

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BlackBerry Corporation,

Petitioner,

v.

Maxell, Ltd.,

Patent Owner.

Case IPR2019-00089

U.S. Patent No. 8,170,394

PETITION FOR *INTER PARTES* REVIEW

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EXHIBIT LIST

Ex. No.	Description
1001	U.S. Patent No. 8,170,394
1002	Declaration of Dr. Benjamin Bederson
1003	Curriculum Vitae of Dr. Benjamin Bederson
1004	Excerpts from File History of U.S. Patent No. 8,170,394
1005	U.S. Patent No. 7,293,276 to Phillips
1006	U.S. Patent Publication No. 2005/0188408 to Wallis
1007	U.S. Patent No. 8,112,711 to Ackley
1008	U.S. Patent No. 8,181,205 to Russ
1009	U.S. Patent No. 7,073,189 to McElhatten
1010	U.S. Patent No. 8,773,360 to Uchida
1011	U.S. Patent No. 7,667,123 to Phillips
1012	U.S. Patent No. 7,365,782 to Tanaka
1013	Excerpt from The Oxford English Dictionary
1014	Excerpts from the Microsoft Computer Dictionary
1015	Excerpts from Sony's <i>Digital Dreams</i> Publication

- 1016 Excerpts from Apple's *Macintosh Human Interface Guidelines*
- 1017 *Personal Computing: compuvision or teleputer*, Communications of
the ACM, Volume 33 Issue 9, Sept. 1990
- 1018 *A taxonomy of window manager user interfaces*, IEEE Computer
Graphics and Applications, Volume 8 Issue 5, Sept. 1988
- 1019 ARIB Technical Report TR-B14 Version 2.8 (Fascicle 1) (2/2)
- 1020 Overview and Amendment History of ARIB Technical Report TR-
B14

I. INTRODUCTION

Petitioner BlackBerry Corporation (“BlackBerry”) requests *inter partes* review (“IPR”) of claims 2-9 of U.S. Patent No. 8,170,394 (“the ’394 patent”) (EX1001).

The ’394 patent is directed to a cable set-top-box that utilizes different content operation panels for “interactive” content and “linear” content. Interactive content could be a program map, video-on-demand (VoD) menu screen, or the like, whereas linear content is the selected video, for example. The prior art demonstrates that this type of display methodology was well-known and widely utilized.

First, and well before the ’394 patent, those of ordinary skill in the art were designing user interfaces such that the user’s operation panel was particular to the currently-displayed screen. The ’394 patent represent nothing more than a particular field-of-use implementation of this age-old graphical user interface concept. (EX1002, ¶¶18-30.)

Second, the ’394 patent’s inventors were far from the first to apply this well-known idea to a cable set top box. As explained in detail below, each of Phillips, Ackley, Wallis, Russ, and McElhatten provide distinct operation panels that depend on the particular screen before the user and on whether the displayed content is linear or interactive.

Accordingly, the ’394 patent’s claims 2-9 should be canceled as unpatentable.

II. GROUNDS FOR STANDING—Rule 42.104(a)

Petitioner certifies that the '394 patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR on the grounds identified in this Petition.

III. MANDATORY NOTICES—Rule 42.8

A. Real Parties-in-Interest

BlackBerry Corporation and BlackBerry, Ltd. have been sued by Patent Owner for infringement of the '394 patent and are the real parties-in-interest.

B. Related Matters

The '394 patent has been asserted in the following pending litigation: *Maxell, Ltd. v. BlackBerry Corporation et al.*, No. 1:17-cv-1446 (D. Del.). Petitioner and BlackBerry, Ltd. were served with a copy of the complaint on October 16, 2017.

C. Lead and Backup Counsel and Service Information

Pursuant to 37 C.F.R. §§ 42.8(b)(3), 42.8(b)(4), and 42.10(a), Petitioner designates as lead and backup counsel:

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D. Fee for *Inter Partes* Review

Pursuant to 37 C.F.R. § 103(a), the Office is authorized to charge the fee required by 37 C.F.R. § 42.15(a) for this Petition to Deposit Account No. 15-0030.

Any additional fees that might be due are also authorized.

IV. IDENTIFICATION OF CHALLENGE—Rule 42.104(b)

Petitioner requests IPR and cancelation of claims 2-9 of the '394 patent, which is subject to pre-AIA 35 U.S.C. §§ 102/103.

A. Effective Filing Date

The application that issued as the '394 patent was filed August 23, 2006 as Application No. 11/508,209, based on an August 30, 2005 Foreign Application Filing Date. Petitioner applies August 30, 2005 as the earliest effective filing date.

B. Prior Art Patents and Printed Publications

Review is requested in view of the following:

EX1005 – U.S. Patent No. 7,293,276 to Phillips (“Phillips”), issued November 6, 2007 based on a November 25, 2002 filing date and, thus, is prior art at least under § 102(e).

EX1006 – U.S. Patent Publication No. 2005/0188408 to Wallis (“Wallis”), published August 25, 2005, based on an October 22, 2004 filing date and, thus, is prior art under at least §§ 102(a) and 102(e).

EX1007 – U.S. Patent No. 8,112,711 to Ackley (“Ackley”), issued February 7, 2012 based on an October 6, 2004 filing date and, thus, is prior art at least under § 102(e).

EX1008 – U.S. Patent No. 8,181,205 to Russ (“Russ”), issued May 15, 2012 based on a September 24, 2002 filing date and, thus, is prior art at least under § 102(e).

EX1009 – U.S. Patent No. 7,073,189 to McElhatten (“McElhatten”), issued July 4, 2006 based on a November 22, 2002 filing date and, thus, is prior art at least under § 102(e).

EX1010 – U.S. Patent No. 8,773,360 to Uchida (“Uchida”), issued July 8, 2014 based on a November 17, 2004 filing date and, thus, is prior art at least under § 102(e).

C. Grounds for Challenge

Petitioner requests cancelation of claims 2-9 under the following grounds:

1. Claims 2, 4, 5, 7, and 8 are unpatentable as anticipated by Phillips;
2. Claims 2, 4, 5, 7, and 8 are unpatentable as obvious by Phillips in view of Ackley;
3. Claims 2, 4, 5, 7, and 8 are unpatentable as obvious by Phillips in view of Wallis;
4. Claims 2, 3, 4, 6, 7, and 9 are unpatentable as obvious by the Phillips-based grounds in view of Uchida;
5. Claims 2, 4, 5, 7, and 8 are unpatentable as obvious by Russ in view of McElhatten; and
6. Claims 2, 3, 4, 6, 7, and 9 are unpatentable as obvious by Russ, McElhatten, and Uchida.

Section VII demonstrates that there is a reasonable likelihood that Petitioner

will prevail with respect to at least one challenged claim. 35 U.S.C. § 314(a).

Petitioner's arguments are supported by a Declaration from Dr. Benjamin B.

Bederson (EX1002).

V. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the field of the '394 patent would have had a Bachelor's degree in computer science, electrical engineering, or a similar discipline, and one to two years of work experience in user interface design, or a related area. (EX1002, ¶¶60-62.)

VI. THE CHALLENGED PATENT

A. Overview of the '394 Patent

The '394 patent describes a set-top-box (STB) that utilizes distinct operation panels for “interactive” content, such as a selectable menu of content, as compared to the operation panels (fast forward, play, pause, etc.) used for linear video and audio.

For example, “FIGS. 2 to 4 show image display states during digital broadcast reproduction. A monitor A1 has a content display area A2 and an operation panel display area A3. During reproduction of linear contents such as moving image contents, a linear content operation panel A4 is displayed in the operation panel display area A3.” (EX1001, 3:43-48.)

FIG. 2

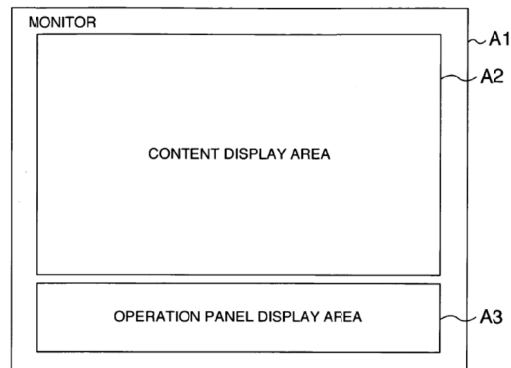
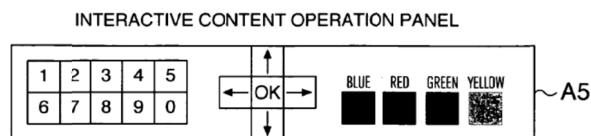


FIG. 3



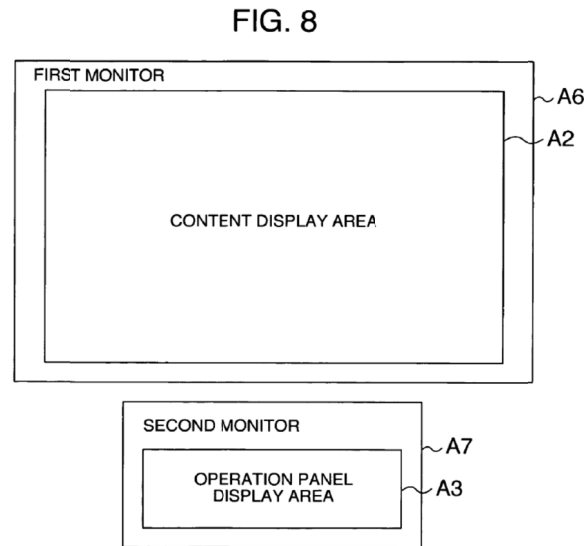
In contrast, “[d]uring reproduction of interactive contents such as data broadcast contents, an interactive content operation panel A5 is displayed in the operation panel display area A3.” (EX1001, 3:52-54.) The interactive content operation panel has cursor arrows and an “OK” button for user selection on a menu of content.

FIG. 4



As one way of determining when to display the appropriate operation panel, the '394 patent describes monitoring a digital broadcast “program map table (‘PMT’),” which “contains a data encode descriptor [containing] an auto_start_flag.” If the “auto_start_flag” descriptor is “1,” the interactive content operation panel is displayed and if the descriptor is “0,” the linear content operation panel is displayed. (EX1001, 4:9-27.) (EX1002, ¶¶31-36.)

As shown in the '394 patent's Figure 2, above, the digital content and operation panel may be displayed on the same monitor or, alternatively, as shown in Figure 8, below, two separate monitors may be used. (EX1001, 5:3-14.)



B. The '394 Patent's Prosecution History

During prosecution, the Examiner applied Wallis and U.S. Patent No. 7,126,587 to reject application claim 13. (EX1004, 84-87.) The Examiner found that Wallis suggested that it was known to use content metadata to identify and determine the types of navigation controls associated with and required for the incoming data, including linear and non-linear controls, and to then incorporate those controls into an appropriate GUI. (EX1004, 80-81.) The Applicant did not dispute this well-known teaching.

Instead, Applicant explained that whereas “Kawakami ... illustrates a variation operation panel where several of the buttons have [] been ghosted out so as to not be

selectable,” Applicant’s invention relies on (1) distinct panels not generated by a disabling of buttons, (2) panels with mutually different buttons, or (3) panels with buttons of mutually different functions. (EX1004, 99-104 (emphasis in original).) A notice of allowance followed. (EX1004, 122-126.)

C. Construction of Claim Terms

In an IPR addressing an unexpired patent, the broadest reasonable claim construction applies to all petitions filed before November 13, 2018. 37 C.F.R. § 42.100(b); 83 FR 51340 (October 11, 2018).

1. “linear content” and “interactive content”

Each challenged claim recites a “linear content operation panel” and an “interactive content operation panel.” The specification does not define either term, but generally explains that “linear content” corresponds to video and audio, whereas “interactive content” may correspond to “data broadcast contents.” (EX1001, 1:21-29, 3:43-57.) For example, the ’394 patent explains that

A conventional digital broadcasting compatible HDD/ DVD decoder which is a digital content reproduction apparatus requires, in addition to channel tuning, reproduction control keys for *linear contents such as video and audio*, the keys including ‘reproduce’, ‘stop’, ‘fast forward’, ‘fast backward’, ‘temporary stop’ and other operation keys. The apparatus further requires ‘up’, ‘down’, ‘right’, ‘left’, ‘decide’ and four-color keys for *operation control of data broadcasting*. (EX1001, 1:21-29 (emphasis added); *see also* EX1001, 3:52-53.)

Similarly, the '394 later correlates linear contents to “moving image contents” and interactive contents to selectable “data broadcast contents” (EX1001, 3:45-54), which could be “data added digital broadcasting includ[ing] up-to-date news, weather forecasts and the like” (EX1001, 5:31-32).

In view of the foregoing explanations, one of ordinary skill in the art would understand “linear content” to encompass audio or video media. (EX1002, ¶¶65-66.)

“Interactive content,” on the other hand, is related to “data broadcast content,” which could be interpreted to also include “linear” content such as video and audio. However, in view of the well-understood definition of “interactive” as allowing a two-way flow of information (EX1013), and the specification’s differentiation between “linear” and “interactive” content, one of ordinary skill in the art would understand “interactive content” to encompass media content where the user’s selection or input drives subsequent content. (EX1002, ¶¶67-70.)

This would include menus such as interactive TV guides, VoD menu screens, digital video recording menu screens, and the like. This definition is also consistent with the *Microsoft Computer Dictionary*’s definition of “interactive program,” which is “[a] program that exchanges output and input with the user, who typically views a display of some sort and uses an input device ... to provide responses to the program,” as well as the dictionary’s definition of “interactive television,” which is “[a] video technology in which a viewer interacts with the television programming,”

including “video on demand.” (EX1014.)

2. “input unit” and “output unit”

Each challenged claim recites an “input unit which inputs digital content” and an “output unit which outputs the reproduced digital content.” It was disputed during prosecution whether the ’394 patent’s “unit” recitations invoke 35 U.S.C. § 112(6)/(f), or should be accorded their broadest reasonable interpretation. (EX1004, 55-58, 71.) The examiner agreed with the Applicant that these terms should *not* be construed under § 112(6)/(f). (EX1004, 78-79.) Should the Board disagree with the Examiner’s conclusion, however, and determine that “unit” is a nonce word that acts as a substitute for “means,” Petitioner provides the following analysis.

If “input unit” is not a structural recitation, the function recited by this feature is “input[ting] digital content.” The specification explains that

the digital content reproduction apparatus records broadcast data received at a broadcast receiving unit 1 in a data record unit 3 with involvement of a data input/output control unit 2. The data input/output control unit 2 reads data from the data record unit 3 and supplies the read data via a data extraction (demultiplex) unit 4 to a content decode unit 6 which decodes the supplied data and sends the decoded data to an image rendering unit 7....

(EX1001, 3:19-42.) The image rendering unit 7 outputs the to-be-displayed data.

(*Id.*) As shown in Figures 1, 5, and 7, the incoming media is input into the ’394 patent’s device via a tuner/broadcast receiving unit 1, a network adapter/network

connection unit B2, or a device controller 2. (EX1002, ¶¶71-75.)

Thus, the structure most closely linked to the function of inputting digital content is a tuner, network adapter, or device controller, together with the mid-2000's era processors known to those skilled in the art. (EX1002, ¶¶71-75.)

Similarly, to the extent “output unit” is not a structural recitation, the function recited by this feature is “output[ting] the reproduced digital content.” The structure most closely linked to the function of outputting the reproduced digital content is the mid-2000s era graphics system/image rendering unit (*e.g.*, Graphics Processing Unit (GPU)). (EX1001, 3:23-33.) As shown in the '394 patent's Figure 1, for example, the image rendering unit 7 includes “GRAPHICS,” which one of ordinary skill in the art would have understood to be a GPU. (EX1002, ¶¶76-78.)

As explained in Section VII, below, no matter what construction of “input unit” or “output unit” is applied to the challenged claims, the well-known input/output structure described in the '394 patent is found in the prior art.

VII. IDENTIFICATION OF HOW THE CHALLENGED CLAIMS ARE UNPATENTABLE

Pursuant to Rule 42.104(b), this section demonstrates that the challenged claims are unpatentable. (EX1002, ¶¶79-234.)

A. Ground 1: Claims 2, 4, 5, 7, and 8 are Anticipated by Phillips.

1. Overview

Phillips describes an “Interactive Television Program Guide for Recording

Enhanced Video Content” that provides both linear and interactive content to the user. For example “[c]ontent such as television programming and digital music may be provided from programming sources 12 to television distribution facilities” to user equipment such as a TV or personal computer. (EX1005, 6:31-63.)

Phillips also provides users with a variety of “interactive televisions services” such as an “interactive television program guide application, a home shopping application, a home banking application, a video-on-demand application, game applications, and other applications....” (EX1005, 8:45-50; *see also id.* at 7:27-9:22.) A series of exemplary interactive VoD menu screens are shown below in Figures 14-17.

FIG. 14

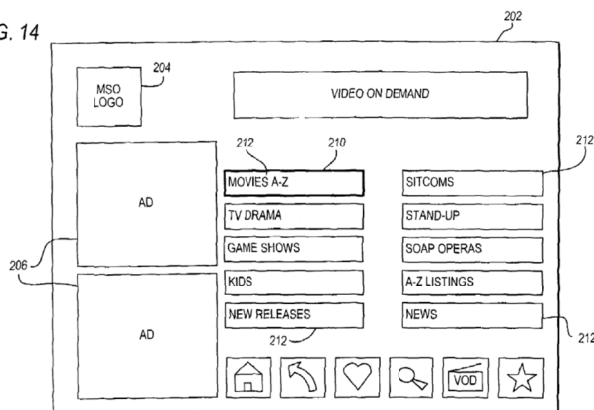


FIG. 15

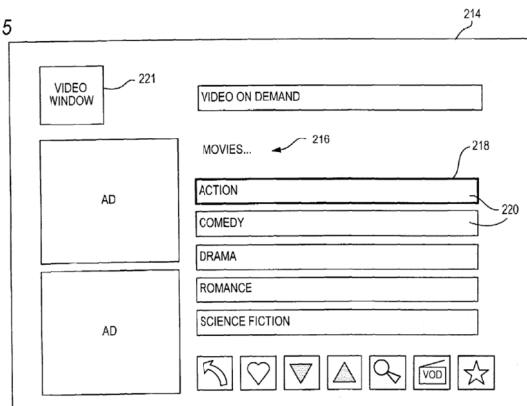


FIG. 16

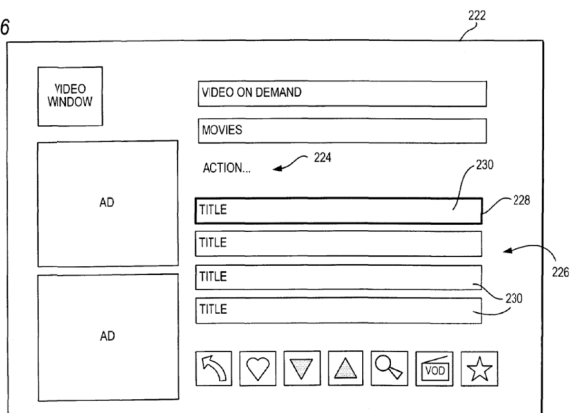


FIG. 17a

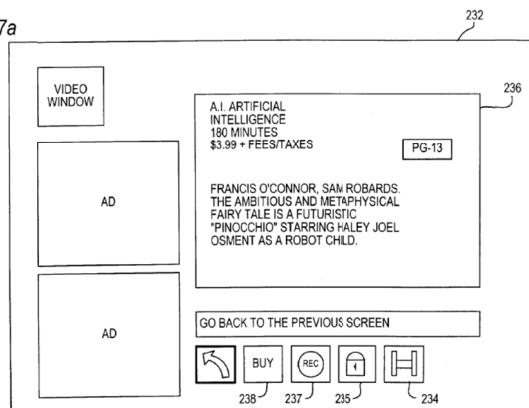
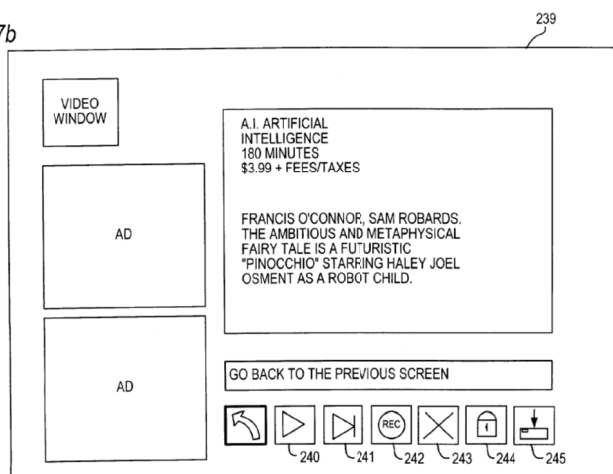
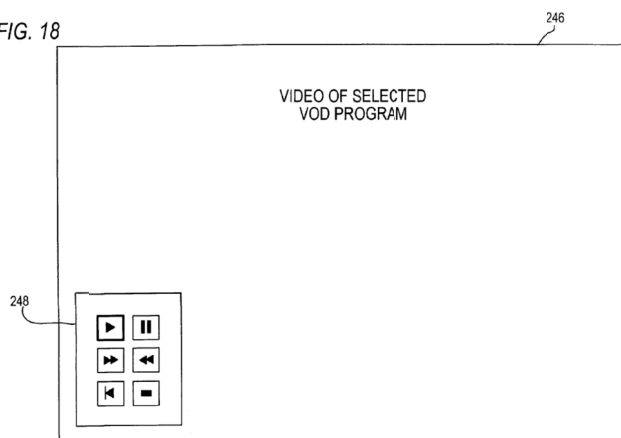


FIG. 17b



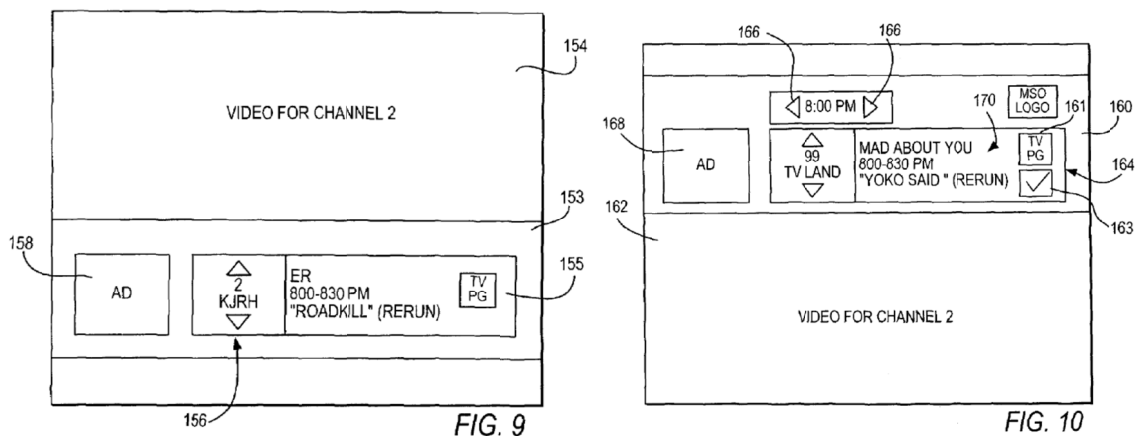
Once a desired video is selected, an exemplary linear display/linear content operation panel is shown Figure 18, which allows the user to rewind to the beginning, rewind, play, fast-forward, pause, and stop. (EX1005, 20:18-30.)

FIG. 18



As shown in the “interactive content” screens of Figures 14-17 and the “linear content” screen of Figure 18, the outputted digital content—e.g., video-on-demand menus or the selected video—is displayed concurrently in the same screens as the displayed operation panels, which are themselves unique depending on displayed content. (EX1002, ¶¶80-83.)

Additionally, Phillips’s Figures 9 and 10 depict operation panels for “flip” tuning through TV channels (Figure 9), or for browsing through the TV guide (Figure 10). (EX1005, 16:22-17:32.) Both operation panels are “overla[id] on top of the current channel.” (EX1005, 16:41-64.)



2. Claim 2

Claim 2 [Preamble]: A digital content reproducing apparatus, comprising:

Phillips discloses an end-user, digital content reproducing apparatus 18 that receives television, music, and other information from a television distribution facility 14 over various communication paths. (EX1005, 6:51-63.) The structure and

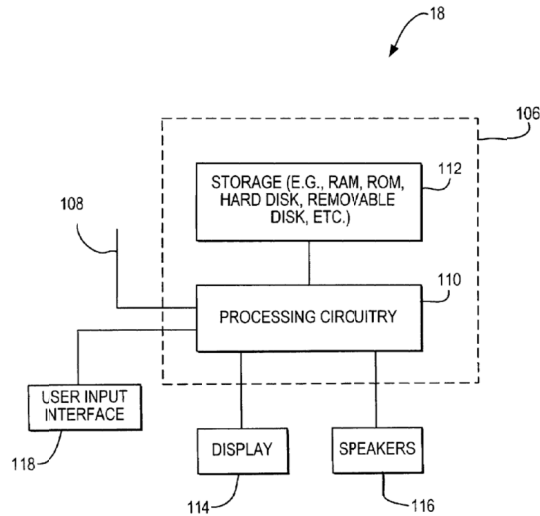
function of Phillips's digital content reproducing apparatus is generally depicted in Figures 1-30, which provide different features of Phillips's digital content reproducing apparatus, all operating within a single embodiment of Phillips's STB. Thus, to the extent the preamble is limiting, Phillips discloses this limitation of claim 2. (EX1002, ¶¶100-101.)

Claim 2[a]: an input unit which inputs digital content;

Phillips discloses a STB as an exemplary user-side input unit that inputs digital content. "Television programming and other information may be received using input/output 58. Commands and requests and other information from the user may also be transmitted over input/output 58." (EX1005, 9:23-32.)

Phillips's STB 60 contains a processor and random access memory for use when executing applications (EX1005, 9:49-58), and also contains analog and/or digital tuners and decoding circuitry for receiving digital television and music channels, which may be multiplexed. (EX1005, 9:33-48.) "Box 60 may include a storage device ... for providing recording capabilities. Box 60 may also be connected to a recording device 62 such as a video cassette recorder, personal video recorder, or other device or devices with storage capabilities." (EX1005, 9:33-48.)

Figure 6, below, depicts "control circuitry 106 [] connected to input/output 108." (EX1005, 13:50-51, *see also id.* at 13:52-14:23.)



“Input/output 108 may be connected to one or more communications paths such as paths 26, 27, 28, 42, 46, and 48 of FIG. 1. Television and music programming may be received via input/output 108....” (EX1005, 13:51-64.)

Control circuitry 106 may be based on any suitable processing circuitry 110 such as processing circuitry based on one or more microprocessors, microcontrollers, digital signal processors, programmable logic devices, etc. Memory (e.g., random-access memory and read-only memory), hard drives, DVD drives, CD drives, or any other suitable memory or storage devices may be provided as storage 112 that is part of control circuitry 106. Tuning circuitry such as one or more analog tuners, one or more MPEG-2 decoders or other digital video circuitry, or any other suitable tuning or video circuits or combinations of such circuits may also be included as part of circuitry 106. Encoding circuitry (e.g., for converting over-the-air or cable analog signals to MPEG signals for storage) may also be provided....” (EX1005, 13:65-14:23.)

Phillips thus provides an input unit which inputs digital content. (EX1002,

¶¶102-105.) To the extent the recited “input unit” limitation is considered to invoke § 112(f), Phillips’s input/output 108 and control circuitry 106 is the same or equivalent to the structure described in the ’394 patent’s specification because it performs the same function (inputting digital content) in substantially the same way to achieve substantially the same result.

Specifically, Phillips includes control circuitry 106 with processing circuitry 110 and storage 112 that is connected to input/output 108. As shown by the excerpts above, Phillips’s input control circuitry includes analog and digital tuners and decoders for inputting digital television and music into the system, the same way the ’394 patent’s device inputs media through tuner/broadcast receiving unit 1. By including digital decoding circuitry for receiving digital television and music channels, Phillips inputs digital content, as claimed. Phillips’s data may also be input from recording devices stored in memory/storage 112, the same way as the ’394 patent’s device controller 2 inputs data from the data record unit 3 (in the ’394 patent’s Figure 7). Phillips’s control circuitry also achieves the same result as the ’394 patent’s input structure, namely providing a digital signal to the STB. Thus, Phillips’s control circuitry, which includes analog and/or digital tuners and decoders, is equivalent to the ’394 patent’s “input unit.” (EX1002, ¶¶105-109.)

Claim 2[b]: a reproducer which reproduces the inputted digital content;

Phillips’s digital content reproducing apparatus includes a recording device to

reproduce and record the inputted digital content. For example, “[r]ecording device 62 may be used to record videos provided by set-top box 60.... If set-top box 60 is tuned to a given television channel, the video signal for that television channel may be passed to recording device 62 for recording on a videocassette, compact disc, digital video disk, or internal hard drive or other storage device....” (EX1005, 10:7-19; *see also id.* at 10:20-40.)

Similarly, Phillips explains that in “[a]nother illustrative arrangement, ...user television equipment 20 includes a recording device 66 such as a digital video recorder (e.g., a personal video recorder (PVR)) that uses a hard disk or other storage for recording video or may be a digital video disc recorder, compact disc recorder, videocassette recorder, or other suitable recording device.... Recording device 66 may also contain digital decoding circuitry for receiving digital television and music channels....” (EX1005, 10:41-11:5.)

With respect to Figure 6’s depicted control circuitry (EX1005, 13:50-14:23), one of ordinary skill in the art would have understood that the previously described recording device 62/66 may be part of storage 112 and controlled by control circuitry 106. Phillips thus provides a reproducer which reproduces the inputted digital content. (EX1002, ¶¶110-112.)

Claim 2[c]: an output unit which outputs the reproduced digital content;

Phillips explains that the “output of *recording device 62* may be provided to

television 64 for display to the user....” (EX1005, 10:29-39 (emphasis added).)

Additionally, Phillips’s processing circuitry controls the output of the reproduced digital content to display 114:

.... The tuning and encoding circuitry may be used by the user equipment to receive and display or play or record a particular television or music channel or other desired audio and video content.... Television programming and other video and on-screen options and information may be displayed on display 114.... (EX1005, 14:5-23.)

Phillips thus provides an output unit which outputs the reproduced digital content. (EX1002, ¶¶113-114.) To the extent the recited “output unit” limitation is considered to invoke § 112(f), Phillips’s tuning and encoding circuitry for outputting desired content to display 114 is the same or equivalent to the structure described in the ’394 patent’s specification because it performs the same function (outputting the reproduced digital content) in substantially the same way to achieve substantially the same result.

Specifically, Phillips includes control circuitry 106 with processing circuitry 110 and storage 112 that is connected to input/output 108. Phillips’s control circuitry includes tuning and encoding circuitry (*i.e.*, digital signal processors) for outputting desired content to display 114, which may be reproduced digital content from Phillips’s recording devices. Thus, the way that Phillips outputs its digital content through digital signal processing systems is the same as the ’394 patent’s output

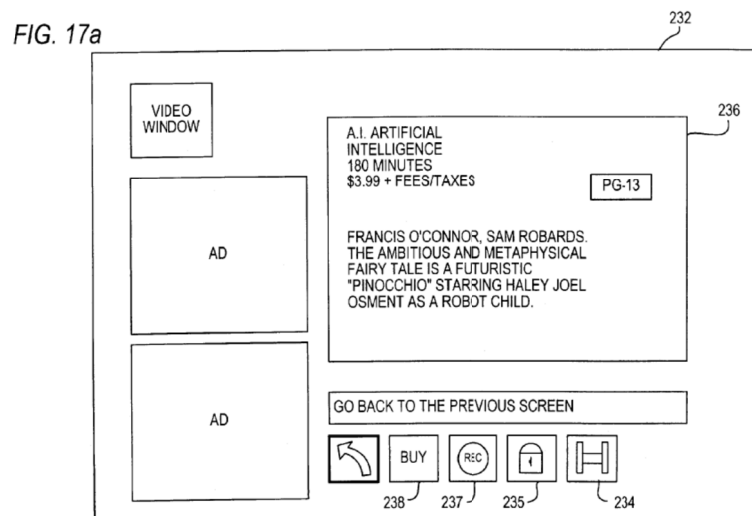
through image rendering unit 7. This also achieves the same result as the '394 patent, which is providing a signal that can be displayed. Thus, Phillips's control circuitry 106 with digital signal processing units is equivalent to the '394 patent's "output unit" (EX1002, ¶¶115-118.)

Claim 2[d]: a display which displays the outputted digital content together with an alternative display of either of a linear content operation panel allowing user-instruction regarding linear reproduction functions of the reproduced digital content or an interactive content operation panel allowing user-instruction of interactive functions to an outside of the digital content reproducing apparatus,

As discussed above, Phillips discloses a display 114 that displays the outputted digital content. That display is depicted in Phillips' Figures 7-18. With specific reference to Figures 14-18, Phillips displays both interactive content, as shown in the VoD screens of Figures 14-17, and linear content, as shown in the video display of Figure 18. And depending on the screen displayed, Phillips shows a linear content operation panel allowing user-instruction regarding the linear reproduction functions, or an interactive content operation panel allowing user-instruction of interactive functions to an outside of the digital content reproducing apparatus. (EX1002, ¶¶119-124.)

For example, as shown in Figure 17a's interactive content screen displaying interactive VoD content, an interactive content operation panel is shown at the bottom of the screen that includes a back arrow to return to the previous screen (EX1005, 17:50-52 (describing element 174 of Figure 11)), a buy button 238, a

record button 237, a parental control button 235, and a preview button 234 (EX1005, 19:30-57.) As explained by Dr. Bederson, an operation panel is an organized presentation of user control buttons. The buttons need not be contained within a specific border (although this is indeed taught by Phillips (EX1005, 16:45-50)). Up/down scroll indicators 148/149 (shown in Figures 15 and 16, for example) allow the user to navigate through program listings. (EX1005, 16:5-21.) Thus, in Figure 17a (as well as Figures 14-16 and 17b), it is the user's interaction with Phillips's operation panel that drives subsequent content. (EX1002, ¶122.)



The interactive content operation panel allows user-instruction of interactive functions to an outside of the digital content reproducing apparatus by, for example, informing server 36 or 56 that the user wishes to buy the video (button 238) or wishes to view a clip of the video (button 234):

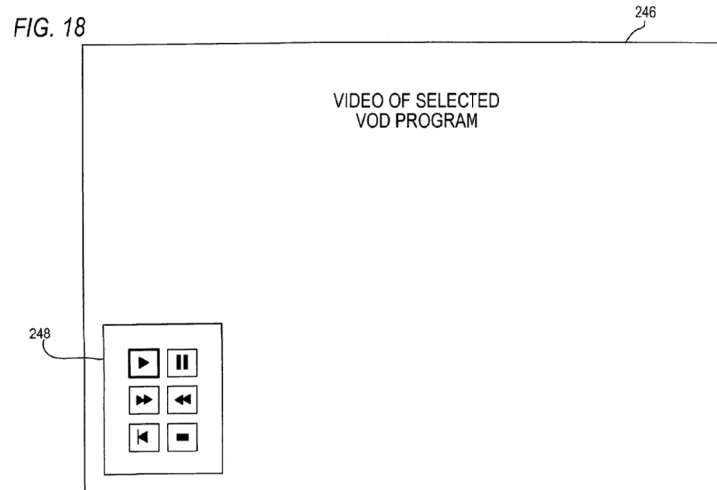
- “.... If the user selects option 234, the interactive television application may display a video clip containing information on the

video-on-demand content of interest (e.g., a promotional video such as a preview, a trailer, a review, etc.). *The video clip may be delivered to the user equipment 18 from a server such as server 36 or server 56 of FIG. 1 or from equipment at a service provider such a service provider 50....*” (EX1005, 19:37-57 (emphasis added).)

- “In response to a user ordering selected content..., the interactive television application may deliver the ordered video-on-demand content to the user equipment *from a server such as server 36 or server 56 or from a service provider such as 15 service provider 50....*” (EX1005, 20:8-17 (emphasis added).)

Phillips describes a variety of other interactive content screens including interactive content operation panels. *See* Figure 19-20, Figures 22-26, Figure 28.

Once the user makes a selection, the selected VoD content is displayed to the user, as shown in Figure 18, with a linear content operation panel allowing “the user to rewind the video-on-demand content to the beginning, rewind, play, fast-forward, pause, stop delivery of the video-on-demand content, or perform other video playback options.” (EX1005, 20:18-30; *see also* Figure 21 (22:59-23:9), Figure 27 (26:45-63).)



Phillips thus discloses claim element 2[d]. (EX1002, ¶¶119-124.)

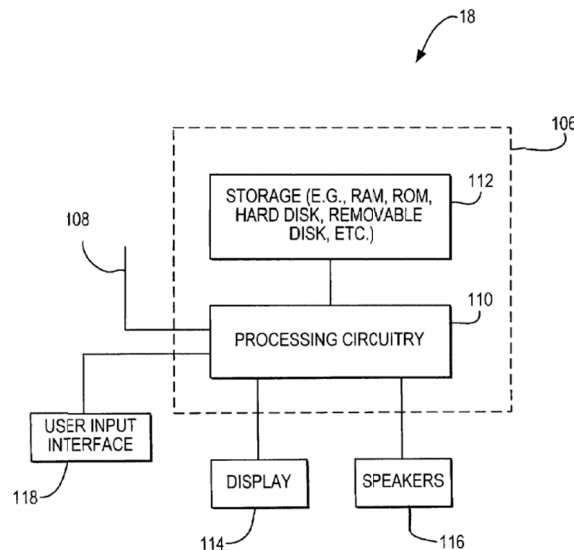
Claim 2[e]: wherein the linear content operation panel and the interactive content operation panel are distinct panels from each other, which are not generated by a disabling of buttons; and

As shown by comparing Phillips's Figures 17a and 18, for example, both the linear content operation panel and the interactive content operation panel are distinct operation panels, with distinct buttons and functionality, which are not generated by the disabling of buttons. In Figure 17a's interactive content operation panel, button 238 enables the interactive television application to display a video clip containing information on the VoD content of interest (EX1005, 19:45-48); button 235 accesses options for setting parental controls (EX1005, 19:43-44); button 237 accesses options for recording the selected content (EX1005, 19:41-43); button 238 accesses options for ordering the selected VoD content (EX1005, 19:40-41); and a previous screen button is also provided. In contrast, the buttons of Figure 18's panel 248 perform play, rewind, fast-forward, pause, and stop.

(EX1005, 20:20-30.) (EX1002, ¶¶125-126.)

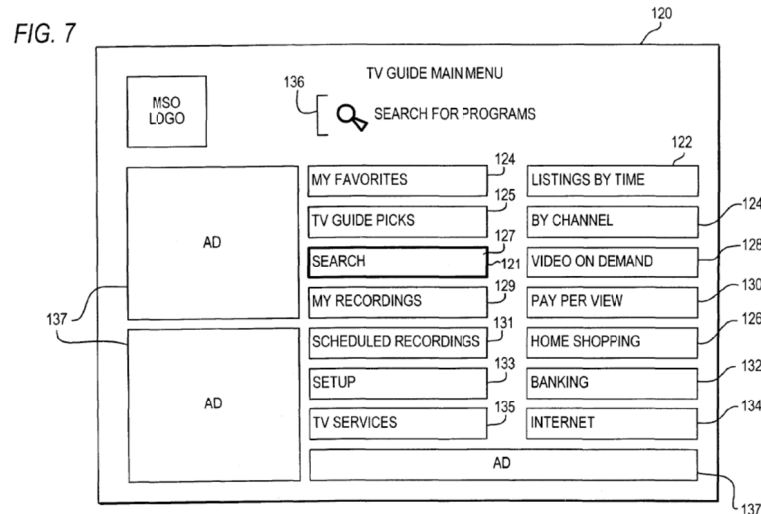
Claim 2[f]: a controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel, wherein only one of the linear content operation panel or the interactive content operation panel is displayed exclusively at any given time, together with the outputted digital content:

As discussed above with respect to elements 2[a]-2[c], Phillips includes control circuitry 106 with tuning and encoding circuitry to receive and display the requested interactive content or the requested linear content. (EX1005, 13:65-14:23.) The control circuitry is controlled by the user with “user 25 input interface 118. The user input interface 118 may be any suitable user interface, such as a mouse, trackball, keypad, keyboard, touch screen, touch pad, voice recognition interface, remote control, etc.” (EX1005, 14:24-28.)

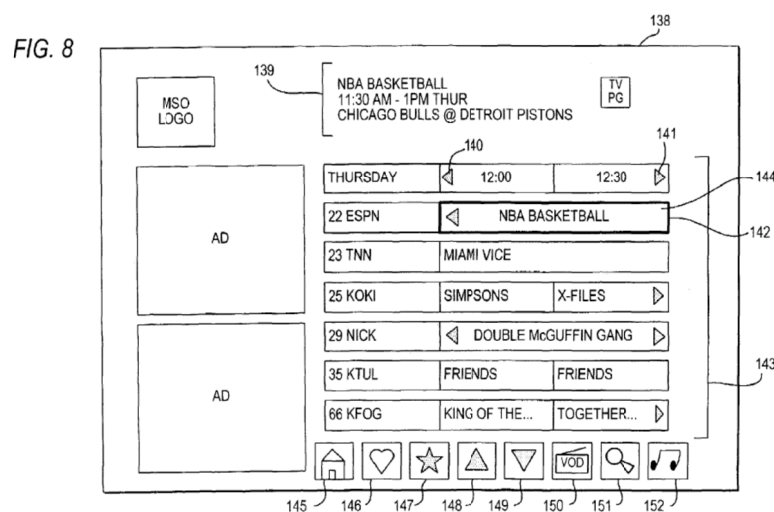


The user’s interaction with Phillips’s device causes the control circuitry 106 to control the alternative display of either the linear content operation panel or the

interactive content operation panel, depending upon the user's selection. For example, menu 120, shown below in Figure 7, "provide[s] the user with a number of selectable options." (EX1005, 14:29-33.)



Option 122 may be selected and instructs Phillips's control circuitry to display the interactive content "Listings by Time" menu, which includes an interactive content operation panel with buttons 145-152. (EX1005, 15:14-16:21.)



Selecting the VoD button instructs the control circuitry to display the interactive

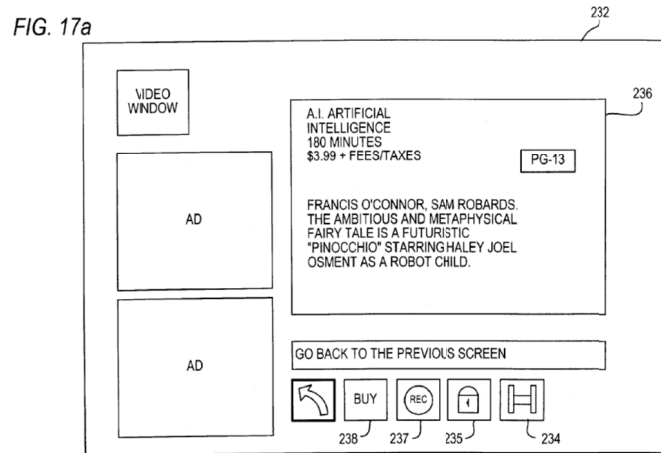
content VoD screens shown in Figures 14-17, each having an interactive content operation panel. Once the user buys a selected VoD program, the control circuitry displays the selected video together with the linear content operation panel shown in Figure 18. (EX1005, 20:8-30.) Thus, Phillips's control circuitry controls the alternative display of either of the linear content operation panel or the interactive content operation panel depending upon the presently displayed screen. As shown by the figures above, only one of the linear content operation panel or the interactive content operation panel is displayed exclusively at any given time, together with the outputted digital content. (EX1002, ¶¶127-131.)

Claim 2[g]: wherein the outputted digital content together with either the linear content operation panel or the interactive content operation panel, are displayed concurrently in one screen.

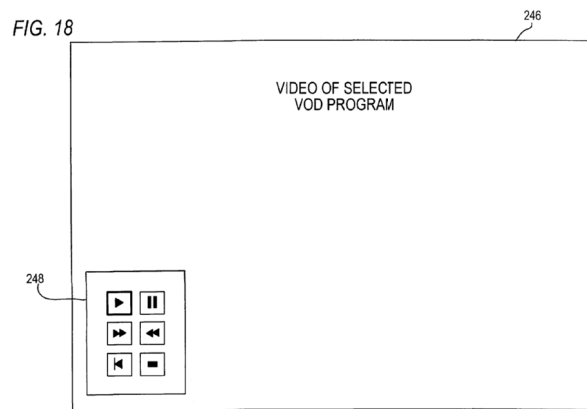
Phillips discloses a display 114 that displays the outputted digital content. Display 114 is depicted in Phillips's Figures 7-18. With specific reference to Figures 14-18, Phillips displays both interactive content, as shown in the VoD guide screens of Figures 14-17, or linear content, as shown in the video display of Figure 18. And depending on the screen displayed, Phillips shows either a linear content operation panel along with the outputted digital content, or an interactive content operation panel along with the outputted digital content, all on one screen.

For example, Figure 17a illustrates an interactive content screen displaying interactive VoD content (*i.e.*, outputted digital content), concurrently with an

interactive content operation panel displayed along the bottom of the screen.



As another example, Figure 18 illustrates a linear content screen displaying a selected VoD program—*i.e.*, the outputted digital content—currently with a linear content operation panel in the bottom left corner of the screen.



Phillips thus discloses each and every limitation of claim 2 and anticipates the same. (EX1002, ¶¶132-134.)

3. Claim 4

Claim 4[Preamble]: A digital content reproducing apparatus, comprising:

See claim 2[preamble].

Claim 4[a]: an input unit which inputs digital content;

See claim 2[a].

Claim 4[b]: a reproducer which reproduces the inputted digital content;

See claim 2[b].

Claim 4[c]: an output unit which outputs the reproduced digital content;

See claim 2[c].

Claim 4[d]: a display which displays the outputted digital content together with an alternative display of either of a linear content operation panel allowing user-instruction regarding linear reproduction functions of the reproduced digital content or an interactive content operation panel allowing user-instruction of interactive functions to an outside of the digital content reproducing apparatus,

See claim 2[d].

Claim 4[e]: wherein buttons of the linear content operation panel are mutually different from buttons of the interactive content operation panel; and

Phillips's linear content operation panel and interactive content operation panel are distinct operation panels, with mutually different buttons and functionality.

For example, Figure 17a depicts an interactive content operation panel with buttons 234, 235, 237 and 238. Button 234 enables the display of a video clip containing information on the VoD content. (EX1005, 19:45-48.) Button 235 accesses options for parental controls. (EX1005, 19:43-44.) Button 237 accesses

options for recording the selected content. (EX1005, 19:41-43.) Button 238 accesses options for ordering the selected VoD content. (EX1005, 19:40-41.) In contrast, the buttons of Phillips's linear content operation panels are mutually different from that of Phillips's interactive content operation panels, as well as individually distinctive in functionality. For example, Figure 18's linear content operation panel 248 provides the following functions: play, rewind, fast-forward, pause, stop, and rewind to the beginning. (EX1005, 20:20-30.) (EX1002, ¶¶135-140.)

Claim 4[f]: a controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel, wherein only one of the linear content operation panel or the interactive content operation panel is displayed exclusively at any given time, together with the outputted digital content:

See claim 2[f].

Claim 4[g]: wherein the outputted digital content together with either the linear content operation panel or the interactive content operation panel, are displayed concurrently in one screen.

See claim 2[g].

Phillips thus discloses each and every limitation of claim 4 and anticipates the same.

4. Claim 5

Claim 5: The digital content reproducing apparatus according to claim 4, wherein all the buttons are mutually different from each other.

As explained above with respect to claim element 4[e], the linear content operation panel and the interactive content operation panel depicted in Figures 17a and 18, for example, are distinct operation panels, with buttons that are all mutually different from each other. (EX1002, ¶¶135-140.) Phillips thus discloses each and every limitation of claim 5 and anticipates the same.

5. Claim 7

Claim 7[Preamble]: A digital content reproducing apparatus, comprising:

See claim 2[preamble].

Claim 7[a]: an input unit which inputs digital content;

See claim 2[a].

Claim 7[b]: a reproducer which reproduces the inputted digital content;

See claim 2[b].

Claim 7[c]: an output unit which outputs the reproduced digital content;

See claim 2[c].

Claim 7[d]: a display which displays the outputted digital content together with an alternative display of either of a linear content operation panel allowing user-instruction regarding linear reproduction functions of the reproduced digital content or an interactive content operation panel allowing user-instruction of interactive functions to an outside of the digital content reproducing apparatus,

See claim 2[d].

Claim 7[e]: wherein buttons of the linear content operation panel producing mutually differing functions from functions of buttons of the interactive content operation panel; and

As shown by comparing Phillips's Figures 17a and 18, for example, both the linear content operation panel and the interactive content operation panel are composed of distinctive buttons which perform distinctive functions, none of which are the same. *See* claim element 4[e], *supra*. (EX1002, ¶¶135-140.)

Claim 7[f]: a controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel, wherein only one of the linear content operation panel or the interactive content operation panel is displayed exclusively at any given time, together with the outputted digital content:

See claim 2[f].

Claim 7[g]: wherein the outputted digital content together with either the linear content operation panel or the interactive content operation panel, are displayed concurrently in one screen.

See claim 2[g].

Phillips thus discloses each and every limitation of claim 7 and anticipates the same.

6. Claim 8

Claim 8: The digital content reproducing apparatus according to claim 7, wherein all the buttons of the linear content operation panel and the interactive content operation panel, provide mutually differing functions from each other.

As explained above with respect to claim element 7[e], all of the buttons of Phillips's linear content operation panel and its interactive content operation panel provide mutually differing functions from each other. (EX1002, ¶¶135-140.) Phillips thus discloses each and every limitation of claim 8 and anticipates the same.

B. Ground 2: Claims 2, 4, 5, 7, and 8 are Obvious over Phillips and Ackley.

All limitations of claims 2, 4, 5, 7, and 8 are disclosed by Phillips. To the extent there is a more narrow interpretation of the claim language, "a controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel..." as included in independent claims 2, 4, and 7, the combination of Phillips and Ackley renders this limitation obvious.

As explained above, Phillips's control circuitry controls the alternative display of either a linear content operation panel or an interactive content operation panel depending upon the presently displayed/selected screen. Specifically, Phillips's control paradigm is based upon a programmed relationship between Phillips's interactive content screens and their appropriate interactive content operation panels,

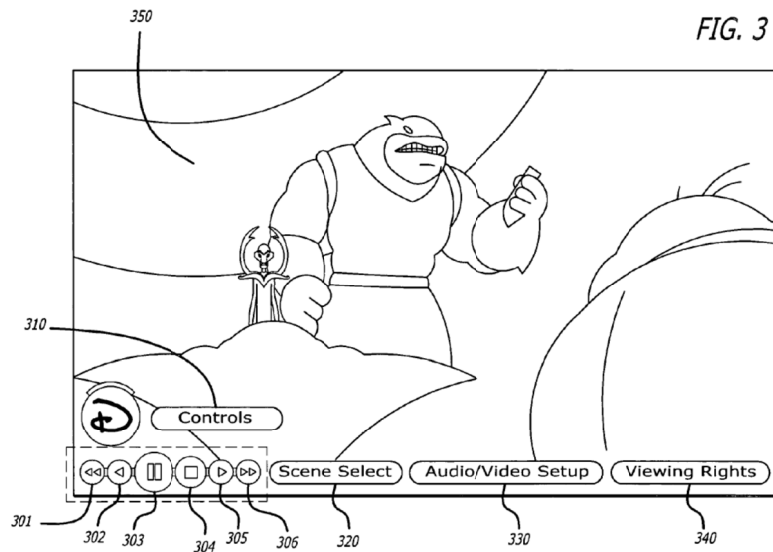
as well as the linear content screens and their appropriate linear content operation panels, which renders unpatentable the “controller” limitations of claims 2, 4, and 7. (EX1002, ¶¶141-144.)

However, Maxell may argue for a more narrow interpretation of its claims, such that the claimed “controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel” requires a “dynamic” alteration of the displayed operation panel based on an assessment of the displayed data. For example, the ’394 patent explains that its “data monitor unit monitors the auto_start_flag, and when the flag becomes 1, the interactive content operation panel A5 is displayed, and when the flag becomes 0, the linear content operation panel A4 is displayed.... upon occurrence of a change in the information, the panels are automatically and exclusively displayed....” (EX1001, 4:12-20.) Thus, Maxell may argue that the ’394 patent’s “controller” limitation requires an assessment of the content’s metadata to determine if it is linear content or interactive content and then, based on that determination, display the appropriate operation panel.

Yet, even if this interpretation is applied to the claims (setting aside the fact that the ’394 patent’s “data monitor unit” is specifically recited in independent claim 1, but does not appear in independent claims 2, 4, or 7), this is disclosed by Ackley.

Ackley discloses “a menu system that overlays the video on a DVD, and can be

viewed and selections made during playback/viewing of a video stream.” (EX1007, 3:25-32; EX1002, ¶¶84-86.) An exemplary display according to Ackley’s invention is depicted in Figure 3, below, where an operation panel is overlaid on the bottom of the video stream without interrupting the video’s display. (EX1007, 5:39-50.)



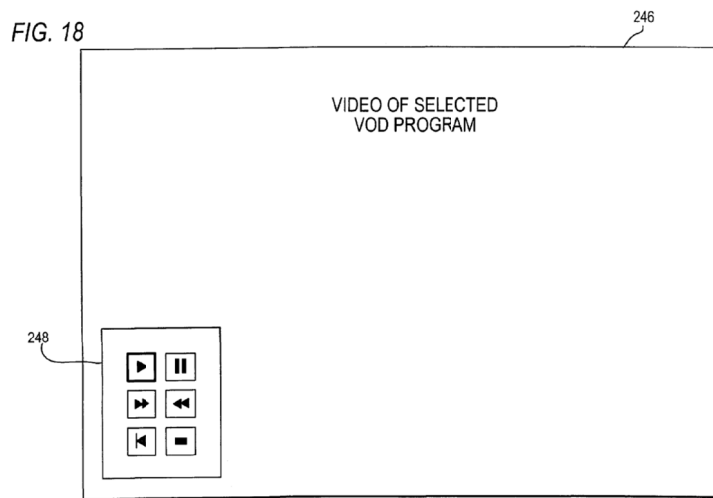
Moreover, and with particular emphasis towards the ’394 patent, Ackley explains that a menu screen may automatically appear if, for example, the displayed video is streaming a section of the movie that may take an alternate ending, or if a depicted item in the movie is for sale. (EX1007, 4:52-5:3.) This allows the user to interactively select the alternate ending or purchase the item for sale:

In another embodiment, an automatic menu may also appear if the video is streaming a section where the movie may take an alternate ending, or an alternate plot. Once the section in the video with an alternate plot is showing, an automatic menu would be displayed showing the possible alternate endings....

In another embodiment, if an item is for sale online, a menu would automatically be displayed along with options for purchasing the item.... For instance, if a movie displays a person using a cell phone, and the cell phone is a featured item for sale, an automatic menu specific to the cell phone would appear....

(EX1007, 4:52-5:3.)

One of ordinary skill in the art would have been motivated to incorporate Ackley's data monitoring technique and resulting interactive content operation panel with Phillips. For example, the linear content display with linear content operation panel of Phillips's Figure 18 is shown below.



The linear content operation panel 248 would be displayed until Phillips's control circuitry receives an input indicating that, for example, the movie may take an alternate ending or an item displayed in the movie is for sale. Based on this sensed input, Phillips's controller would alternate from the displayed linear content operation panel to an interactive content operation panel so that the user may select an alternate

ending or navigate the various purchase options that may be associated with the item for sale. (EX1002, ¶¶145-149.)

One of ordinary skill in the art would have been motivated to program Phillips in this way to (1) provide a more customized user experience, (2) generate revenue for the content provider by allowing the user to interact with and purchase items depicted in the streaming content, (3) enhance Phillips's home shopping application (EX1005, 8:45-50), and (4) enable the software architecture to more naturally accommodate other, future, data types by associating the user interface with data (Ackley) rather than coding to a specific screen (Phillips). (EX1002, ¶¶146-147.)

Ackley's data monitoring technique could easily, and with a reasonable expectation of success, be integrated into Phillips. Deciding which user interface panel to display is a simple and predictable outcome of a condition in an "if" programming statement. (EX1002, ¶¶149-154.) As explained by Dr. Bederson, changing Phillips's existing decision-making process (based on a user-interface screen) to a condition (based on Ackley's data monitoring) would be a straightforward application of well-known programming techniques. Given the simple nature of this change—creating a condition of an "if" statement to be based on a data attribute—one of ordinary skill in the art would find the outcome predictable and obvious. (EX1002, ¶¶149-154.)

Moreover, the combination of Phillips and Ackley simply expands Phillips's

functionality, as proposed above, and does not alter the fact that Phillips's control circuitry controls the alternative display of either of a linear content operation panel or an interactive content operation panel depending upon the presently displayed/selected screen. Because Phillips discloses each and every limitation of claims 2, 4, 5, 7, and 8 (as explained above in Ground 1), Phillips in combination with Ackley also discloses each and every limitation of these claims, rendering them unpatentable as obvious. Accordingly, claims 2, 4, 5, 7, and 8 should be canceled in view of the Phillips/Ackley combination. (EX1002, ¶¶154-155.)

C. Ground 3: Claims 2, 4, 5, 7, and 8 are Obvious Over Phillips and Wallis.

To the extent there is a more narrow interpretation of the claim language “a controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel...,” such that this limitation requires an assessment of the content's metadata to determine if it is linear or interactive content and then, based on that determination, display an appropriate operation panel, the combination of Phillips and Wallis renders this limitation obvious.

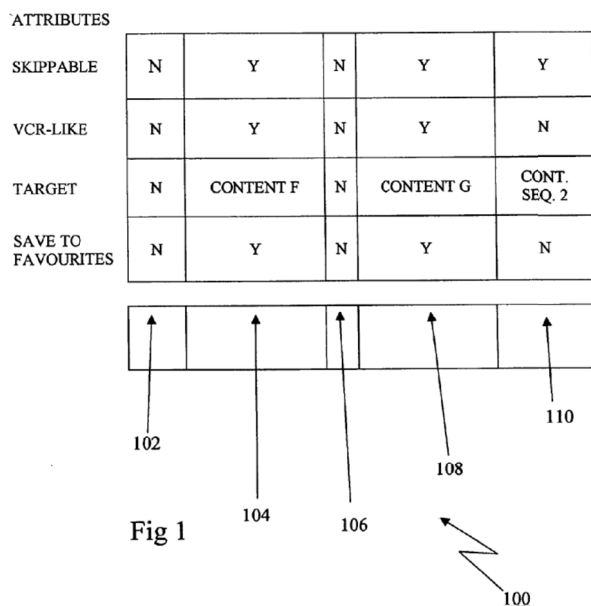
As the Examiner found during prosecution, Wallis discloses that it was known in the art to use:

metadata to associate sets of attribute data with respective segments of an A/V content stream, wherein the associated set of attribute data

allows the receiver/reproduction circuitry to judge/identify/determine which of a plurality of different types of navigation controls, i.e., linear and non-linear controls, are active/enabled ..., and wherein the active/enabled navigation controls are incorporated into a GUI for presentation to, and selection by, the user....”

(EX1004, 80-81.)

Specifically, Wallis discloses an attribute mapping for digital VoD content (EX1006, ¶0002.), which is shown in the table of Wallis’s Figure 1.



The “Yes”/“No” attributes shown above indicate whether the digital content is, for example, skippable, “VCR-Like,” links to other content (“target”), or can be saved to favorites. (EX1006, ¶¶0030-0035.) By way of further example, Wallis discloses that such attribute metadata is stored in a service database and may indicate whether the fast forward, rewind, and pause keys should be active; whether a skip button should be active; whether a save to favorites button should be active; and

whether a button allowing the user to jump to a linked/targeted video should be active. (EX1006, ¶¶0057-0065.) Wallis notes that attribute metadata can be saved for “a specific item of content,” “a series of content,” “a TV channel,” “a category of content,” “a credit,” “another VoD screen or service,” “a product,” or “quizzes, competitions and questionnaires.” (EX1006, ¶¶0068-0076; *see also id.* at ¶¶0077-0083; EX1002, ¶¶87-89.)

Wallis provides an exemplary embodiment where “a customer viewing a VoD entertainment channel is presented with a promotion for a top-rated series (say, the Sopranos). A single button press during the run-time of this promotion will link the viewer directly to a list of episodes for the featured series. Another example might be a VoD music video service where the content sequence is a sequence of music video content item clips with targets attributes that are directed to the ‘full length’ music video content item.” (EX1006, ¶0085.)

One of ordinary skill in the art would have been specifically motivated to incorporate Wallis’s metadata attribute table and service database into Phillips’s systems to control whether an interactive content operation panel or a linear content operation panel is displayed to the user and, within each type of operation panel, what buttons to include. For example, rather than having a set operation panel that populates when a given VoD screen is displayed, or a set operation panel that populates when video or music is playing, Phillips’s system as modified by Wallis

would allow for Phillips's operation panel display to dynamically populate a set of interactive content control buttons or linear content control buttons based on the attribute data associated with the digital content. (EX1002, ¶¶156-162.)

And while Wallis discloses the enabling/disabling of buttons based on attribute data (*see, e.g.*, EX1006, ¶0030), Petitioner's combination does not rely on a disabling of buttons to disclose the claimed operation panels. Rather, Petitioner's combination relies on Phillips's disclosure of separate linear content and interactive content operation panels, but these operation panels and their associated buttons will be dynamically populated based on the attributes of the incoming interactive or linear content, as taught by Wallis. And indeed, Phillips does not rely on the disabling of buttons to populate its disclosed operation panels. More importantly, one of ordinary skill in the art would have understood that Wallis is not limited to a dynamic alteration of operation panels based on the disabling of buttons, but more broadly describes and applies the well-known control method that a given operation panel and its buttons can be dynamically displayed and tailored to the underlying content. (EX1002, ¶166.)

Programming Phillips's systems in this way would provide a more customized experience for the user, tailored to the particular content being displayed. Further, by associating the user interface with data (Wallis) rather than coding to a specific screen (Phillips), the software architecture would more naturally accommodate other,

future, data types. That is, future programming would not rely on a programmer having to create a new/discrete operation panel for each new content screen. Instead, the appropriate operation panel would be selected/populated simply by looking at the attribute values within Wallis's Figure 1. Each of these benefits would have motivated one of ordinary skill in the art to modify Phillips in view of Wallis. (EX1002, ¶¶162-164.)

Wallis's attribute table could easily, and with a reasonable expectation of success, be integrated into Phillips. Deciding which operation panel to display is a simple and predictable outcome of a condition in an "if" programming statement. (EX1002, ¶165.) As explained by Dr. Bederson, changing Phillips's existing decision-making process (based on a user-interface screen) to a condition (based on Wallis's attribute table) would be a straightforward application of well-known programming techniques. Given the simple nature of this change—creating a condition of an "if" statement to be based on a data attribute—one of ordinary skill in the art would find the outcome predictable and obvious.

Moreover, the combination of Phillips and Wallis simply expands Phillips's functionality, as proposed above, and does not alter the fact that Phillips's control circuitry controls the alternative display of either of a linear content operation panel or an interactive content operation panel depending upon the presently displayed/selected screen. Because Phillips discloses each and every limitation of

claims 2, 4, 5, 7, and 8 (as explained above in Ground 1), Phillips in combination with Wallis also discloses each and every limitation of these claims, rendering them unpatentable as obvious. Accordingly, claims 2, 4, 5, 7, and 8 should be canceled in view of the Phillips/Wallis combination. (EX1002, ¶¶165-167.)

1. Grounds Relying on Wallis Do Not Invoke 35 U.S.C. § 325(d).

Section 325(d) grants the Board discretion to deny petitions if they are based on “the same or substantially the same prior art or arguments previously [] presented to the Office.” 35 U.S.C. § 325(d). Also, the Board may not institute unless a petitioner demonstrates a reasonable likelihood of prevailing. 35 U.S.C. § 314(a).

When evaluating a petition applying art that was before the examiner during prosecution, the Board typically looks at six factors: (1) the similarity of the now asserted art and the art before the examiner, (2) the cumulative nature of the asserted art and the art considered during examination, (3) the extent the art was considered during examination, including whether it was the basis for a rejection, (4) 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, (5) whether the petitioner explained how the Examiner erred, and (6) the extent that additional evidence and facts in the petition warrant reconsideration of the prior art. *Becton, Dickinson & Company v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017).

Here, the Board should grant review even though the Examiner considered and applied Wallis as the interpretation of Wallis applied during prosecution and herein are materially different. During prosecution, the Examiner relied on Wallis as a primary reference teaching the display of “VCR-Like” controls for linear content and “skip and or jump controls” for non-linear content, and determined that:

it would have been obvious to one of ordinary skill in the art, if not implicit in applicant’s description of ‘unusable keys’ itself, for the described ‘unusable keys’ of applicants disclosed ‘prior art’ to have comprised those keys that pertain to the linear content during the presentation of nonlinear content, and/or those keys that pertain to the non-linear content during the presentation/display of the linear content; i.e., thereby causing, as described, the non-applicable keys to be ‘disabled’ in some un-described way.

(EX1004, 86.) In other words, Wallis’s application during prosecution focused on whether it would be obvious to disable buttons on a user interface based on whether the data input was linear or interactive, which the Applicant excluded from the claims by way of amendment. (EX1004, 97-104.) Moreover, the Applicant did not distinguish its alleged invention over Wallis’s teachings, but over Kawakami’s teachings.

Here, in contrast, Petitioner does not rely on Wallis for this teaching but, instead, relies on Phillips—which was not cited or applied against the ’394 patent—as disclosing the alternative display of a linear content operation panel and an

interactive content operation panel depending on whether the displayed data is interactive content or linear content. Wallis is relied on for its teaching of monitoring the metadata of incoming digital content and, based on the nature of the content, populating the appropriate operation panel and buttons tailored to the content. Petitioner's unpatentability theory in view of Phillips and Wallis is thus materially different than, and does not overlap with, the arguments considered during prosecution. Petitioner's arguments do not implicate 35 U.S.C. § 325(d).

D. Ground 4: Claims 2, 3, 4, 6, 7, and 9 are Obvious Over the Phillips Grounds (1-3) and Uchida.

Claims 3, 6, and 9 each limit their respective independent claims (2, 4, and 7) by requiring “the linear content operation panel and the interactive content operation panel [to be] common in size, and [] alternatively switched between each other in a same panel rendering area of the screen as alternative operation panels.” In other words, as shown in the '394 patent's Figure 2 (element A3), this claim requires the linear and interactive operation panels, when displayed, to populate in the same rendering area of the screen. As shown by Uchida, this recitation is nothing more than a basic way to split a screen's usable space between a content display area and an operation panel display area. This methodology was also suggested by the TR-B14 Technical Report cited by the '394 patent at 4:3-6. (EX1002, ¶176.)

Specifically, Uchida explains that when a single display is used for both content and the content's operation panel, “an image displayed on the entire display

screen of the display device may hide behind the operation display information to make it difficult to see important information....” (EX1010, 1:47-57.) To solve this problem (as shown in Figures 10A-10C), Uchida’s display 108 is divided into a dedicated content display area and a dedicated control panel (CP) display area, just like the ’394 patent. (EX1010, 21:36-22:7.)

FIG. 10A

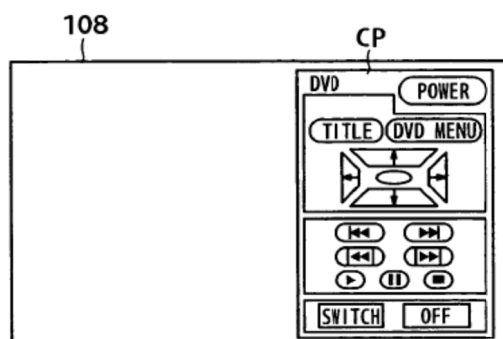


FIG. 10B

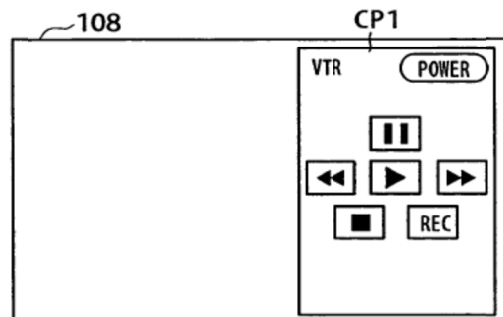
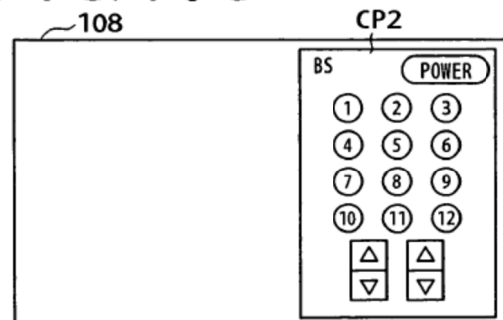


FIG. 10C



Moreover, Uchida teaches that the control panel display area may alternate

between different control panels depending upon what is output to the display. For example, Figure 10A shows a unique control panel for DVD controls, whereas Figures 10B and 10C show different control panels for video tape recorder controls and TV tuner controls, respectively. (EX1010, 21:54-67; EX1002, ¶¶96-97, 168-172.)

This type of display methodology where a screen's usable space is split between a content display area and an operation panel display area is not unique to Uchida. For example, in the context of portable handheld devices, U.S. Patent No. 7,667,123 to Phillips explains that a "predetermined portion of the touch-sensitive display" will contain the devices operation panel and "programmable control buttons," which may be "reprogrammed" to show a different buttons depending on the content displayed. (EX1011, 6:14-32, 7:4-26, Figures 4 and 5.). As shown in the transition between Figures 4 and 5, Phillips¹²³ explains that the Figure 4 operation panel containing "open," "new," and "edit" buttons has been reprogrammed in Figure 5 to instead include linear content controls such as fast-forward and rewind for controlling the streaming media. (*Id*; *see also* EX1012, Figures 1A-1D.) (EX1002, ¶¶173-174.)

One of ordinary skill in the art would have been motivated to incorporate Uchida's split display with Phillips (as well as the Phillips/Ackley or Phillips/Wallis

combined systems)¹ to achieve the specific benefits described by Uchida—namely, ensuring that the displayed content (which may be linear or interactive content as taught by Phillips, Ackley, and Wallis) is not obstructed by an operation panel displayed on the screen. In fact, Phillips even explains that rather than overlaying its operation panels on the displayed content, “the video for the current channel may be reduced in size and the flip information ... may be displayed at a location on the periphery of the reduced-sized video (e.g., at the bottom, side, or top of the reduced-sized video).” (EX1005, 16:45-50.) Thus, not only is a split screen display (and the benefits thereof) expressly disclosed by Uchida, but Phillips already contemplated and disclosed the exact implementation proposed by Petitioner’s Uchida combination. (EX1002, ¶¶175-177.)

Second, utilizing Uchida’s split screen display would, as a matter of graphical user interface design, and as explained by Dr. Bederson, provide for many of the

¹ Petitioner’s unpatentability arguments in view of Phillips/Ackley or Phillips/Wallis do not rely on the references’ linear content operation panels or interactive content operation panels being displayed in any particular location on the screen. Moreover, nothing in Phillips, Ackley, or Wallis demands that the references’ operation panels be displayed in any particular area and, thus, Uchida’s split screen display may be incorporated into Phillips alone, Phillips in view of Ackley, or Phillips in view of Wallis. (EX1002, ¶175.)

same benefits as achieved by using what is known as “tiled window mergers.” A split screen display avoids any potential need for the user to have to reposition an overlapping panel and, thus, user time is saved, as well as user acceptance/compliance. (EX1002, ¶¶22-29, 177.)

Uchida’s split screen display would have easily, and with a reasonable expectation of success, been integrated into the Phillips-based grounds. As explained by Dr. Bederson, one of ordinary skill in the art would have had to simply set the position and size of Phillips’s content display area and the operation panel display area based on the non-overlapping position and size taught by Uchida. (EX1002, ¶178.) Accordingly, one of ordinary skill in the art would find the combination of Uchida with the Phillips-based grounds to be predictable and obvious.

Moreover, the proposed Uchida combination trivially modifies the location of Phillips’s content display area and operation panel display area, and does not change any of the other operating principals of Phillips, Phillips/Ackley, or Phillips/Wallis. Because each Phillips-based ground discloses each and every limitation of claims 2, 4, and 7 (as explained above in Grounds 1, 2, and 3), Uchida in combination with these references also discloses each and every limitation of claims 2, 4, and 7. Accordingly, claims 2, 3, 4, 6, 7, and 9 are rendered obvious and should be canceled in view of Uchida in combination with the Phillips-based grounds.

E. Ground 5: Claims 2, 4, 5, 7, and 8 are Obvious Over Russ and McElhatten.

1. Overview

Russ describes television systems, personal video recording, and interactive program guides that provide both linear and interactive content to users. For example, “[t]he DHCT [(digital home commination terminal), *i.e.*, a set-top box,] receives signals (video, audio and/or other data) from the headend through the network” and provides that media/content to client devices such as the DHCT. (EX1008, 6:28-31; 38-47.) “The headend and the DHCT cooperate to provide a user with television services via the television. The television services may include for example, broadcast television services, cable television services, premium televisions services, video-on-demand (VoD) services, and/or pay-per-view (PPV) services, among others.” (EX1008, 6:41-47.)

Beyond Russ’s interactive broadcast televisions services and VoD services, Russ also provides users with a variety of additional “interactive television services” such as a “media-on-demand (MoD) application, an e-mail application, a PVR application, and a web browser application.” (EX1008, 9:29-31.) A series of exemplary interactive content display screens are shown below in Figures 4, 7, 13, 33 and 38.

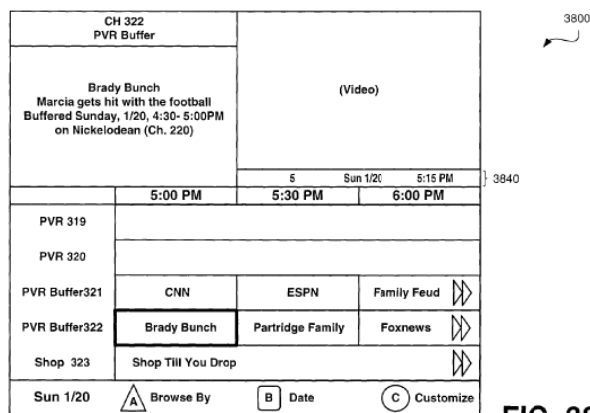
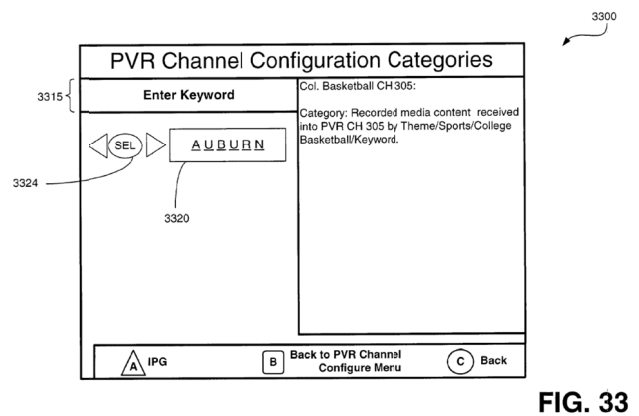
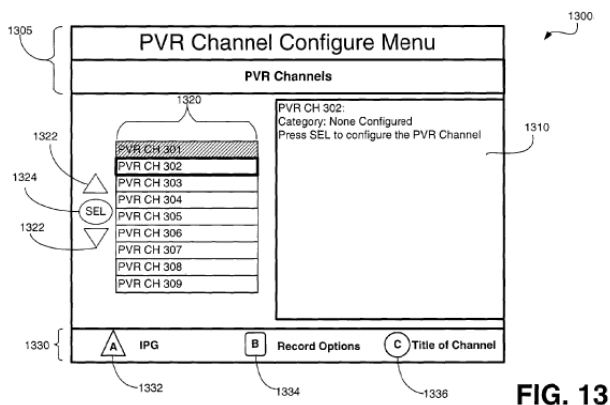
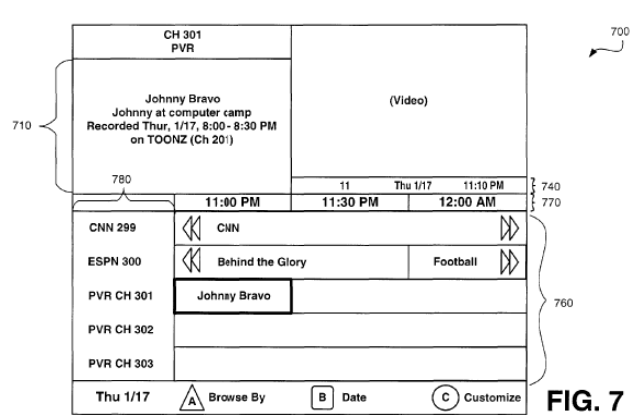
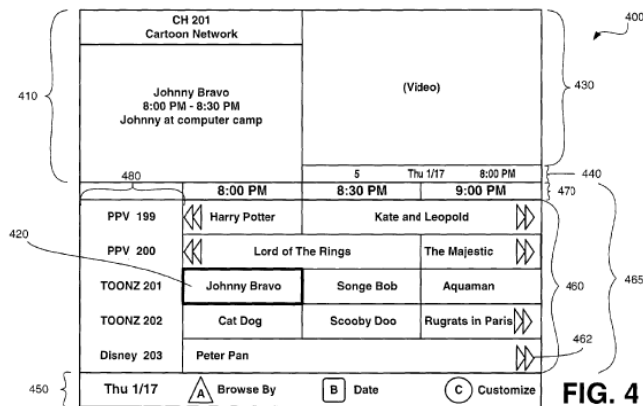


FIG. 38

When a desired video is selected, an exemplary linear content display/operation panel is shown in Figures 8 and 39, which allows the user to, among other options, return to IPG, play, and record the media. (EX1008, 17:30-18:23, 25:41-50.)

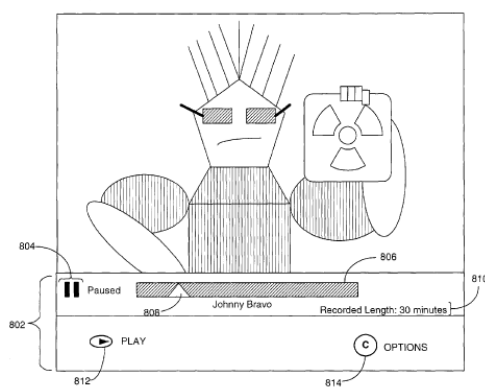


FIG. 8

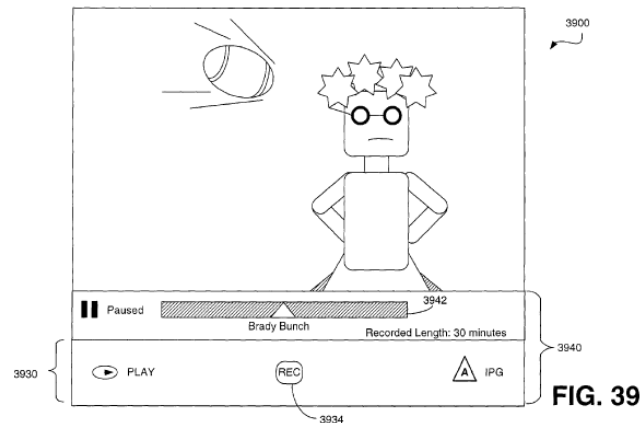


FIG. 39

Figures 8 and 39 disclose a presentation of linear content with a pause banner 802/3940. (EX1008, 17:35-39, 25:40-45.) Pause banner 820/3940 also includes progress bar 806/3942, header 3930, and various icon buttons 812, 814, 3934. (EX1008, 17:45-52, 25:40-47.) The pause banner may be invoked by pressing the pause button on a remote control device. A person of ordinary skill in the art would have also known that the banner 802/3940 may be invoked without the digital content being paused. (EX1002, ¶92; EX1005, Figure 18.)

As shown in the exemplary interactive content screens of Figures 4, 7, 13, and 38, and the exemplary linear content screens of Figures 8 and 39, the outputted digital content—*e.g.*, personal-video-recording (PVR) menu or the selected video—is displayed in the same screen as the displayed operation panels, which are themselves unique depending on the character of the content being displayed. Moreover, McElhatten discloses a processor that determines the type of digital content displayed and provides the user with different operation panels based on the detected content,

which one of ordinary skill in the art would have been motivated to combine with Russ (as explained in greater detail below). (EX1002, ¶¶90-95.)

2. Claim 2

Claim 2 [Preamble]: A digital content reproducing apparatus, comprising:

Russ discloses an end-user, digital content reproducing apparatus that receives television, music, and other information from a headend as well as service and content providers. (EX1008, 6:28-56.) To the extent the preamble is limiting, Russ discloses this limitation of claim 2. (EX1002, ¶181.)

Claim 2[a]: an input unit which inputs digital content;

Russ discloses a DHCT (*i.e.*, a set-top box) as an exemplary user-side input unit that interfaces with network 18: “In this example, the STS 10 includes a headend 11 and a digital home communication terminal (DHCT) 16 that are coupled via a communications network 18....” (EX1008, 6:6-22.)

Russ’ “DHCT 16 preferably includes a communications interface 342 for receiving signals (video, audio and/or other data) from the headend 11 through the network 18 and for providing any reverse information to the headend 11 through the network 18.” (EX1008, 7:37-41.) Figure 3A, below, also depicts communication interface 342 connected to headend 11 via network 18. Within the DHCT 16, communication interface 342 is connected to tuner system 345 and signal processor 314. Russ’s tuner 345 “enables the DHCT 16 to tune to downstream media and data

transmissions, thereby allowing a user to receive digital and/or analog media content...” (EX1008, 7:50-54.)

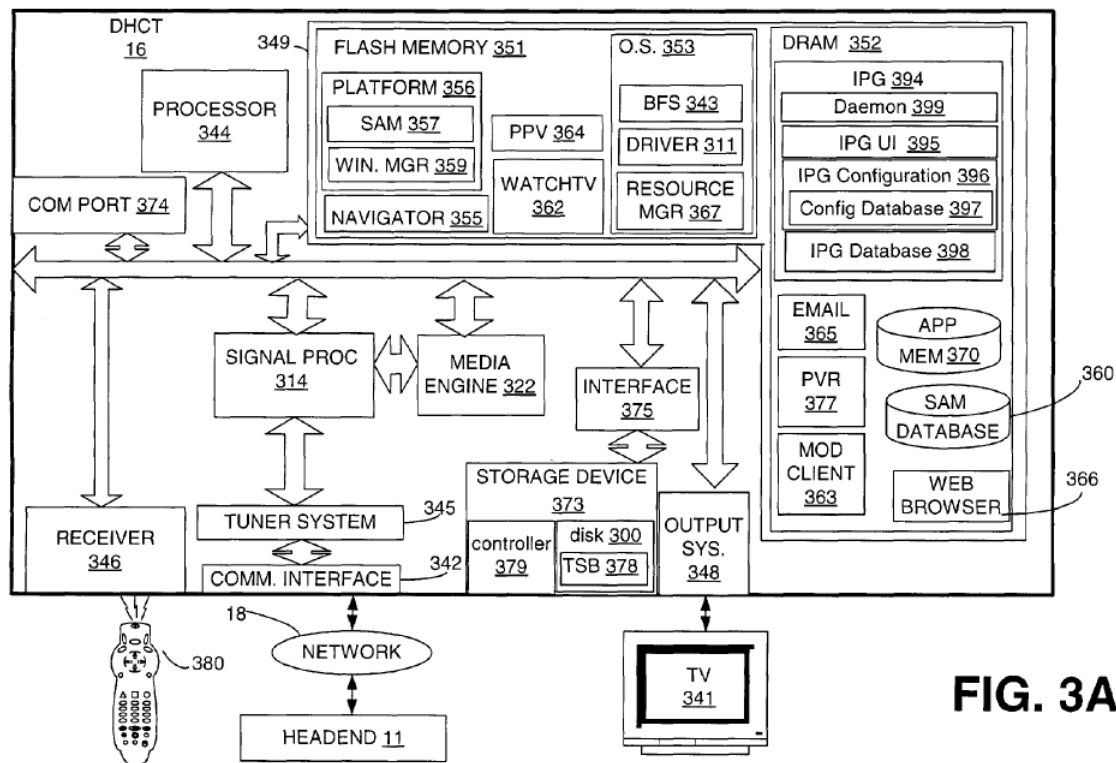


FIG. 3A

Russ thus provides an input unit that inputs digital content. (EX1002, ¶¶182-186.)

To the extent the recited “input unit” limitation is considered to invoke § 112(f), Russ’s communications interface 342 and tuner system 345, controlled by processors 344, is the same or equivalent to the structure described in the ’394 patent’s specification because it performs the same function (inputting digital content) in substantially the same way to achieve substantially the same result .

Specifically, Russ’s DHCT includes one or more processors 344 for controlling operations of the DHCT, which includes “communications interface

342 for receiving signals (video, audio and/or other data) from the headend 11,” as well as tuner system 345. (EX1008, 7:37-54.) Russ’s processor 344, in concert with device driver 311, storage device controller 379, and the signal processing system 314, also “effect retrieval of compressed video streams, compressed audio streams, and data streams corresponding to one or more media content instances from the storage device 373.” (EX1008, 10:51-65.) In this regard, Russ’s communications interface 342 and tuner system 345, controlled by the DHCT’s processor, inputs digital content in the same way as the ’394 patent’s tuner/broadcast receiving unit 1 or network adapter/network connection unit B2 inputs media to the device. Russ’s device controller 379, in conjunction with Russ’s processor 344 and device driver 311, may also be input digital content from Russ’s storage device 373, the same way as the ’394 patent’s device controller 2 inputs data from the data record unit 3 (in the ’394 patent’s Figure 7). (EX1002, ¶¶187-191.)

Russ’s communications interface, controlled by the DHCT’s processor, also achieves the same result as the ’394 patent’s “input unit,” namely providing a digital signal to the set top box. Thus, Russ’s communications interface, which is controlled by the DHCT’s processor, is equivalent to the ’394 patent’s “input unit.” (EX1002, ¶191.)

Claim 2[b]: a reproducer which reproduces the inputted digital content;

Russ's digital content reproducing apparatus includes at least one storage device 373 to provide storage for downloaded media content, which constitutes the claimed reproducer that reproduces the inputted digital content. (EX1008, 10:11-12.) (EX1002, ¶192.)

Russ explains that “[t]he storage device 373 comprises storage for media content and/or data that can be written to for storage and *later read from for retrieval for presentation.*” (EX1008, 10:15-17 (emphasis added).) The personal video recording (PVR) application 377 enables recording functionality for Russ's digital content reproducing apparatus. For example, “[t]he PVR application 377 provides for media content recording functionality by enabling the temporary writing to, and if requested, more permanent recording (*i.e.*, relatively permanent) to the storage device 373.” (EX1008, 10:66-11:2.) Similarly, Russ explains that:

In one implementation, the processor 344, in communication generally with the device driver 311 and the storage device controller 379 and the signal processing system 314, effect retrieval of compressed video streams, compressed audio streams, and data streams corresponding to one or more media content instances from the storage device 373. *Retrieved streams are deposited in an output cache in the storage device 373 and transferred to DRAM 352, and then processed for playback according to mechanisms well known to those having ordinary skill in the art.* In some embodiments, one or

more media content instances are retrieved and routed from the hard disk 300 to the media engine 322 for video and audio decoding simultaneously, and *then further processed for eventual presentation on a display device or other device.*

(EX1008, 10:51-65 (emphasis added).) By storing and then processing the inputted digital content for eventual display, Russ discloses a reproducer which reproduces the inputted digital content. (EX1002, ¶¶192-193.)

Claim 2[c]: an output unit which outputs the reproduced digital content;

Russ's digital content reproducing apparatus includes an output system 348 for driving the television display 341. (EX1008, 7:42-50.) For example, media content that is received via the communication interface 342 from the headend 11, which may be reproduced in Russ's storage device 373 (as explained above), is output to a user's television via output system 348. Russ thus provides an output unit which outputs the reproduced digital content. (EX1002, ¶¶194-195.)

To the extent the recited "output unit" limitation is considered to invoke § 112(f), Russ's output system, 348 controlled by signal processing system 314 and media engine 322, is the same or equivalent to the structure described in the '394 patent's specification because it performs the same function (outputting the reproduced digital content) in substantially the same way to achieve substantially the same result.

Specifically, Russ includes one or more processors 344 for controlling

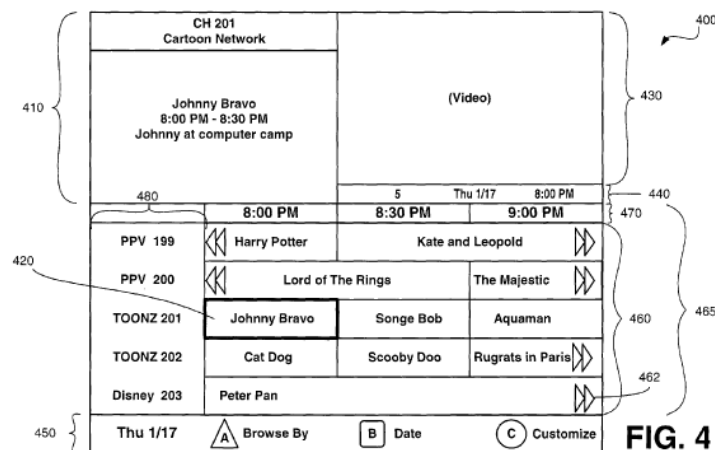
operations of the DHCT, which preferably includes a signal processing system 314 and a media engine 322. (EX1008, 7:61-8:10.) The signal processing system outputs packetized streams for storage in the storage device 373, and may also input into the media engine 322 for display through output systems 348, which drives the television 341. (EX1008, 7:42-45, 8:11-16, Figure 3A.) Russ's content may also be stored/reproduced in storage device 373 before being output through output system 348. (EX1008, 10:11-17, 10:37-65.) Thus, the way that Russ outputs digital content through output system 348, controlled by digital signal processors 314 and media engine 322, is the same as the '394 patent's output through image rendering unit 7. This also achieves the same result as the '394 patent, which is providing a signal that can be displayed. Thus, Russ's output system 348, controlled by the DHCT's digital signal processors and media engine, is equivalent to the '394 patent's "output unit." (EX1002, ¶¶195-199.)

Claim 2[d]: a display which displays the outputted digital content together with an alternative display of either of a linear content operation panel allowing user-instruction regarding linear reproduction functions of the reproduced digital content or an interactive content operation panel allowing user-instruction of interactive functions to an outside of the digital content reproducing apparatus,

Russ discloses TV 341, which displays the outputted digital content from output system 348. That display is depicted in, for example, Russ's Figures 4, 7, 8, 13, 38, and 39. With specific reference to Figures 4, 7, 13, and 38, Russ displays both interactive content, as shown in the interactive program guide (IPG) screens of

Figures 4, 7, 13, and 38, and linear content, as shown in the video display of Figures 8 and 39. (EX1008, 13:6-14:40, 16:4-17:29, 17:29-18:23, 19:5-20:11, and 25:1-26:11.) And depending on the screen displayed, Russ either shows a linear content operation panel allowing user-instruction regarding the linear reproduction functions, or an interactive content operation panel allowing user-instruction of interactive functions to an outside of the digital content reproducing apparatus.

For example, as shown below in Figure 4's interactive content screen displaying IPG content, an interactive content operation panel 450 is shown at the bottom of the screen that includes functions: A "Browse By," B "Date," and C "Customize." (EX1008, 14:12-23.)



As another example, in Figure 13's interactive content PVR channel configuration menu screen, shown below, an interactive content operation panel 1330 is shown at the bottom of the screen that includes functions: A "IPG," B "Record Options," and C "Title of Channel." (EX1008, 19:4-8, 45-60; EX1002, ¶¶200-203.)

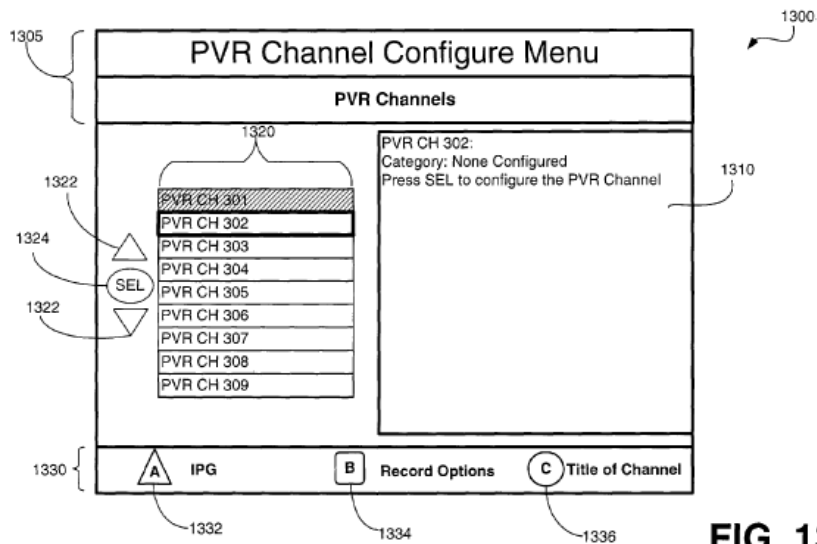


FIG. 13

Because scrollable content 1320 is displayed on this screen, up/down navigation arrow icons 1322 and select button 1324 are provided as part of Russ's operation panel to interact with the displayed interactive content. (EX1008, 19:45-60.)

Similarly, when interactive text input is available, additional left/right navigation arrows are provided as part of Russ's operation panel so that the user can input a desired keyword, for example. (EX1008, 23:58-24:3.) As explained by Dr. Bederson, an operation panel is an organized presentation of user control buttons. The buttons need not be contained within a specific border. One of ordinary skill in the art would have viewed Russ's interactive content operation panel to be bottom tool bar (alone), as well as the bottom tool bar in combination with Russ's navigation arrows. It would also have been obvious to include Russ's navigation arrows within the bottom tool bar to increase the speed at which a user could interact with Russ's device. (EX1002, ¶204.)

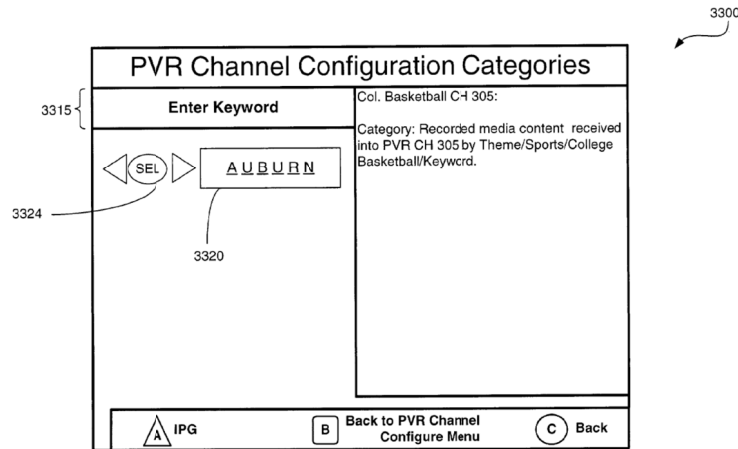


FIG. 33

Russ's interactive content operation panels allows for additional user-instruction of interactive functions. For example, "by selecting the record options button icon 1334, the user is presented with a record options screen" or selecting "the title channel button icon 1336 enables a user to change the title of the PVR channel from, for example, PVR channel 302, to a title preferred by the user..." (EX1008, 19:60-67.) As shown in Figures 6, 9, 11-12, 14-16, 18-33, and 35-37, Russ describes a variety of other interactive content screens including interactive content operation panels. (EX1008, 15:36-16:3, 18:34-19:8, 20:11-21:26, 21:33-24:9, and 24:16-67.)

By way of further example, Figure 38 depicts an exemplary, interactive IPG screen for temporarily stored PVR media content. (EX1008, 25:1-4.) Screen diagram 3800 includes an interactive content operational panel at the bottom of the screen, which includes the following buttons: A "Browse By"; B "Date"; and C "Customize". In each of the foregoing examples, it is the user's interaction with Russ's interactive operation panel that drives the subsequent display of Russ's PVR

content. (EX1002, ¶¶205-207.)

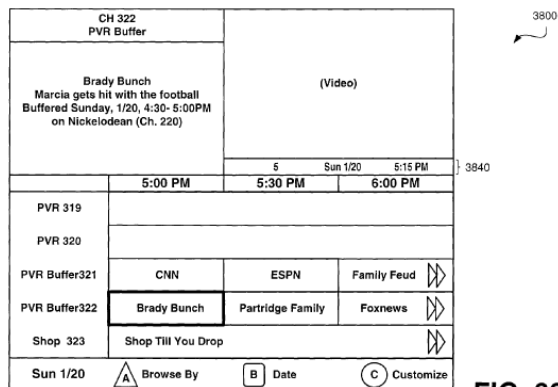


FIG. 38

If linear content, such as the PVR Buffer322 Brady Bunch is selected for viewing, a new screen is displayed, *i.e.*, Figure 39, which includes a content operation panel allowing the user to continue play, record, and access the IPG menu. (EX1008, 25:41-50; 17:30-18:23.) A progress bar 3942 is also displayed. (EX1002, ¶¶207-208.)

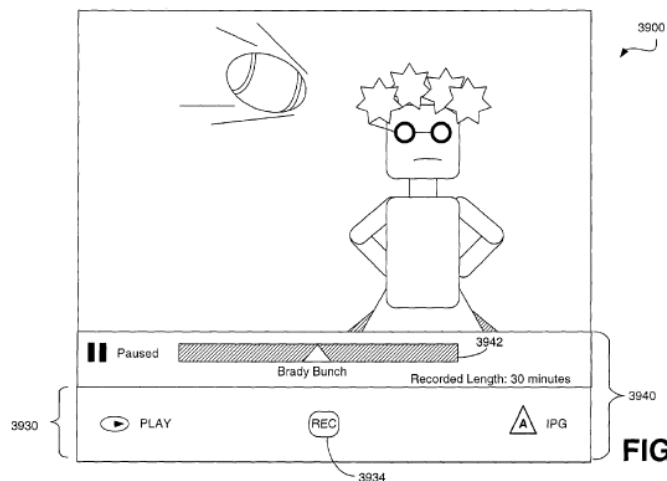


FIG. 39

Russ thus discloses every element of claim 2[d]. (EX1002, ¶¶200-208.)

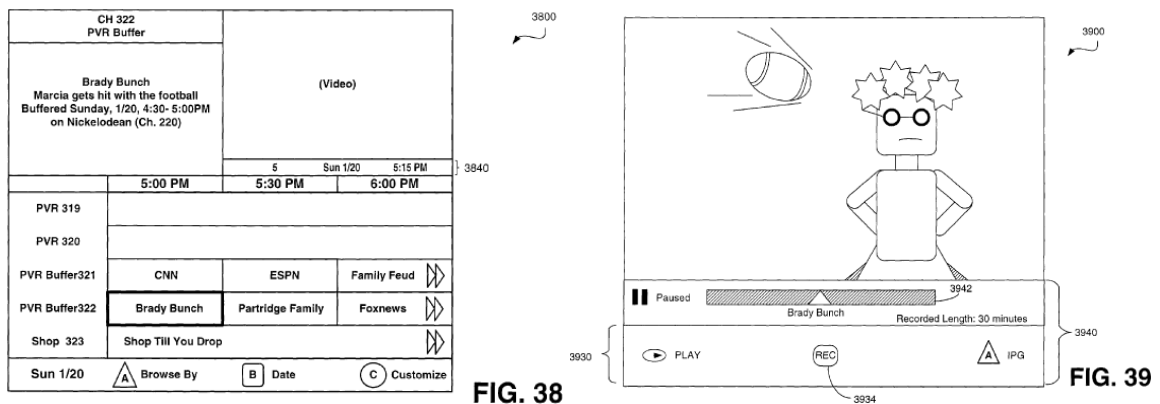
Claim 2[e]: wherein the linear content operation panel and the interactive content operation panel are distinct panels from each other, which are not generated by a disabling of buttons; and

As shown by comparing Russ's Figures 38 and 39, for example, both the linear content operation panel and the interactive content operation panel are distinct operation panels, with distinct buttons and functionality, which are not generated by the disabling of buttons. Figure 38 depicts an interactive content operation panel with buttons A "Browse By," B "Date," and C "Customize." Navigation arrows are also included in Russ's interactive content operation panels (as shown in Figures 13 and 33). Figure 39, in contrast, depicts a linear content operation panel 3940, including a progress bar 3942 and play, record, and IPG buttons. Thus, Russ includes distinct interactive and linear operation panels, which are not generated by the disabling of buttons. The same is true if up/down and left/right navigation arrows are included in Russ's interactive content operation panels as these controls are not included in Russ's linear content operation panels (EX1002, ¶¶209-210.)

Claim 2[f]: a controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel, wherein only one of the linear content operation panel or the interactive content operation panel is displayed exclusively at any given time, together with the outputted digital content:

As discussed above with respect to elements 2[a]-2[c], Russ includes control circuitry and components, *e.g.*, processor 344, receiver 346, tuner system 345, signal processor 314, media engine 322, flash memory 351, and DRAM 352, which enable

the DHCT 16 to receive and display the requested interactive content or the requested linear content. (EX1008, 7:27-13:5.) Russ discloses that the IPG application 394 generates a window to display on a device. (EX1008, 12:34-67.) Russ further discloses that the IPG user interface module 395 registers with the window manager 359 for particular user input commands that may be required for selecting options provided by the newly-created window. (*Id.*) This is illustrated in Figures 38 and 39.



Specifically, Figure 38 is an exemplary IPG screen displaying temporarily stored PVR media content (*i.e.*, interactive content). (EX1008, 25:1-4.) As seen in Figure 38, screen diagram 3800 includes an interactive content operational panel at the bottom of the screen, with buttons A “Browse By”; B “Date”; C “Customize”. If linear content, such as the PVR Buffer322 Brady Bunch is selected, a new screen is displayed, *i.e.*, Figure 39, which depicts an entirely separate linear content operation panel 3940 including progress bar 3942 and buttons to play, record, and return to the IPG screen. (EX1008, 25:30-50.)

Russ thus generates an appropriate operation panel based on the content

displayed to the user. And only one of the linear content operation panel or the interactive content operation panel is displayed exclusively at any given time, together with the outputted digital content. Russ's control method is based upon a programed correlation between interactive content screens and their appropriate interactive content operation panels, as well as linear content screens and their appropriate linear content operation panels. (EX1008, ¶¶211-214.)

However, to the extent that there is a more narrow interpretation of the claim language "a controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel..." such that this limitation requires an assessment of the content's metadata to determine if it is linear or interactive content and then, based on that determination, display an appropriate operation panel, this is disclosed by McElhatten.

McElhatten discloses a dynamic alteration of displayed content based on an assessment of the displayed data. Specifically, McElhatten discloses a processor that determines the type of digital content and provides different operation panels based on the type of content. McElhatten states:

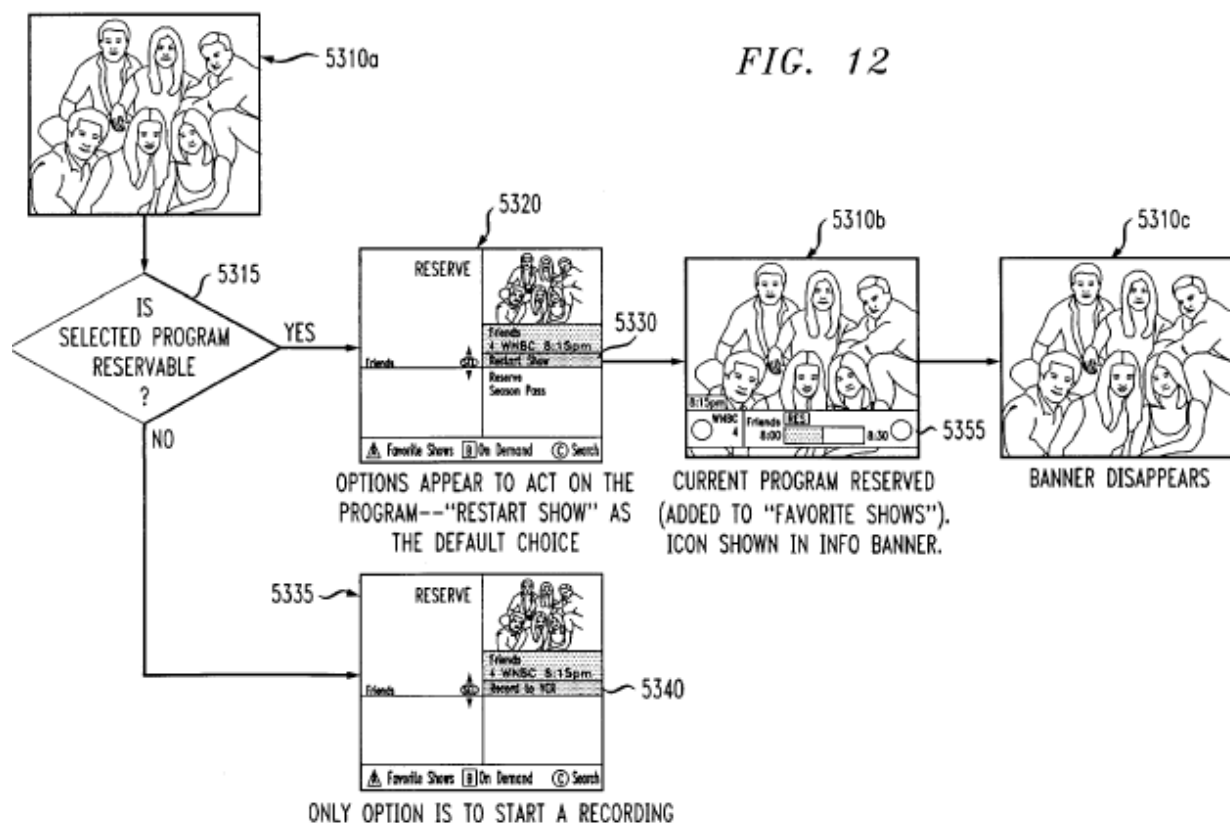
When a media processor 119 receives a command to reserve a selected program, processor 119 determines whether the selected program is reservable (5315). (EX1009; 15:62-66.)

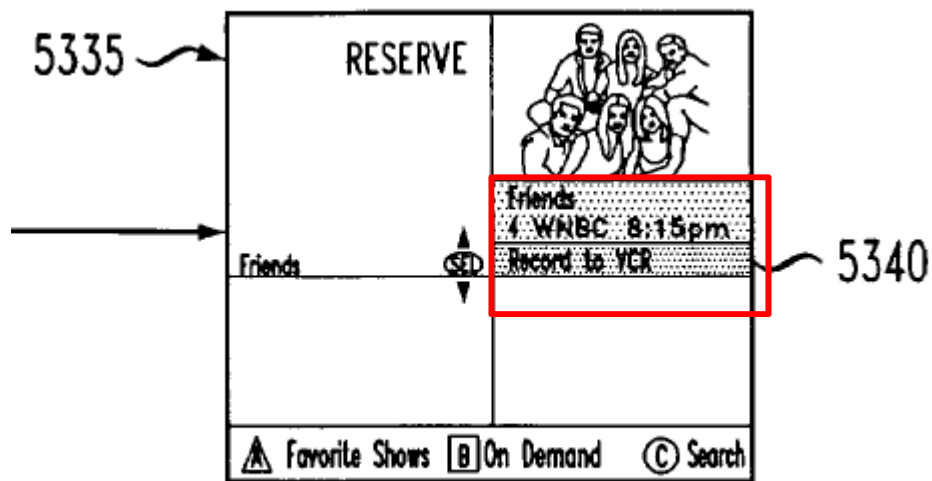
...

If the selected program is non-reservable, then Reserve GUI 5335 is

displayed indicating that the user has the option to record the selected program to a VCR (alternatively PVR, DVD player or other local recording device)(5340). If however, the program is deemed reservable, Reserve GUI 5320 is displayed providing the user with three Reserve options (5330): (1) restart the program, (2) reserve the program, or (3) select a season pass. (*Id.*, 16:6-13.)

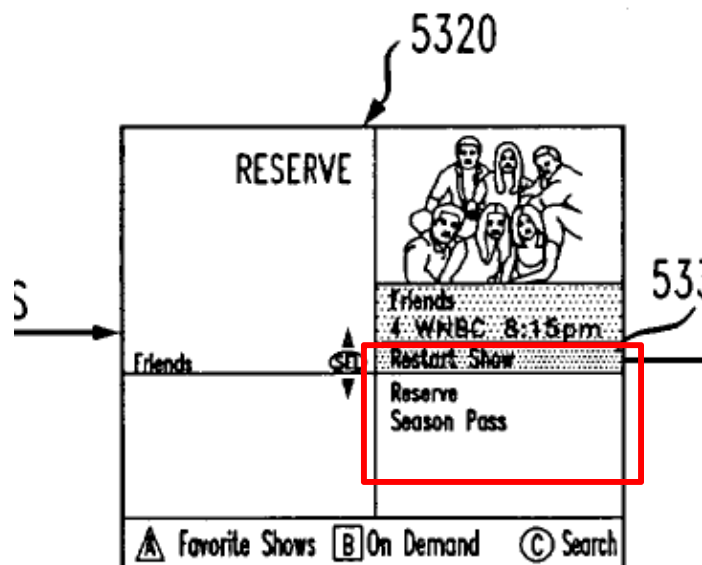
An exemplary display of this teaching is depicted in Figure 12, with Reserve GUI 5335 depicting a screen with a content operation panel (*i.e.*, “record to VCR”) based on digital content that is deemed non-reservable.





ONLY OPTION IS TO START A RECORDING

And Reserve GUI 5320, below, depicts a screen with a different content operation panel (*i.e.*, “restart show,” “reserve,” “season pass”) based on digital content that is reservable.



OPTIONS APPEAR TO ACT ON THE PROGRAM--“RESTART SHOW” AS THE DEFAULT CHOICE

McElhatten's system thus makes a determination whether the digital content is reservable by looking at the digital content's metadata. (EX1009, 15:62-16:21.) Based on this analysis, the system determines the type of digital content that is being displayed to the user (*i.e.*, reservable or non-reservable) and populates the appropriate operation panel (GUI 5320 or GUI 5335). (EX1009, 15:62-16:21; EX1002, ¶¶215-216.) McElhatten also monitors the content reserved and viewed by a user so that a profile of the user's interest can be created for targeted advertising. (EX1009; 34:63-67.) McElhatten's processor determines the type of digital content displayed and how long or how much of that digital content is being displayed to the user. (EX1009, 35:24-53; EX1002, ¶217.)

When McElhatten's data monitoring feature is combined with Russ's system, the proposed combination of Russ and McElhatten provides for a dynamic alteration of the displayed operation panels based on an assessment of the displayed data. One of ordinary skill in the art would have been specifically motivated to incorporate McElhatten's data monitoring technique into Russ's systems to further control the particular interactive content operation panel or linear content operation panel displayed to the user. Rather than relying on a programmed relationship between a particular content screen and operation panel, Russ's systems as modified by McElhatten allows for the displayed operation panel (and its associated buttons) to be selected based on the metadata associated with the digital content. (EX1002, ¶¶218-

220.)

For example, Russ's system would provide the digital content to a user, the linear content operation panels, and the interactive content operation panels.

McElhatten's data monitoring techniques would be incorporated with Russ's system to determine the attributes of the content being displayed to a user by looking at the content's metadata, the same way that McElhatten's system at 5315 determines if the digital content is reservable or non-reservable. The attributes monitored may be whether the incoming data is interactive (PVR menu screen) or linear (TV/video), such that an appropriate operation panel is displayed. But the monitored attributes may also include, for example, data indicating that one of Russ's PVR screens includes scrollable content (e.g., Figures 5, 6, 10-15, 17-22, 24-32, 34-38) or text input (e.g., Figure 33), such that corresponding up/down and left/right navigation arrows are provided. Based on this determination, Russ's system would display a linear content operation panel or an interactive content operation panel with buttons corresponding to the displayed content. (EX1002, ¶218.)

Programming Russ's systems in this way would provide a more customized experience for the user, tailored to the particular digital content being displayed. That is, when linear content is displayed, only linear content operation buttons would be displayed and only for actions that may be invoked for that particular linear content. The same would hold true Russ's interactive content operation panel. By eliminating

extraneous buttons from the displayed operation panel, the user can more quickly and easily interact with the content. Lastly, as with the combinations set forth in Grounds 2 and 3, by associating the user interface with metadata from the media content (McElhatten) rather than coding to a specific screen (Russ), the software architecture would more naturally accommodate other, future, data types. Each of these benefits would have motivated one of ordinary skill in the art to modify Russ in view of McElhatten. (EX1002, ¶¶218-220.)

As explained by Dr. Bederson, McElhatten's data monitoring technique could easily be integrated into Russ by, for example, implementing conditional programming logic, such as a "switch/case" statement or an "if" programming statement. Given the simple nature of this change—creating a condition of an "if" statement based on the content's metadata—one of ordinary skill in the art would have arrived at the Russ/McElhatten combination with a reasonable expectation of success. (EX1002, ¶¶150-153, 221.)

Claim 2[g]: wherein the outputted digital content together with either the linear content operation panel or the interactive content operation panel, are displayed concurrently in one screen.

Russ discloses TV 341, which displays the outputted digital content from output system 348. That display is depicted in Russ's Figures 4, 7, 8, 13, 38, and 39. With specific reference to these figures, Russ displays both interactive content, as shown in the interactive program guide (IPG) screens of Figures 4, 7, 13, and

38, and linear content, as shown in the video display of Figures 8 and 39. And depending on the screen displayed, Russ either shows a linear content operation panel or an interactive content operation panel.

For example, as shown in Figure 38's interactive content screen, the interactive content operation panel is included at the bottom of the same screen and provides buttons A "Browse By," B "Date," and C "Customize."

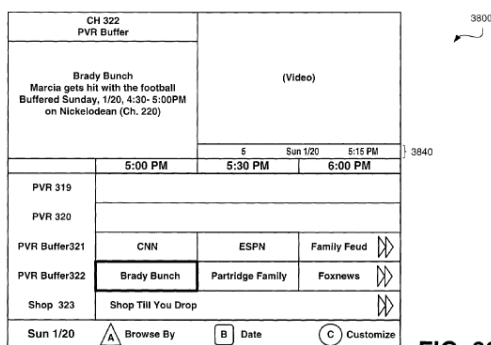


FIG. 38

As shown in Figure 39, Russ's linear content, *i.e.*, the selected video content, is displayed concurrently in one screen with the linear content operation panel 3940.

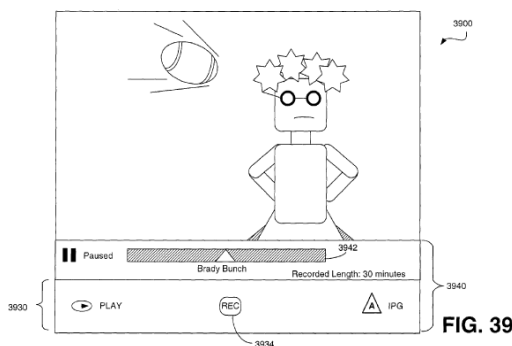


FIG. 39

Russ in combination with McElhatten discloses each and every limitation of claim 2 and, thus, render claim 2 obvious. (EX1002, ¶¶222-225.)

3. Claim 4

Claim 4[Preamble]: A digital content reproducing apparatus, comprising:

See claim 2[preamble], Ground 5.

Claim 4[a]: an input unit which inputs digital content;

See claim 2[a], Ground 5.

Claim 4[b]: a reproducer which reproduces the inputted digital content;

See claim 2[b], Ground 5.

Claim 4[c]: an output unit which outputs the reproduced digital content;

See claim 2[c], Ground 5.

Claim 4[d]: a display which displays the outputted digital content together with an alternative display of either of a linear content operation panel allowing user-instruction regarding linear reproduction functions of the reproduced digital content or an interactive content operation panel allowing user-instruction of interactive functions to an outside of the digital content reproducing apparatus,

See claim 2[d], Ground 5.

Claim 4[e]: wherein buttons of the linear content operation panel are mutually different from buttons of the interactive content operation panel; and

As shown by comparing Russ's Figures 38 and 39, for example, both the linear content operation panel and the interactive content operation panel are distinct operation panels, with distinct buttons and functionality. For example, Figure 38 depicts an interactive content operation panel with buttons A "Browse

By,” B “Date,” and C “Customize.” Navigation arrows are also included in Russ’s interactive content operation panels (as shown in Figures 13 and 33). In contrast, the buttons of Russ’s linear content operation panel depicted in Figure 39 are mutually different from that of Russ’s interactive content operation panel depicted in Figure 38, as well as individually distinctive in functionality from each other. The same is true if up/down and left/right navigation arrows are included in Russ’s interactive content operation panels as these controls are not included in Russ’s linear content operation panels. (EX1002, ¶¶226-230.)

Claim 4[f]: a controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel, wherein only one of the linear content operation panel or the interactive content operation panel is displayed exclusively at any given time, together with the outputted digital content:

See claim 2[f], Ground 5.

Claim 4[g]: wherein the outputted digital content together with either the linear content operation panel or the interactive content operation panel, are displayed concurrently in one screen.

See claim 2[g], Ground 5.

Russ and McElhatten thus disclose each and every limitation of claim 4 and render claim 4 obvious.

4. Claim 5

Claim 5: The digital content reproducing apparatus according to claim 4, wherein all the buttons are mutually different from each other.

See claim 4[e], Ground 5,

5. Claim 7

Claim 7[Preamble]: A digital content reproducing apparatus, comprising:

See claim 2[preamble], Ground 5.

Claim 7[a]: an input unit which inputs digital content;

See claim 2[a], Ground 5.

Claim 7[b]: a reproducer which reproduces the inputted digital content;

See claim 2[b], Ground 5.

Claim 7[c]: an output unit which outputs the reproduced digital content;

See claim 2[c], Ground 5.

Claim 7[d]: a display which displays the outputted digital content together with an alternative display of either of a linear content operation panel allowing user-instruction regarding linear reproduction functions of the reproduced digital content or an interactive content operation panel allowing user-instruction of interactive functions to an outside of the digital content reproducing apparatus,

See claim 2[d], Ground 5.

Claim 7[e]: wherein buttons of the linear content operation panel producing mutually differing functions from functions of buttons of the interactive content operation panel; and

Further to the description above for claim 4[e], Ground 5, Russ's Figures 38

and 39 operation panels produce mutually differing functions from one another, none of which are the same. And even within a given operation panel, the function of each button is mutually different from the other buttons. (EX1002, ¶¶226-230.)

Claim 7[f]: a controller which controls the alternative display of either of the linear content operation panel or the interactive content operation panel, wherein only one of the linear content operation panel or the interactive content operation panel is displayed exclusively at any given time, together with the outputted digital content:

See claim 2[f], Ground 5.

Claim 7[g]: wherein the outputted digital content together with either the linear content operation panel or the interactive content operation panel, are displayed concurrently in one screen.

See claim 2[g], Ground 5.

Russ and McElhatten thus disclose each and every limitation of claim 7, rendering claim 7 obvious.

6. Claim 8

Claim 8: The digital content reproducing apparatus according to claim 7, wherein all the buttons of the linear content operation panel and the interactive content operation panel, provide mutually differing functions from each other.

See claim 7[e], Ground 5.

F. Ground 6: Claims 2, 3, 4, 6, 7, and 9 are Obvious Over Russ, McElhatten, and Uchida.

As explained above in Ground 4, the type of split screen display recited in claims 3, 6, and 9 is taught by Uchida. Similarly, and as explained above, one of

ordinary skill in the art would have been motivated to incorporate Uchida's split display with the Russ/McElhatten combination to (1) ensure that the displayed content (which may be linear or interactive as taught by Russ and McElhatten) is not obstructed by an operation panel on the screen; and (2) avoid any potential need for the user to have to reposition an operation panel that overlaps with the displayed content. (EX1002, ¶¶231-234.)

Moreover, as shown in Russ's Figures 4-11, 13-16, 18-33, and 35-39, Russ already locates its operation panels at the bottom of the displayed screen. As explained by Dr. Bederson, it would be a trivial modification to Russ to implement Uchida's split screen display for Russ's interactive content screens and its linear content screens. (EX1002, ¶233.)

Finally, the proposed Uchida combination only modifies the location of the content display area and operation panel display area in the Russ/McElhatten combination, and does not change any of the other operating principals of the references. Because Russ/McElhatten discloses each and every limitation of claims 2, 4, and 7 (as explained above in Ground 5), Uchida in combination with Russ/McElhatten also discloses each and every limitation of claims 2, 4, and 7. Accordingly, claims 2, 3, 4, 6, 7, and 9 are rendered obvious and should be canceled in view of Russ, McElhatten, and Uchida. (EX1002, ¶¶231-234.)

VIII. CONCLUSION

For the foregoing reasons, Petitioner asks that *inter partes* review of the '394 patent be instituted and that claims 2-9 be canceled as unpatentable.

Respectfully submitted,

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Dated: October 15, 2018

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CERTIFICATE OF SERVICE

The undersigned certifies service pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(b) on Patent Owner by USPS Express Mail of a copy of this Petition for *Inter Partes* Review and supporting materials at the correspondence address of record for the '394 patent:

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CERTIFICATE OF COMPLIANCE

The undersigned certifies this document complies with the type-volume limitation of 37 C.F.R. § 42.24. The petition contains 13,777 words, as calculated by the Microsoft Word program excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

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