge and skillset, and would have been routine, to a POSA as of the '431 patent's priority date. *Id.*

C. Ground C – Dependent claim 4 is obvious over Ramraz in view of Bayrakeri, and further in view of Bednarek.

4. “The content manager device of claim 1, further comprising a GPS receiver and a filtering module that blocks content according to jurisdiction.”

The combination of Ramraz, Bayrakeri, and Bednarek discloses all limitations of claim 4. Ex. 1106 ¶¶ 113-115. In addition, at the time of the invention, a POSA would have found it obvious to combine the relevant aspects of those references to arrive at the alleged invention of claim 4. *Id.* ¶¶ 116-119.

Specifically, in the Florida action, Patent Owner construes “filtering module” as “software that blocks access to content based on geographical location.” Ex. 1007 at 8. If Patent Owner’s construction is correct, then Bednarek discloses claim 4’s additional limitation.

Bednarek discloses that “a set-top box . . . has a global positioning system (GPS) receiver.” Ex. 1115, Abstract. The GPS receiver checks to see if the STB is at an “authorized location” and “allows descrambling of video signals only if the location is authorized.” *Id.* Specifically, as to Figure 2, signals received by antenna 36 are sent to STB 37 and are “filtered.” *Id.* at 9:57-62, Fig. 2. Direct GPS signals 38 go to GPS signal receiver 42 and the communications signals 40 go to the communications satellite receiver/decoder 44. *Id.*, Fig. 2. The communications signals 40, which comprise the video content, are descrambled using a key that is only released if the STB is located in an authorized geographic location (*i.e.*, a

particular jurisdiction). *Id.* at 9:63-10:22, Fig. 2. A GPS data processor 54 determines whether the STB is at an authorized location based on the GPS signals. *Id.* at 10:22-25, Fig. 2. Processor 54 provides a position authorized signal to the STB such that the video content can be descrambled and displayed to the viewer, but withholds the signal if the STB location is not an authorized location. *Id.* at 10:25-30, 11:6-11. Thus, Bednarek discloses a GPS receiver and filtering functionality (*i.e.*, the hardware or software that filters the signals from antenna 36) that blocks content according to jurisdiction (using GPS data processor 54). Ex. 1106 ¶¶ 114-115.

A POSA would have also had a reason and motivation to combine the GPS receiver and filtering functionality disclosed in Bednarek with the Ramraz-Bayrakeri combination. *Id.* ¶¶ 116-117. Bednarek and Ramraz-Bayrakeri are analogous art from the same field of endeavor as the '431 patent (*i.e.*, network devices and applications for sending, receiving, managing, and displaying video content). Ex. 1106 ¶ 116; Ex. 1110 & 1111, Abstracts; Ex. 1115, Abstract, 1:15-22, 8:46-61 (disclosing system for receiving video and other signals from satellite television provider for descrambling and displaying on television). In addition, those references, like the '431 patent, involve problems related to managing transmission of video content and related data over a network. *E.g.*, Ex. 1106 ¶ 116; Ex. 1110 at 4:21-31; Ex. 1111 at 4:12-21; Ex. 1015, Abstract, 1:15-22, 3:23-26, 8:46-61. They

also involve the same type of video content (*e.g.*, broadcast television), the same networks for transmitting content and other programming-related data (*e.g.*, satellite television broadcasts), and the same network devices, *e.g.*, STBs, television sets, and satellites and other devices for distributing video content. *E.g.*, Ex. 1106 ¶ 116; Ex. 1110, 4:21-31, Fig. 1; Ex. 1111, 4:12-21, Fig. 3A; Ex. 1115, Abstract, 1:15-33; 4:33-36, 16:28-32. As such, a POSA faced with the problem to be solved in Ramraz (*i.e.*, managing transmission of video content and related data for display on a television) would have looked to other references in the same field, particularly those involving similar technologies and solutions to the same problem such as Bednarek. Ex. 1106 ¶ 116.

The prior art also provides a motivation to combine. Bednarek explains:

Many [video] programs are authorized for distribution and reception only in certain geographic regions, particularly certain countries, where program rights have been obtained for their transmission and reception. Additionally, a set-top box may be authorized only for non-commercial personal use by consumers and not by hotels, theaters or other commercial activities. It is therefore useful for the operators of a video distribution system . . . that their set-top boxes are operable only at authorized locations and that the boxes inhibit authorization of program descrambling of the boxes at unauthorized locations.

Ex. 1115 at 1:38-49. The Ramraz-Bayrakeri combination also involves broadcast television for which, as of the '431 patent's priority date, there was typically

geographic use restrictions. Ex. 1106 ¶ 117; Ex. 1110, Fig. 12 & Ex. 1111, Fig. 3A (listing broadcast channels and content); Ex. 1115 at 4:40-44 (“As an example of programming which can cover only a specific geographic area, television networks authorize each of their network affiliated stations use of the network material only in a specific geographic area, usually a region around a specific city.”). Thus, allowing blocking of content based on jurisdiction using GPS receiver and filtering functionality as in Bednarek would allow Ramraz-Bayrakeri network administrators to enforce content provider restrictions on content consumption based on physical location of users. Ex. 1106 ¶ 117. This would allow administrators to provide a larger variety of video content, rather than having to exclude content from providers that require such limitations on accessing their content, which would make for a more desirable and marketable television system for subscribers. *Id.*

A skilled artisan would have also had reason to combine the references because it would have merely involved utilizing a well-known GPS system for tracking user devices to determine access rights and restrict content in a television system according to known methods of implementing GPS-based hardware and software to obtain predictable results (e.g., an enhanced client device 108 that allows for filtering content based on GPS location), and the use of a known technique (filtering content consumption based on user location) to improve television systems in the same way (allowing enforcement of location restrictions), to achieve the

alleged invention. *Id.* ¶ 101. Further, at the time of the alleged invention, there was a design need and market pressure for providing content restrictions based on user location imposed by content providers, which would have driven a skilled artisan to pursue the known solutions, including those described in Bednarek. *Id.*

A skilled artisan would have also had a reasonable expectation of success in making the combinations. *Id.* ¶ 102. It would have merely involved minor changes to the hardware and software in the Ramraz-Bayrakeri combination. *Id.* The Ramraz-Bayrakeri system would merely need to be adapted such that, for example, its client device 108 included an antenna for receiving GPS data that could be filtered and processed to block access to content that has location-based restrictions as needed. *Id.* Such minor adaptations would have been well within the knowledge and skillset, and would have been routine, to a POSA as of the '431 patent's priority date. *Id.*

D. Ground D – Dependent claim 6 is obvious over Ramraz in view of Bayrakeri, and further in view of Calderone.

6. “The content manager device of claim 1, further comprising a voice recognition module that accepts verbal commands and converts them to digital form.”

The combination of Ramraz, Bayrakeri, and Calderone discloses all limitations of claim 6. Ex. 1106 ¶¶ 120-122. In addition, at the time of the invention, a POSA would have found it obvious to combine the relevant aspects of those references to arrive at the alleged invention of claim 6. *Id.* ¶¶ 123-124.

Specifically, in the Florida action, Patent Owner construes “voice recognition module that accepts verbal commands and converts them to digital form” as carrying its plain and ordinary meaning. Ex. 1007 at 9. If Patent Owner’s construction is correct, then Calderone discloses claim 6’s additional limitation.

Calderone teaches that a user may utter a voice command into a microphone contained in a remote control. Ex. 1116, Abstract, 2:22-25. The verbal commands are converted to digital form using an “analog-to-digital converter.” *Id.*, Abstract, 2:26-30, 5:29-33. The voice command is then transmitted to a cable head-end unit for “voice and word recognition processing” by a “speech recognition processor 670 where it [is] analyzed for voice command recognition, and a command function is derived.” *Id.*, Abstract, 2:32-37, 5:52-56. Once the command function is determined, the function is transmitted back to the STB where the STB performs the command. *Id.*, Abstract, 2:34-38. Thus, the analog-to-digital converter and speech recognition processor comprise a voice recognition module under Patent Owner’s construction of claim 6.

In addition, a POSA would have had a reason and motivation to combine the voice recognition system that accepts verbal commands and converts them to digital form disclosed in Calderone to the Ramraz-Bayrakeri combination. Ex. 1106 ¶ 123. Calderone and the Ramraz-Bayrakeri combination are analogous art from the same field of endeavor as the ’431 patent (*i.e.*, involving television remotes, STBs, and

other network devices for sending, receiving, managing, and displaying video content). Ex. 1106 ¶ 123; Ex. 1110, Abstract, Fig. 1, 12; Ex. 1111, Abstract, Fig. 2, 3A; Ex. 1116, Abstract, 2:21-22, 2:35-40, 4:24-29, Fig. 1 (disclosing a system for controlling a television, including changing channels, that receives video content from a head end over a network using a remote). In addition, those references, like the '431 patent, involve problems regarding managing transmission and receipt of video content from a head end over a network. Ex. 1106 ¶ 123; Ex. 1110 at 4:21-31; Ex. 1111 at 4:12-21; Ex. 1116, Abstract, 2:21-22, 2:35-40, 4:24-29, Fig. 1 (disclosing managing television using commands transmitted over a network). They also involve the same type of video content (*e.g.*, cable television), and the same network devices, *e.g.*, STBs, television sets, head ends for distributing video content and processing commands, and television remotes. Ex. 1106 ¶ 123; Ex. 1110 at 4:21-31, Fig. 1; Ex. 1111 at 4:12-21, Fig. 2; Ex. 1116, Abstract, Fig. 1, 4:18-20. As such, a POSA faced with the problem to be solved in Ramraz (*i.e.*, managing transmission of video content and related data for display on a television) would have looked to other references in the same field, particularly those involving similar technologies and solutions to the same problem such as Calderone. Ex. 1106 ¶ 123.

Further, allowing voice commands for directing an interactive television system as in the Ramraz-Bayrakeri combination would make such a system more convenient to use, marketable, user friendly, and more appealing to users. *Id.* ¶ 123.

A skilled artisan would have also had reason to combine the relevant disclosures because it would have merely involved incorporating a well-known voice recognition system into, for example, a remote control, the client device 108, or content distribution system 106 for commanding a television set according to known methods of programming voice recognition and control to obtain predictable results (e.g., an enhanced voice-controlled television system), and the use of a known technique (providing voice recognition for controlling a television) to improve prior art television systems in the same way by allowing automated voice recognition and control. *Id.* Further, at the time of the alleged invention, there was a design need and market pressure for making television systems easier to use and with less effort, including providing voice recognition for issuing commands, which would have driven a skilled artisan to pursue the known solutions, including those described in Calderone. *Id.*

A skilled artisan would have also had a reasonable expectation of success in making the combinations disclosed. *Id.* ¶ 124. It would have merely involved minor changes to the hardware and software disclosed in Ramraz. *Id.* The Ramraz system would merely need to be adapted such that, for example, remote control 204 included a microphone for receiving voice commands and an analog-to-digital converter for converting the commands for digital transmission to content distribution system 106 for processing. *Id.* Such minor adaptations would have been well within the

knowledge and skillset, and would have been routine, to a POSA as of the '431 patent's priority date. *Id.*

VIII. DISCRETION UNDER 37 U.S.C. § 325(D)

While the Board has discretion to deny institution of trial in any proceeding, it should not do so here. In evaluating whether to exercise discretion under Section 325(d), for example, the Board weighs the following non-exclusive factors: (a) the similarities and material differences between the asserted art and the prior art involved during examination; (b) the cumulative nature of the asserted art and the prior art evaluated during examination; (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection; (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art; (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and (f) the extent to which additional evidence and facts presented in the petition warrant reconsideration of prior art or arguments. Trial Practice Guide Update (August 2018).

These factors are inapplicable. As explained in section III.B, the examiner did not rely on the prior art that forms the invalidity grounds raised in this petition during prosecution, and none of the prior art raised here is cited on the face of the

'431 patent nor was substantively discussed during prosecution. As to Ramraz, not until the Notice of Allowability was this reference even mentioned. In that Notice, the examiner for the first time referred to Ramraz, stating that the reference was "made of record." Ex. 1102 at 1102.0743. Notably, however, the examiner specifically stated that Ramraz was "not relied upon." *Id.* Furthermore, the examiner referenced only the Ramraz abstract and figure 12 in the Notice of Allowability but provided no explanation whatsoever and, notably, did not reference the large swaths of Ramraz relied on in this Petition.

Additionally, this petition does not rely on Ramraz as disclosing the limitation of claim 1 that the examiner found missing in the prior art (*i.e.*, an IPG that is configurable with respect to adding channels). *Id.* at 1002.0745. Instead, it relies on Bayrakeri for adding channels, which was neither cited nor considered, to show the purportedly missing limitation. Thus, the prior art in this petition is materially different than what was before the examiner and is not cumulative of the prior art of record. Bayrakeri was not cited during prosecution, it was not a basis for rejection, and the arguments raised herein based on Bayrakeri have no overlap with those made during examination.

Because the examiner did not rely on Ramraz in prosecution, and did not have access to Bayrakeri (or any other reference raised in this Petition) at all, or the expert testimony relied upon herein, reconsideration of patentability is warranted.

IX. CONCLUSION

Based on the foregoing, claims 1 and 3-9 of the '431 patent recite subject matter that is obvious. Petitioners request institution of an *inter partes* review to cancel those claims.

Respectfully submitted,
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CERTIFICATE OF WORD COUNT UNDER 37 CFR § 42.24(d)

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petition for *Inter Partes* Review totals 13,996, as counted by the Word Count feature of Microsoft Word, which is less than the 14,000 allowed under 37 CFR § 42.24(a)(1)(i).

Pursuant to 37 C.F.R. § 42.24(a)(1), this count does not include the table of contents, the table of authorities, mandatory notices under § 42.8, the certificate of service, this certification of word count, the claims listing appendix, or appendix of exhibits.

Dated: August 20, 2019

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CERTIFICATE OF SERVICE ON PATENT OWNER
UNDER 37 C.F.R. §§ 42.6(e) & 42.105(a)

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(b), the undersigned certifies that on August 20, 2019, a complete and entire copy of this Petition for *Inter Partes* Review and all supporting exhibits were provided via Federal Express, postage prepaid, to the Patent Owner by serving the correspondence address of record for the '431 Patent:

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CLAIM LISTING APPENDIX

U.S. Pat. No. 8,656,431

Designation	Claim Language
Claim 1	
1.a.	1. A content manager device comprising:
1.b.	a server resident on a network containing descriptive program data about video content
1.c.	available from one or more multiple cable system operators (MSOs) and
1.d.	one or more non-MSOs;
1.e.	a device capable of establishing and maintaining a connection with the network via a communications link; and
1.f.	an interactive program guide application installed on the device that provides user-configurable interactive program guide (IPG)
1.g.	listing at least one channel of video content available from each of the one or more MSOs and each of the one or more non-MSOs and descriptive program data from the server for the video content available on each of the channels,
1.h.	wherein each of the channels is selectable for receiving only or virtually entirely streaming video programming from its respective MSO or non-MSO source via the communications link and the network;
1.i.	wherein the server is distinct from at least one of the one or more MSOs and one or more non-MSOs, and
1.j.	wherein the application allows for the IPG to be configured by a user with respect to adding or deleting channels from any of the one or more MSOs or the one or more non-MSOs.
Claim 3	
3	3. The content manager device of claim 1, further comprising a digital rights management module that obtains viewing rights for at least one of the channels.
Claim 4	
4	4. The content manager device of claim 1, further comprising a GPS receiver and a filtering module that blocks content according to jurisdiction.
Claim 5	

5	5. The content manager device of claim 1, wherein the streaming video programming, on at least one of the channels, comprises live television.
Claim 6	
6	6. The content manager device of claim 1, further comprising a voice recognition module that accepts verbal commands and converts them to digital form.
Claim 7	
7	7. The content manager device of claim 1, further comprising a display device.
Claim 8	
8	8. The content manager device of claim 1, further comprising a relay module for delivering the IPG and data to a display device.
Claim 9	
9	9. The content manager device of claim 1, wherein the interactive program guide application allows for customization of the IPG by a user with respect to a second, redundant one of the one or more MSOs or the one or more non-MSOs to be linked to each of the channels from which the streaming video programming may be received.