

Inter Partes Review U.S. Patent No. 9,055,254

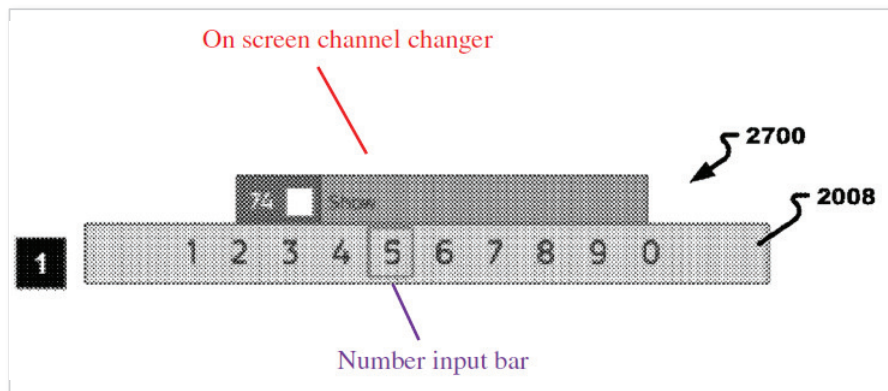
LG Electronics, Inc. v. Multimedia Technologies PTE. Ltd., IPR2024-00353

Andrew S. Ehmke,
Haynes and Boone, LLP

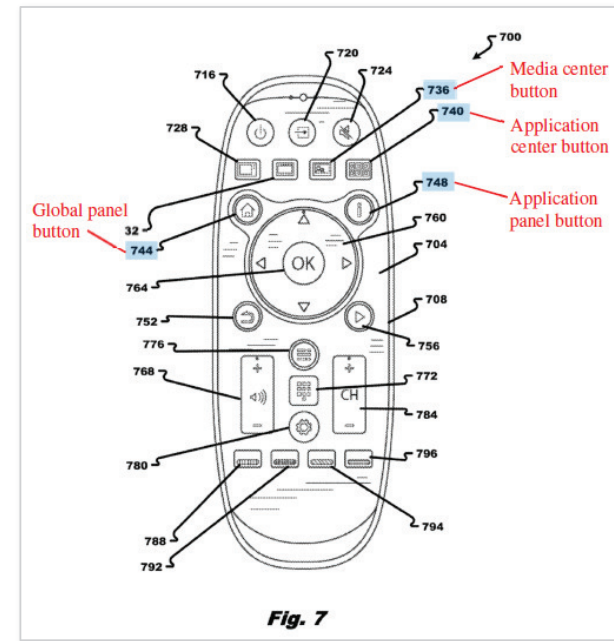


DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The '254 Patent



Ex.1001, Fig. 27 (annotated); Petition, 8.



Ex.1001, Fig. 7 (annotated); Petition, 9.

WD-Manual is prior art



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

3

WD-Manual is prior art

- WD-Manual is the manual for a consumer electronics product (the WD TV Live Hub), which was available for purchase by the public.



Press Room

Press Releases



WD'S NEW HD MEDIA CENTER STREAMS POPULAR MOVIES AND THE BROADEST RANGE OF PERSONAL CONTENT

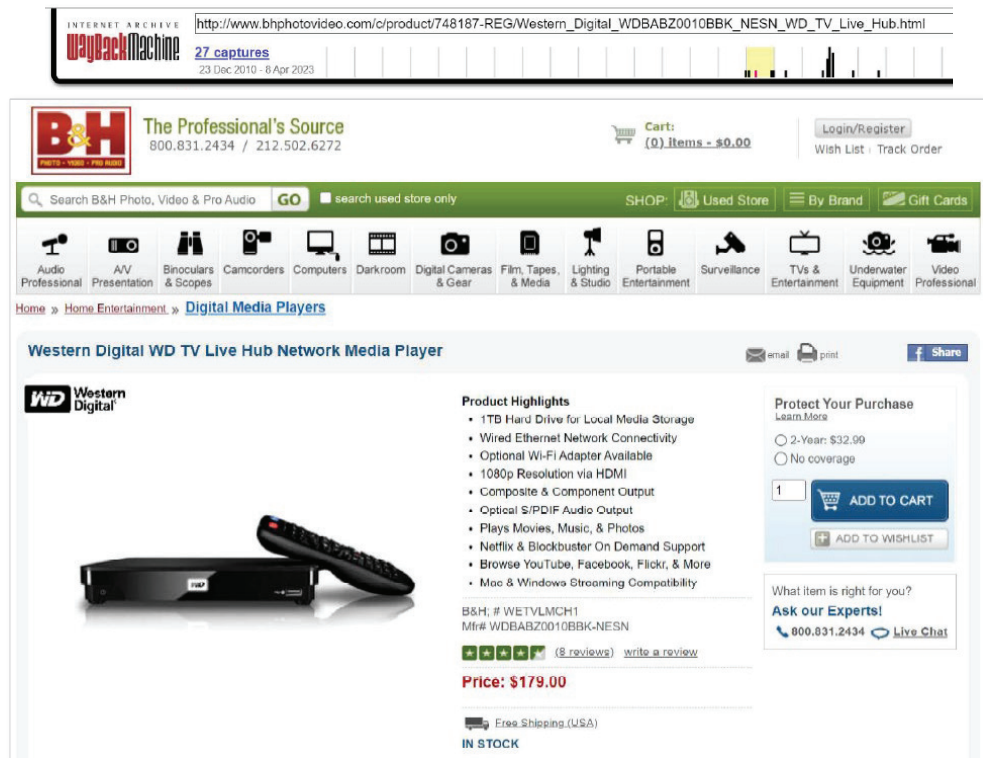
WD TV® Live Hub™ Media Center With 1 TB Storage Allows Users to Centralize Video, Music and Photos and Play Full-HD 1080p Video on HD TVs Throughout the Home

LAKE FOREST, Calif. – Oct. 26., 2010 – Western Digital® (NYSE: WDC), the world's leader in external storage solutions and maker of the popular WD TV media player family, today introduced the WD TV® Live Hub™ media center (photo), a Full-HD 1080p media player with a 1 terabyte (TB) built-in network hard drive that gives users the freedom to play all their personal media on any screen in the home. The WD TV Live Hub media center brings new experiences to the WD TV family, including instantly renting or purchasing the newest releases through the Blockbuster On Demand® service, the same day as DVD/Blu-ray release, as well as interacting with personal Facebook® communities. In the U.S., the WD TV Live Hub media center is initially available exclusively at Best Buy online and at all 1,093 Best Buy stores nationwide.

Ex.1020; Ex.1012, Exhibit-A, 16-18; Petition, 14.

WD-Manual is prior art

- WD-Manual is the manual for a consumer electronics product (the WD TV Live Hub), which was available for purchase by the public.



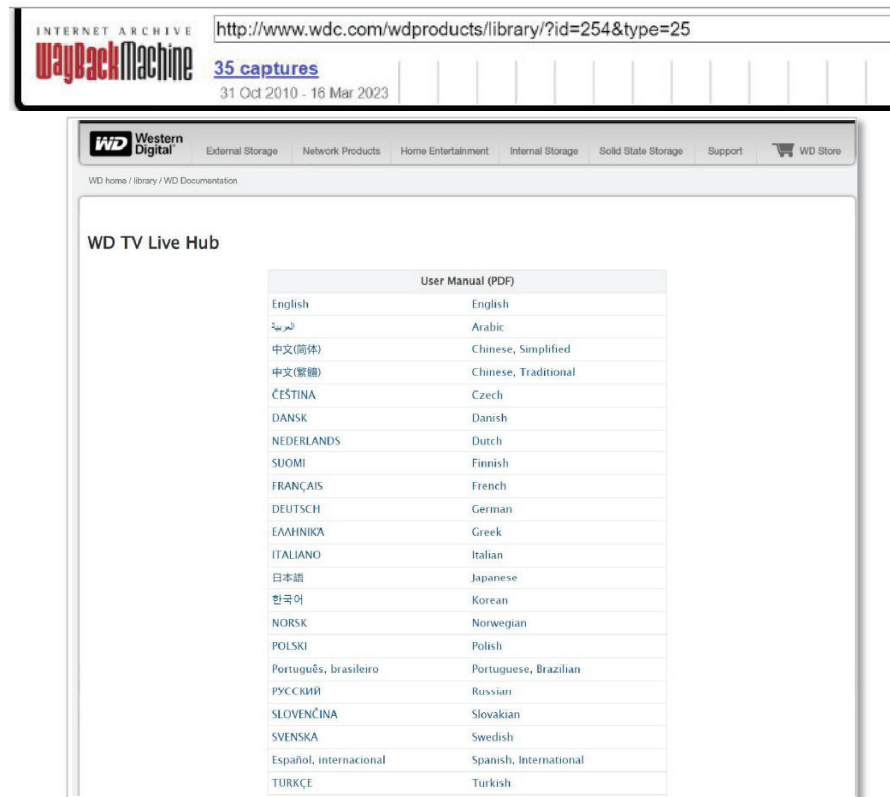
Ex.1024; Ex.1012, Exhibit A, 10-12; Petition, 14.



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

WD-Manual is prior art

- WD-Manual was available in over 22 languages from the manufacturer's web site.



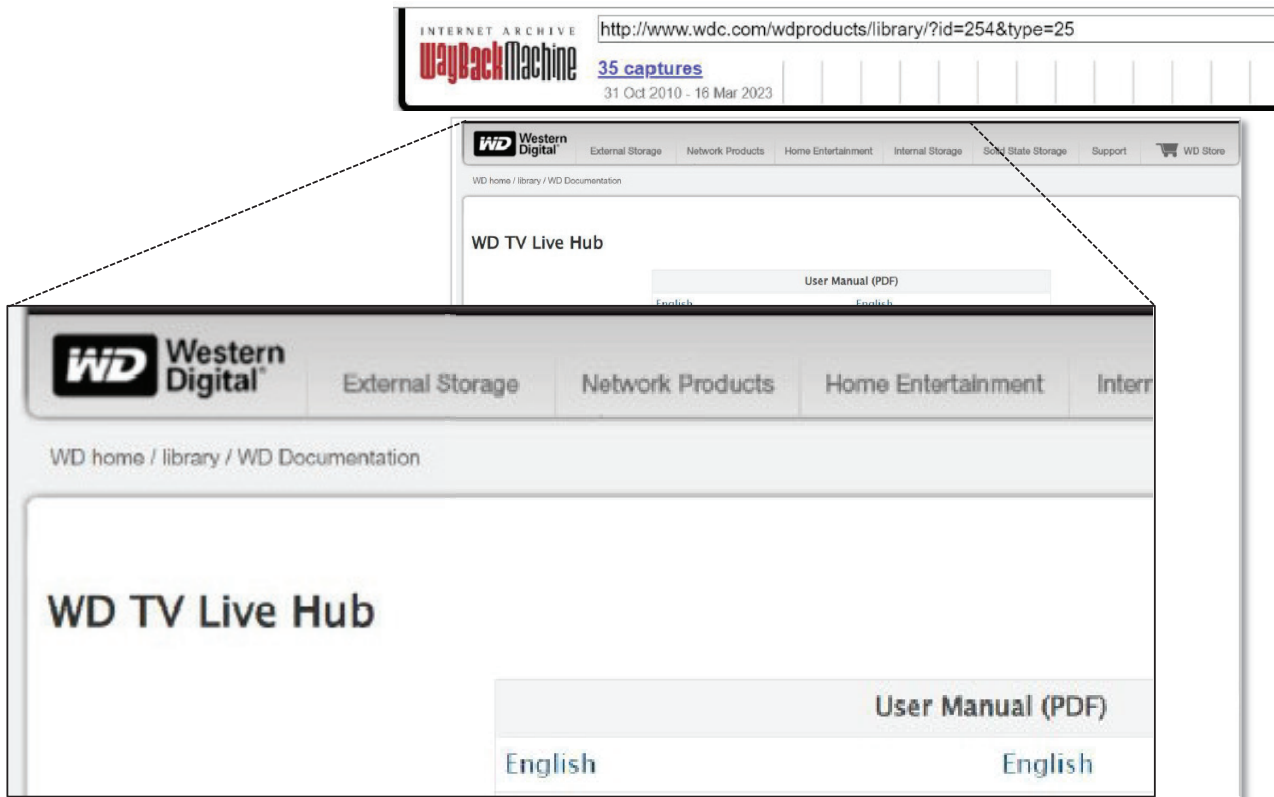
Ex.1022; Exhibit 1012, Exhibit A, 19-20; Petition, 14.



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

WD-Manual is prior art

- WD-Manual was available in over 22 languages from the manufacturer's web site.



Ex.1022; Exhibit 1012, Exhibit A, 19-20; Petition, 14.



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

WD-Manual is prior art

- The pdf file for the WD-Manual was downloadable from the manufacturer's website (www.wdc.com).

7. Attached hereto as Exhibit B are true and accurate copies of the Internet Archive's records of the archived files for the URLs and the dates specified in the following table.

Folder	URL
001	https://web.archive.org/web/20101203204251/http://www.wdc.com/wd_products/library/UM/ENG/4779-705046.pdf

8. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

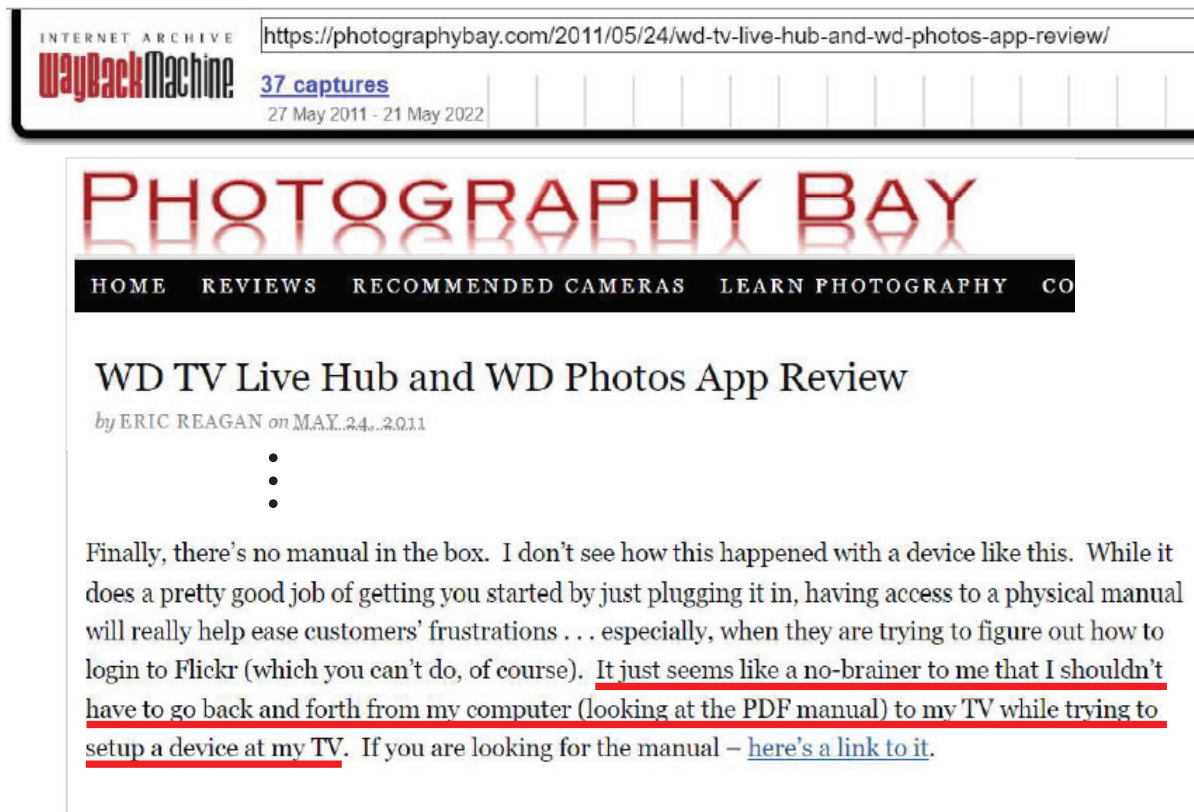
DATE: 10/27/2023

Nathaniel Frank-White
Nathaniel E Frank-White

Ex.1012, 2; Petition, 14.

WD-Manual is prior art

- WD-Manual was accessed by a product reviewer.



Ex.1023, 3; Ex.1012, Exhibit A, 4-9; Petition, 14.

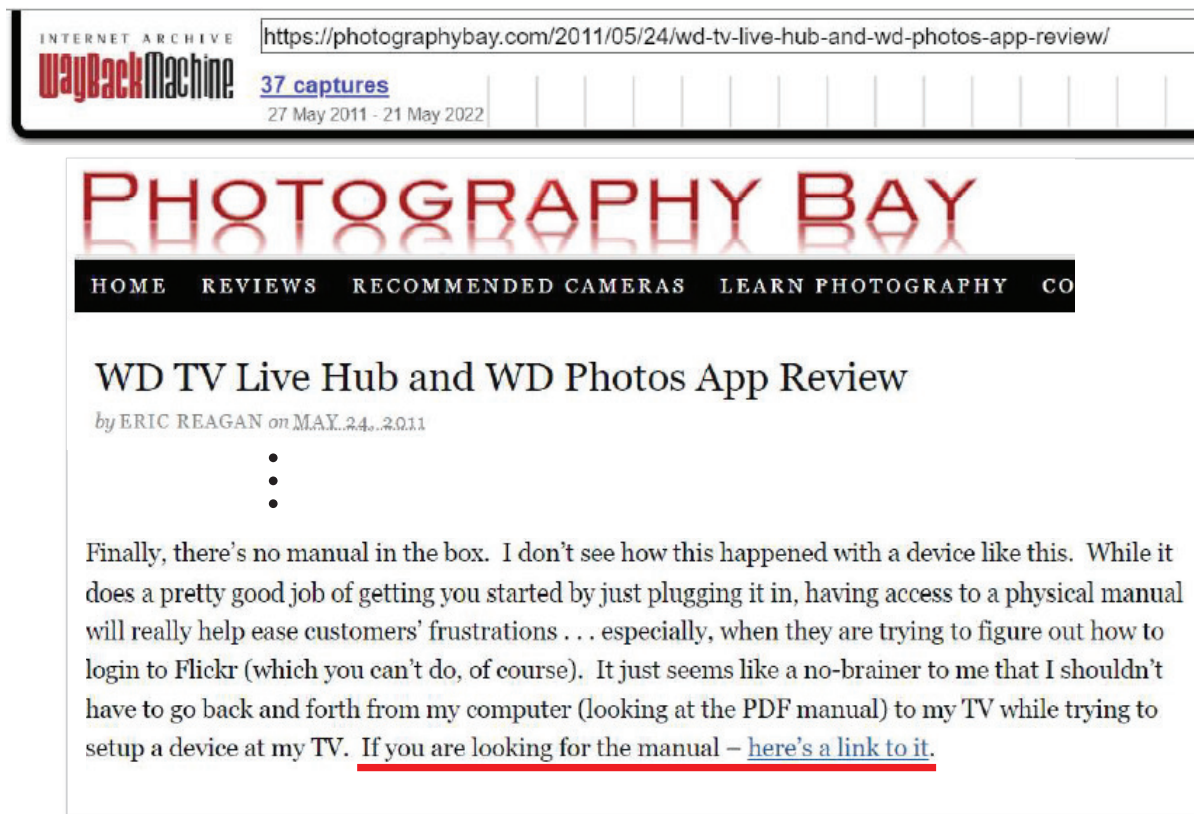


DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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WD-Manual is prior art

- A link to the WD-Manual was provided by the product reviewer to interested consumers.



Ex.1023, pg. 3; Ex.1012, Exhibit A, 4-9; Reply, 10.

Ground 1: Claims 1-4, 8-10 and 13-17 are
rendered obvious by the prior art



Ground 1: Claims 1-4, 8-10 and 13-17 are
rendered obvious by the prior art

Kim and Bae are properly combinable



'254 Patent, Claim 1

1. A method, comprising:
receiving, wirelessly by at least one of an infrared and radio frequency module of a television and from a remote control, a request to change a programming channel;
displaying, by a microprocessor executable application framework and on a television screen, an on screen channel changer, the displayed on screen channel changer comprising electronic program guide (“EPG”) information and a number input bar comprising digits, wherein the digits range from 0 to 9;
receiving, by the application framework and from the remote control, a channel selection based on digits selected by a user using the remote control and the number input bar of the on screen channel changer, wherein the user selects the digits using non-numeric keys of the remote control; and
changing, by the application framework, to the selected channel, wherein the remote control comprises:

Ex.1001, Claim 1.

Kim uses the terminology
“card object area” having a “plurality of card objects”

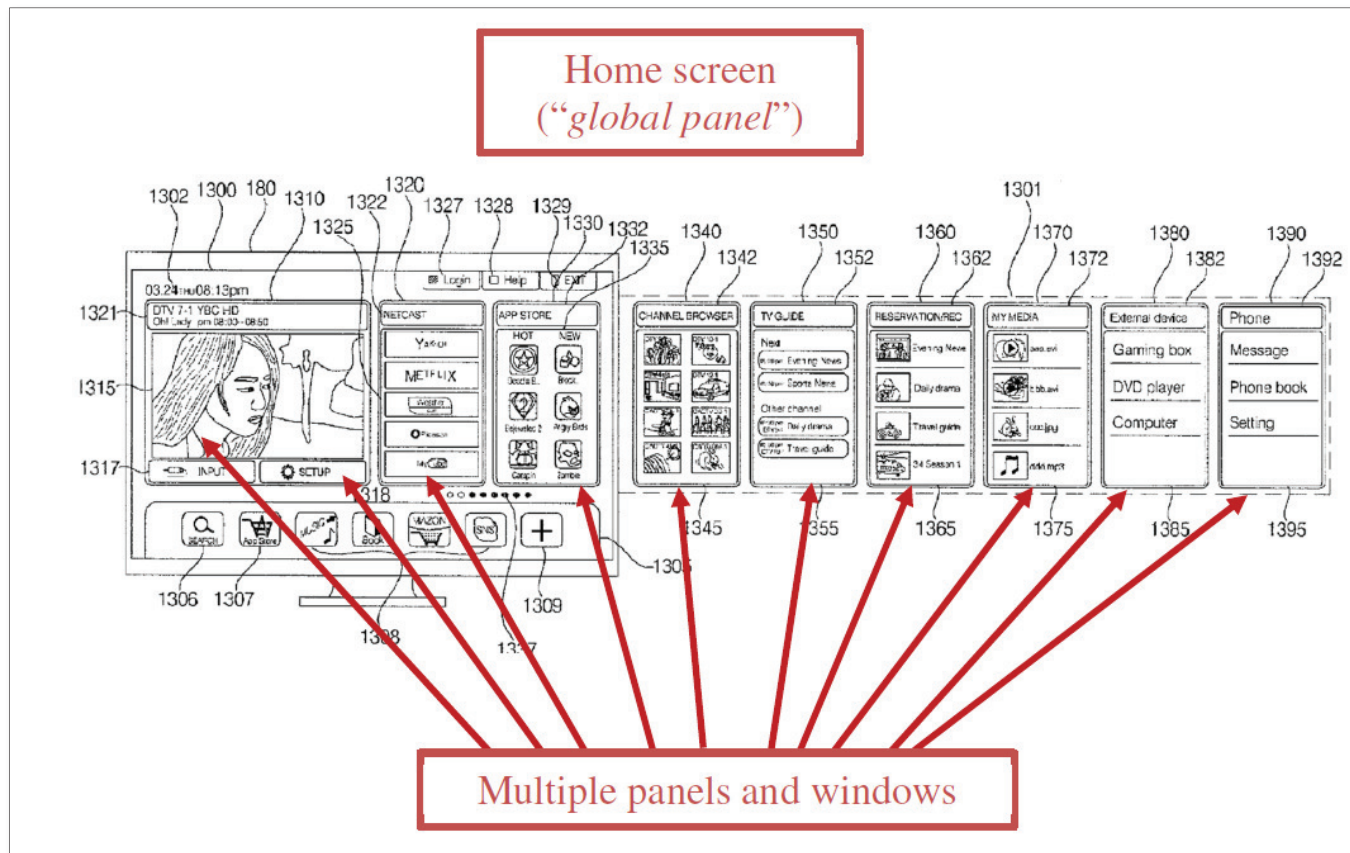
Kim

[0193] Referring to FIG. 19, a card object area may be defined in a home screen 1300. The card object area may include a plurality of card objects 1310, 1320 and 1330 which may be classified based on the source or a type of content. The image display apparatus may include a card object generator which generates and displays the card object. In certain embodiments, the card object generator may be an OSD generator 340 or a functional module included in the controller or another component of the display apparatus 100.

Ex.1005, [0193]; Petition, 30.

Kim teaches a smart television with a home screen having panels and windows

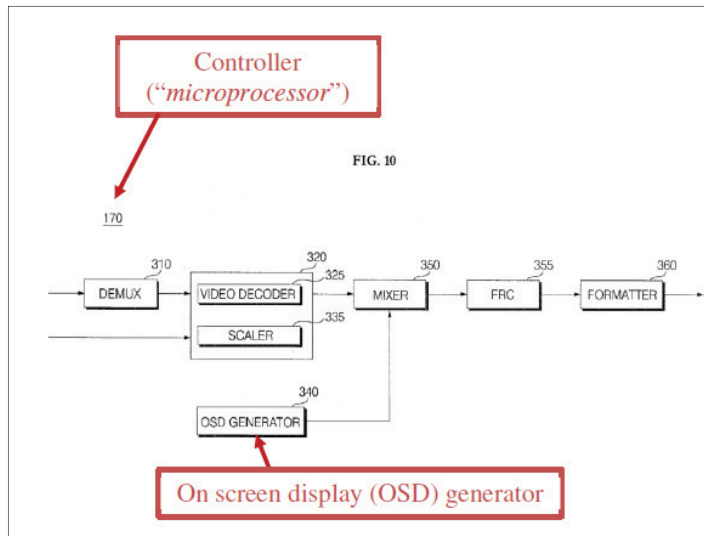
Kim



Ex.1005, Fig. 19 (annotated); Petition, 92.

Kim teaches using an on screen display generator to create the graphical user interface

Kim



Ex.1005, Fig. 10 (annotated); Petition, 35.

[0095] The image display apparatus according to the embodiment of the present disclosure may include a card object generator that generates and displays the card object. In one embodiment, the card object generator may be an OSD generator 340 or a functional part included in the controller or another component.

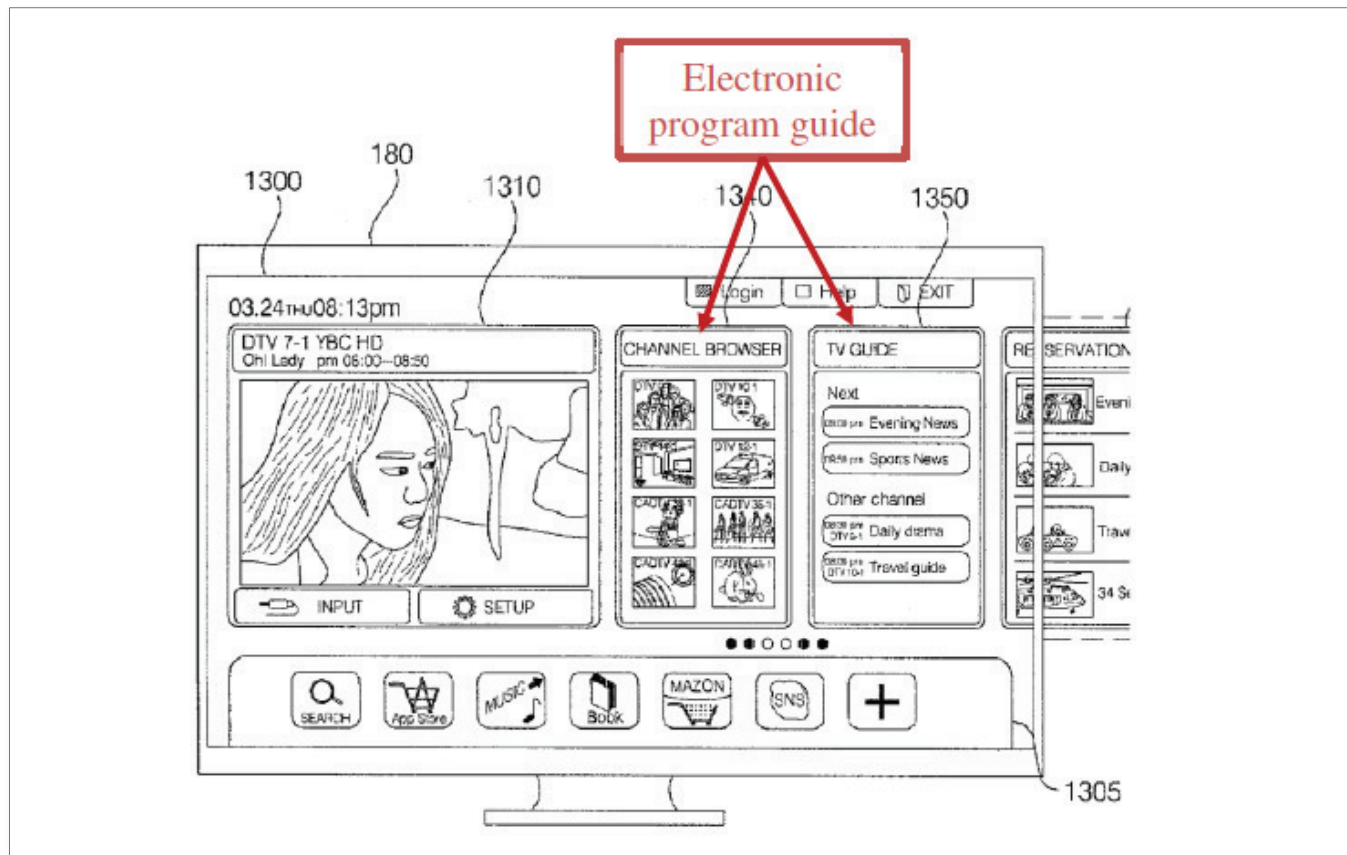
Ex.1005, [0095]; Petition, 30.

[0193] Referring to FIG. 19, a card object area may be defined in a home screen 1300. The card object area may include a plurality of card objects 1310, 1320 and 1330 which may be classified based on the source or a type of content. The image display apparatus may include a card object generator which generates and displays the card object. In certain embodiments, the card object generator may be an OSD generator 340 or a functional module included in the controller or another component of the display apparatus 100.

Ex.1005, [0193]; Petition, 30.

Kim teaches that many types of card objects can be displayed, including multiple objects to change the channel

Kim



Ex.1005, Fig. 22, partial (annotated); Petition, 23.

Kim teaches that the OSD generates menus, widgets and windows having different sizes and shapes

Kim

[0137] The OSD generator 340 may generate an OSD signal autonomously or based on to user input. For example, the OSD generator 340 may generate signals by which a variety of information is displayed as images or text on the display 180, according to control signals received from the user input interface 150. The OSD signal may include various data such as a UI, a variety of menu screens, widgets, icons, etc. For example, the OSD generator 340 may generate a signal by which subtitles are displayed with a broadcast image or Electronic Program Guide (EPG)-based broadcasting information.

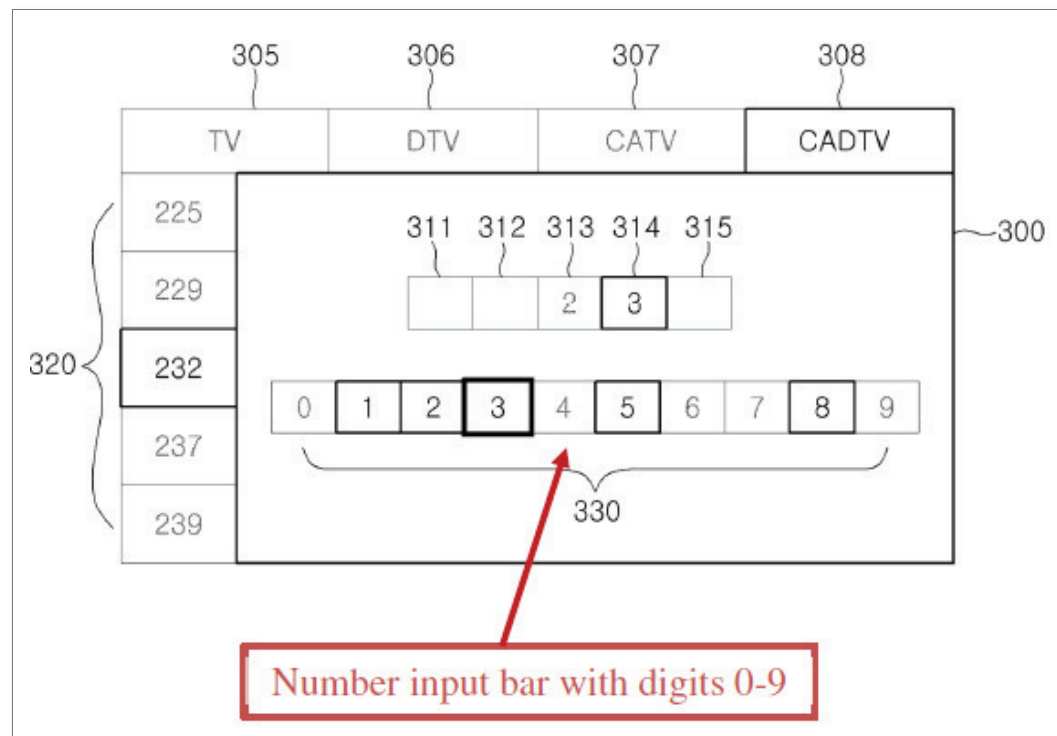
Ex.1005, [0137]; Petition, 29, Reply, 20.

[0194] The card object may be a window having a predetermined configuration (e.g., size, shape, color, style, etc.) for display on the display apparatus 100. The configuration of the

Ex.1005, [0194]; Reply, 20.

Bae teaches a known technique for displaying a window having a number input bar to change channels

Bae



Ex.1007-8, Fig. 3 (annotated); Petition, 38.

Additional reasons a POSITA would have combined Kim's teachings with the technique of Bae

- **Kim teaches that its television could be used with a remote control that does not have a keypad.**

[0175] The user input device 235 may include a keypad, a plurality of buttons, a touchpad and/or a touch screen. The user may enter commands to the image display apparatus 100 by manipulating the user input circuit 235. If the user input circuit 235 includes a plurality of hard buttons, the user may input various commands to the image display apparatus 100 by activating the hard buttons. Moreover, if the user input circuit 235 includes a touch screen displaying a plurality of soft keys, the user may input various commands to the image display apparatus 100 by touching the soft keys on the display 180. The user input device 235 may also include various input tools other than those set forth herein, such as a scroll key, a jog wheel, or another appropriate user input device.

Ex.1005, [0175]; Petition, 20.

- **Bae teaches a technique that enables changing to a specific channel using a remote control without using numeric keys.**

[0023] The channel search screen 300 is displayed divided into categories from which channels for each of TV 305, DTV 306, CATV 307, and CADTV 308 can be selected depending on the broadcast reception status. In addition, the numbers 0 to 9 are displayed in the channel number selection window 330 for channel search in each category; for each number, only selectable numbers are activated and displayed so that the user can input the corresponding number using the left and right keys or number keys.

Ex.1007-8, [0023]; Petition, 39.

A POSITA would have combined Kim's teachings with the technique of Bae

- Patent Owner's expert testified that adding Bae's technique to Kim would be helpful:

6	Q	And by using the graphical number input keypad,	11:25:08
7		you allow the user to enter a specific channel number	11:25:20
8		and get that channel directly?	11:25:25
9	A	<u>It can be.</u>	11:25:30
10	Q	And in some instances that would be helpful,	11:25:34
11		correct?	11:25:37
12	MR. SCHREINER:	Objection. Form.	11:25:38
13	THE WITNESS:	<u>It could be helpful.</u>	11:26:10

Ex.1026, 63:6-13; Reply, 13-14.

- Patent Owner's expert testified that POSITAs knew how to implement a graphical user interface for a television

4	Q	Okay. So is it fair to say that a POSITA would	10:38:10
5		have known how to implement a home screen graphical user	10:38:25
6		interface as of August 17, 2012?	10:38:28
7	A	<u>Yeah, generally speaking, sure.</u>	10:38:32
8	Q	A graphical user interface home screen was known	10:38:38
9		to have various types of information on it, correct?	10:38:46
10	MR. SCHREINER:	Objection. Form.	10:38:51
11	THE WITNESS:	<u>I think that's fair.</u>	10:38:53

Ex.1026, 38:4-11; Reply, 14-15.



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Patent Owner's Arguments Do Not Address the Combination

- **Patent Owner focuses on integrating Bae's window into a card object:**

The channel selection window, as taught by Bae, cannot be integrated with either the Channel Browser or the TV Guide card objects of Kim. As described

Response, 38.

- **Petition combines Bae's technique with Kim's "card object area":**

Second, Kim discloses a "card object generator [that] may be an OSD generator 340 or a functional part included in the controller," explaining that the card object generator generates and displays card objects within a "card object area" of Kim's home screen. Ex.1005, [0095], [0193], [0213].

Petition, 30.

Thus, Kim's card object area that displays either or both of a CHANNEL BROWSER card object and TV GUIDE card object teaches an on screen channel changer. Ex.1003, ¶¶99-104.

Petition, 31.

Thus, Kim's teaching of displaying an on screen channel changer, using an application framework executed by a processor to display, on a television, where the on screen channel changer includes EPG information for browsing channels/programs and searching for programs, in combination with Bae's technique of displaying a number input bar that displays digits 0-9 within an on screen channel changer renders obvious this limitation. Ex.1003, ¶¶99-124.

Petition, 38-9.



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Patent Owner's Arguments are Meritless

- **Patent Owner's sur-reply:**

But the Petitioner only proposes adding Bae's number input bar to Kim's home screen/card area. Reply, 13, 15. There is no proposal to include Bae's channel number display window. As for Kim, it has no channel number display window. See

Sur-Reply, 16.

- **Petition:**

"Number input bar": Bae describes a known technique for displaying a number input bar in on screen channel changer of a television. Ex.1007-8, [0018], [0023]. Bae displays "the numbers 0 to 9...in the channel number selection window" to enable a user to change the channel. Ex.1007-8, [0023]; Ex.1003, ¶¶121-122.

Petition, 37.

Bae discloses a known channel selection technique for displaying "the numbers 0 to 9...in the channel number selection window" where "the user can input the corresponding number using the left and right keys" of a remote control. Ex.1007-8, [0023]. Ex.1003, ¶80.

Petition, 24.

Ground 1: Claims 1-4, 8-10 and 13-17 are
rendered obvious by the prior art

Kim and Bae are properly combinable

Element [1.5.2] is rendered obvious by the prior art



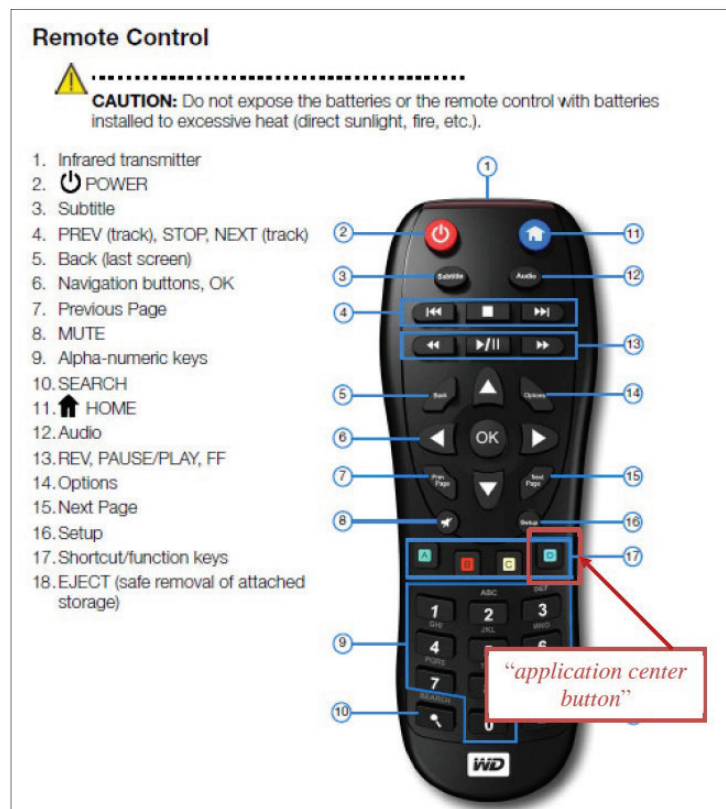
'254 Patent, Claim 1, limitation [1.5.2]

an application center button that, when selected, provides, by the television screen, displayed information regarding pre-installed and downloaded software applications, wherein the downloaded software applications comprise one or more of a web browser, settings control, and content search algorithms;

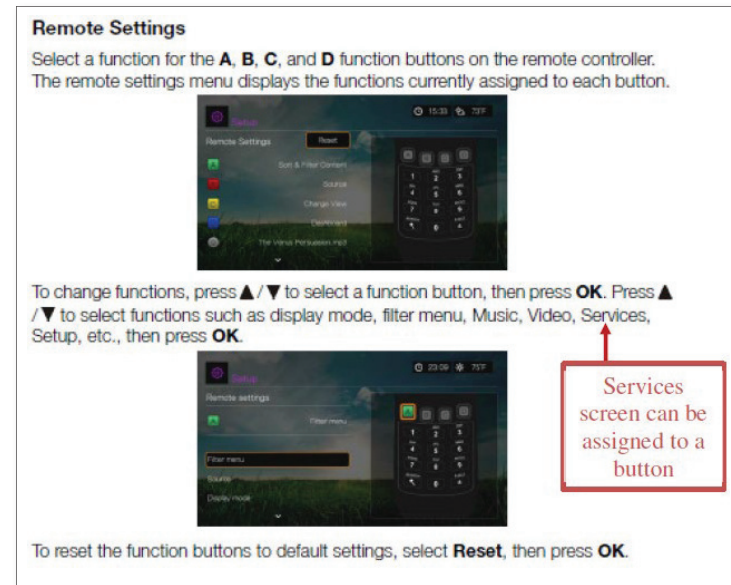
Ex.1001, Claim 1.

WD-Manual teaches an application center button assigned to the “Services” screen

WD-Manual



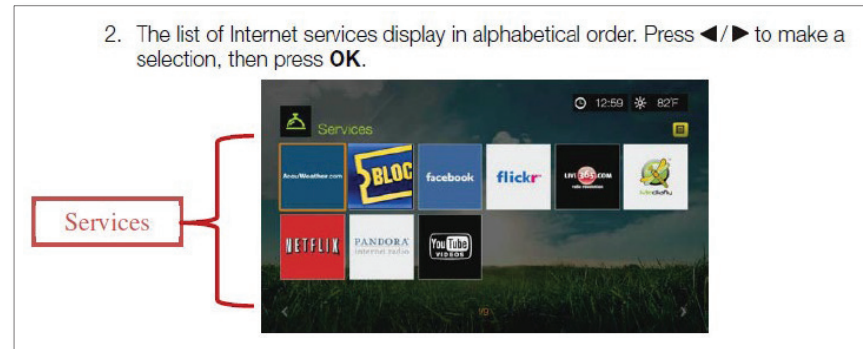
Ex.1006, pg. 11 (annotated); Petition, 71.



Ex.1006, pg. 138 (annotated); Petition, 69.

WD-Manual teaches an application center button to take the user to a specific screen

WD-Manual



Ex.1006, pg. 76-77 (partial and annotated); Petition, 70.

After connecting to a network, you can use the media center to access media content from the following Internet services:

- Current weather and forecast for your city – AccuWeather.com
- Movie rental and purchase – Blockbuster On Demand®
- Social networking – Facebook®
- Online image and video hosting – Flickr™
- Internet radio – Live365™
- Online viewing or listening to podcasts – Mediasfly®
- Online movie viewing – Netflix®
- Internet radio – Pandora®
- Online video sharing – YouTube™

The above services are fully integrated with their web-based counterparts when accessed via the media center. If you are a registered user of any of these services, everything you create, rate, or bookmark when using the media center shows up on your account the next time you sign in to that service from your computer or mobile computing device.

Ex.1006, pg. 76; Reply, 25.

WD-Manual teaches preinstalled software

Patent Owner's Expert

15	Q	And then they are played via the media player,	13:51:58
16		which is software installed on the Western Digital Media	13:52:01
17		Center, correct?	13:52:05
18	A	It's -- yeah, <u>it's a software that's installed</u>	13:52:08
19		<u>on that system, sure.</u>	13:52:11

Ex.1026, 101:12-19, Reply, 26-7.

16	Q	But it does have an application, at least by way	14:18:23
17		of a browser, right?	14:18:27
18	A	Sure, but that may or may not have been	14:18:30
19		downloaded and it would -- and it probably would have	14:18:33
20		been preinstalled.	14:18:39

Ex.1026, 106:16-20, Reply, 27.



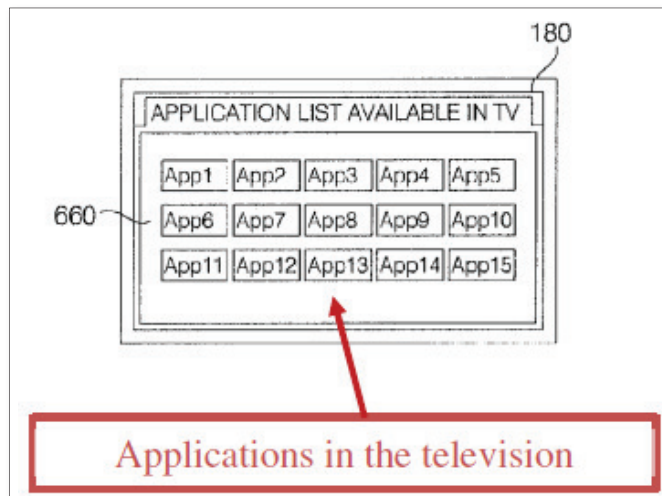
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Kim teaches displaying information about applications on the smart television and provides multiple examples.

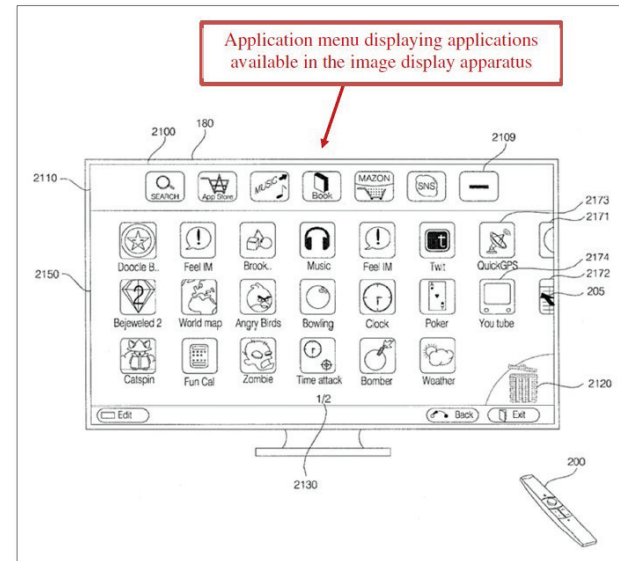
Kim

Furthermore, if an application view menu item is selected, the controller 170 may control display of applications or a list of applications that are available in the image display apparatus or downloadable from an external network.

Ex.1005, [0099]; Petition, 71-72.



Ex.1005, Fig. 16(a) (annotated); Petition, 73.



Ex.1005, Fig. 34 (annotated); Petition, 72.

'254 Patent describes two categories of applications: “preinstalled” and “downloaded”

'254 Patent

The application center button 740, when selected, may provide information regarding pre-installed and downloaded applications. Unlike downloaded applications, pre-installed applications cannot be removed by the user or manually updated. Exemplary pre-installed applications include web

Ex.1001, 24:17-22; Petition, 73.

Patent Owner

The '254 Patent distinguishes between such “pre-installed applications” and “downloaded applications.” *Id.* This construction is consistent with the determination in the related litigation that the term refers to “pre-installed software applications (that cannot be removed by the user or manually updated).” Ex. 2020 (Markman Order dtd 6/30/2024), 43. Ex. 2008 (Surati Decl.), ¶ 79.

Patent Owner Response, 10.



Kim teaches two categories of applications:
“user-undeletable” and “user-installable/user-deletable”

Kim

[0163] In the application layer 550, applications may be categorized into user-undeletable applications 565 that are stored in the image display apparatus and user-installable or user-deletable applications 575 that are downloaded from an external device or a network and stored in the image display apparatus.

Ex.1005, [0163]; Petition, 73.

[0158] In the application layer 455, applications may be categorized into user-undeletable applications 465 or user-installed/deletable applications 475. User-undeletable applications 465 may be applications stored in the image display apparatus 100 that cannot be modified. User-installable or user-deletable applications 475 may include application which may be downloaded from an external device or a network and stored in the image display apparatus.

Ex.1005, [0158]; Petition, 73.

Kim's user-undeletable and user-installable/user-deletable applications

Kim

[0158] In the application layer 455, applications may be categorized into user-undeletable applications 465 or user-installed/deletable applications 475. User-undeletable applications 465 may be applications stored in the image display apparatus 100 that cannot be modified. User-installable or user-deletable applications 475 may include application which may be downloaded from an external device or a network and stored in the image display apparatus.

Ex.1005, pg. 158; Petition, 73.

User-undeletable

- Stored in the television
- Not user-installable
- Not deletable
- Cannot be modified

User-installable/user-deletable

- Stored in the television
- Installed by user
- Downloaded from network

Petition, 73-74; Ex.1003, 191-194.

Kim's user-undeletable == "preinstalled" and
Kim's user-installable/user-deletable == "downloaded"

Kim

User-undeletable

- Stored in the television
- Not user-installable
- Not deletable
- Cannot be modified

User-installable/user-deletable

- Stored in the television
- Installed by user
- Downloaded from network

Petition, 73-74.

Patent Owner

refers to "pre-installed software applications (that cannot be removed by the user or manually updated)." Ex. 2020 (Markman Order dtd 6/30/2024), 43. Ex. 2008 (Surati Decl.), ¶ 79.

Patent Owner Response, 10.



Patent Owner's Arguments are Meritless

- **Patent Owner's response:**

Third, Kim does not link the application layer 550 of Figure 12 to the application list view menu of Figure 16. Figure 16 is not described as presenting a list of software applications from the application layer 550 of Figure 12. Kim does not remotely teach or suggest that the user-undeletable and user-deletable applications in application layer 550 are presented in the application list of Figure 16. See Kim, Fig. 12, [0160]-[0166]. Neither the Petitioner nor its expert argue or

Response, 57.

- **Kim:**

[0157] The application layer 455 on top of the framework 440 may include a variety of programs that are executed and displayed in the image display apparatus. The application layer 455 may include, for example, a core application suite having at least one of an e-mail, Short Message Service (SMS), calendar, map, browser, or another appropriate application based on the desired functionality. The application layer 455 may be written in Java.

Ex. 1005, [0157]; Petition, 74-5.



'254 Patent, Claim 1, limitation [1.5.2.1]

an application center button that, when selected, provides, by the television screen, displayed information regarding pre-installed and downloaded software applications, wherein the downloaded software applications comprise one or more of a web browser, settings control, and content search algorithms;

Ex.1001, Claim 1.



Kim teaches applications
that the application layer includes downloaded applications

- **Kim teaches downloaded applications in the application layer**

[0158] In the application layer 455, applications may be categorized into user-undeletable applications 465 or user-installed/deletable applications 475. User-undeletable applications 465 may be applications stored in the image display apparatus 100 that cannot be modified. User-installable or user-deletable applications 475 may include application which may be downloaded from an external device or a network and stored in the image display apparatus.

Ex.1005, [0158]; Petition, 73.

Kim teaches a web browser, settings control and content search algorithms

- **Web browser**

[0159] With the applications of the application layer 455, a variety of functions such as Internet telephony, VoD, Web album, Social Networking Service (SNS), Location-Based Service (LBS), map service, Web browsing, and application search may be performed through network access. In addition, other functions such as gaming and schedule management may be performed by the applications.

Ex.1005, [0159]; Petition, 74-5.

[0157] The application layer 455 on top of the framework 440 may include a variety of programs that are executed and displayed in the image display apparatus. The application layer 455 may include, for example, a core application suite having at least one of an e-mail, Short Message Service (SMS), calendar, map, browser, or another appropriate application based on the desired functionality. The application layer 455 may be written in Java.

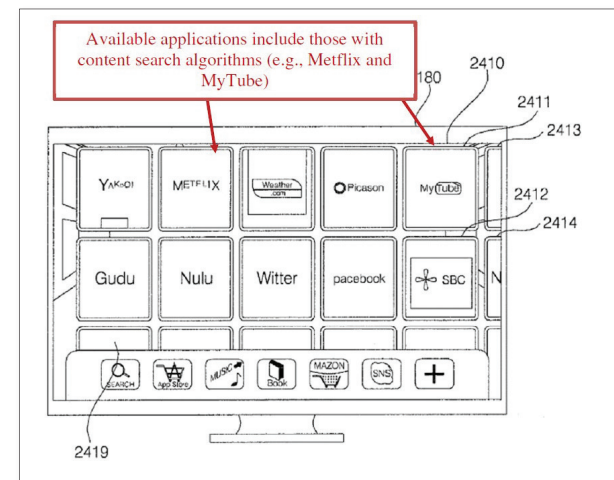
Ex.1005, [0157]; Petition, 74-5.

- **Settings control**

displayed. The setup object 1318 may be used to set various settings of the image display apparatus 100, such as video settings, audio settings, screen settings, reservation settings, setting of the pointer 205 of the remote controller 200, network settings, or another appropriate setting for the image display apparatus 100.

Ex.1005, [0200]; Petition, 74-5.

- **Content search algorithms**



Ex.1005, Fig. 44; Petition, 76.

Ground 1: Claims 1-4, 8-10 and 13-17 are
rendered obvious by the prior art

Kim and Bae are properly combinable

Element [1.5.2] is rendered obvious by the prior art

Element [1.5.3] is rendered obvious by the prior art



'254 Patent, Claim 1, limitation [1.5.3]

an application panel button that, when selected, displays, by the television screen, an application panel, wherein the application panel comprises an information panel regarding a selected (pre-installed or previously downloaded) application icon; and

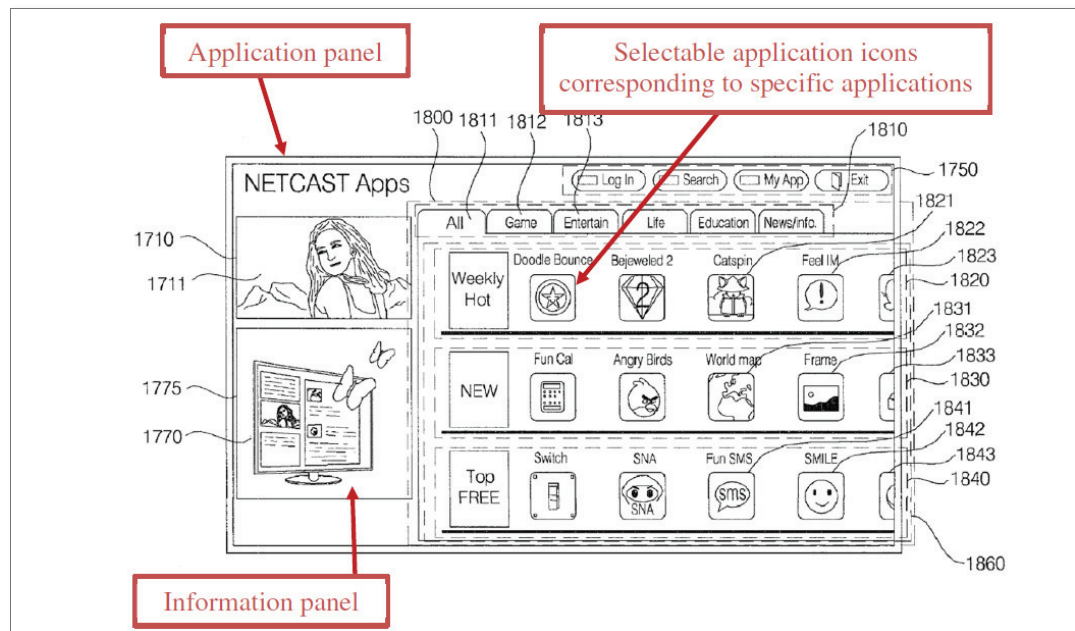
Ex.1001, Claim 1.

Kim teaches a user interface that displays selectable icons to display information about the application

Kim

[0247] In addition, when the user selects or focuses on a specific application, an image that corresponds to the application may be displayed in the third area 1770. If the user selects an icon, an image displayed on the third area 1770 may be replaced with information about the application corresponding to the selected icon. Moreover, when another icon is

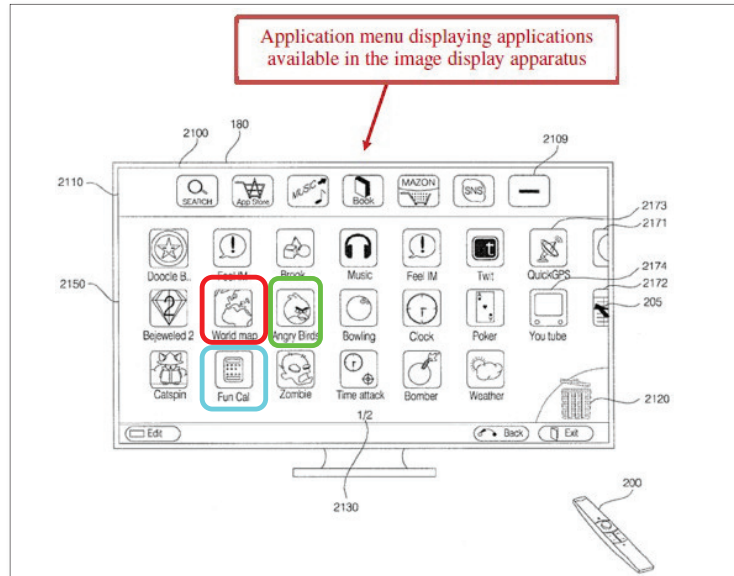
Ex.1005, [0247]; Petition, 86.



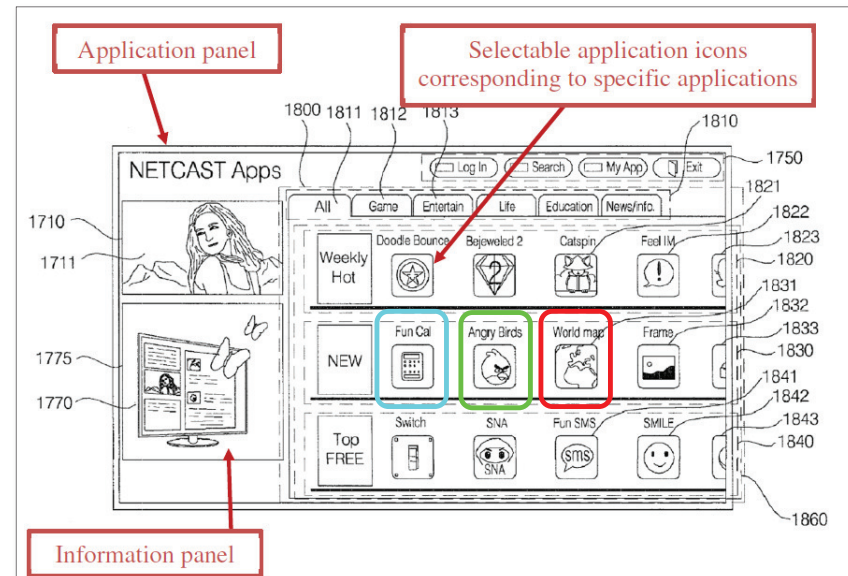
Ex.1005, Fig. 25 (annotated); Petition, 87.

Patent Owner's expert acknowledged that Kim's icons reflect installed applications

Kim



Ex.1005, Fig. 34; Petition, 72.



Ex.1005, Fig. 25 (annotated); Petition, 87.

Patent Owner's Expert

4 Q That's what I think. Okay. But at least in 13:17:53
5 Figure 25, the Weekly Hot, all of them are installed, 13:17:57
6 illustrated in Figure 25, and then the New row, of the 13:18:03
7 New applications, Fun Calc, Angry Birds and World Map 13:18:07
8 are installed, correct? 13:18:11
9 A Yeah. Yeah. 13:18:12

Ex.1026, 85:4-9, 83:7-84:17; Reply, 31-32.

22 installed beforehand. That's all I can say for sure. I 13:19:29
23 mean all that I can say is that I know it's on the 13:19:33
24 machine, it could have been downloaded, or it could have 13:19:36
25 been preinstalled. But there's -- it's definitely 13:19:39

Ex.1026, 85:14-25; Reply, 37.

HB

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Claim 1 vs. Claim 8

an application panel button that, when selected, displays, by the television screen, an application panel, wherein the application panel comprises an information panel regarding a selected (pre-installed or previously downloaded) application icon; and

Ex.1001, Claim 1.

an application panel button that, when selected, displays, by the television screen, an application panel, wherein the application panel comprises an information panel regarding a selected application icon; and

Ex.1001, Claim 8.



Ground 2: Claims 6, 12 and 19 are
rendered obvious by the prior art



'254 Patent, Claims 6, 12, and 19

6. The method of claim 1, wherein, as the user selects each digit, the application framework updates the EPG information to include only those programs and/or channels selectable from the selected digits and wherein the remote control further comprises a moveable joystick that, when manipulated by the user, causes a displayed image on the screen to be displaced a proportional amount.

Ex.1001, Claim 6.

12. The television of claim 8, wherein, as the user selects each digit, the application framework updates the EPG information to include only those programs and/or channels selectable from the selected digits and wherein the remote control further comprises a moveable joystick that, when manipulated by the user, causes a displayed image on the screen to be displaced a proportional amount.

Ex.1001, Claim 12.

19. The computer readable medium of claim 14, wherein, as the user selects each digit, the application framework updates the EPG information to include only those programs and/or channels selectable from the selected digits and wherein the remote control further comprises a moveable joystick that, when manipulated by the user, causes a displayed image on the screen to be displaced a proportional amount.

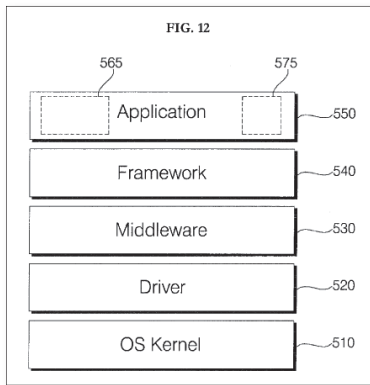
Ex.1001, Claim 19.



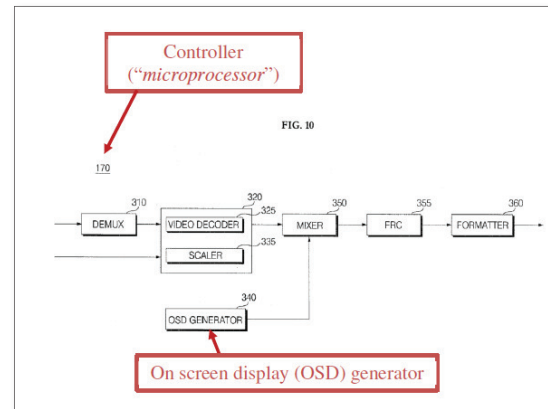
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Kim teaches an application framework and controller for displaying electronic program guide information

Kim



Ex.1005, Fig. 12; Petition, 32.



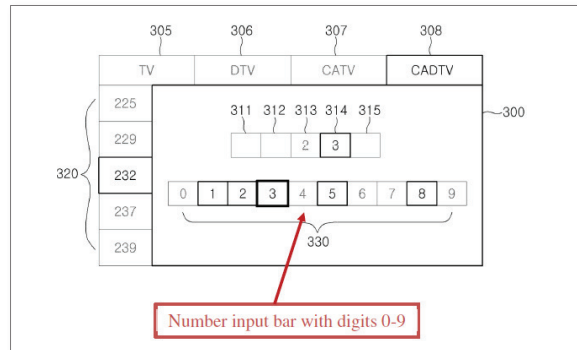
Ex.1005, Fig. 10 (annotated); Petition, 35.

[0137] The OSD generator 340 may generate an OSD signal autonomously or based on to user input. For example, the OSD generator 340 may generate signals by which a variety of information is displayed as images or text on the display 180, according to control signals received from the user input interface 150. The OSD signal may include various data such as a UI, a variety of menu screens, widgets, icons, etc. For example, the OSD generator 340 may generate a signal by which subtitles are displayed with a broadcast image or Electronic Program Guide (EPG)-based broadcasting information.

Ex.1005, [0137]; Petition, 37.

Bae teaches updating the channel information as the user enters digit numbers

Bae



Ex.1007-8, Fig. 3 (annotated); Petition, 38.

Means for Solving the Problem

[0007] In order to solve the above-stated problem, the present invention is configured by a tuner unit that receives broadcast signals for each channel from the outside; an OSD processing unit that generates at least one channel number selection window through which a channel number for a broadcast signal received through the tuner unit can be selected, and a channel number display window displaying the selected channel number; a display unit that displays a channel number input window generated by the OSD processing unit, and a channel number display window that displays the channel input through the channel number input window; a user interface unit that sequentially receives input from the channel of the highest unit according to the displayed channel number input screen; and a control unit that controls to activate and display a selectable next-priority channel number comprising the channel number input through the user interface unit, and to perform channel switching to the selected channel.

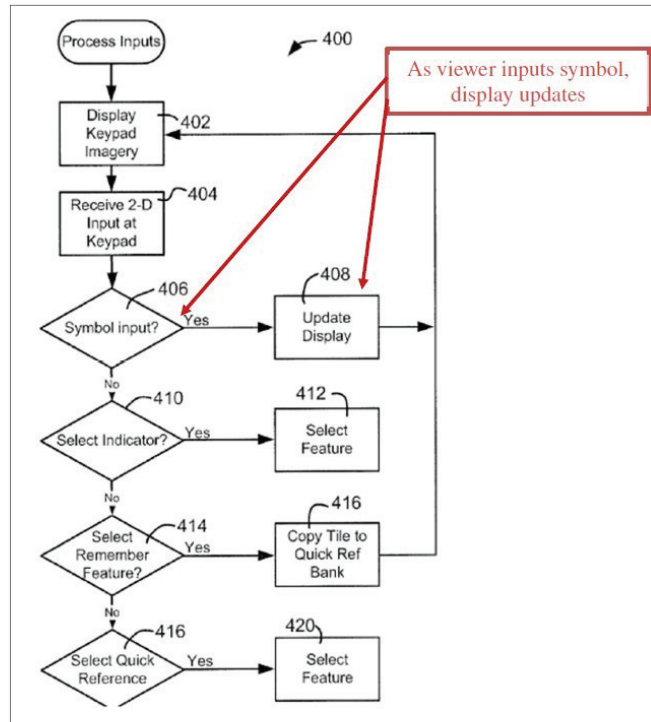
Ex.1007-8, [0007]; Petition, 121.

[0023] The channel search screen 300 is displayed divided into categories from which channels for each of TV 305, DTV 306, CATV 307, and CADTV 308 can be selected depending on the broadcast reception status. In addition, the numbers 0 to 9 are displayed in the channel number selection window 330 for channel search in each category; for each number, only selectable numbers are activated and displayed so that the user can input the corresponding number using the left and right keys or number keys.

Ex.1007-8, [0023]; Petition, 121.

Coburn provides details on how to update the channel information as the user enters digit numbers

Coburn



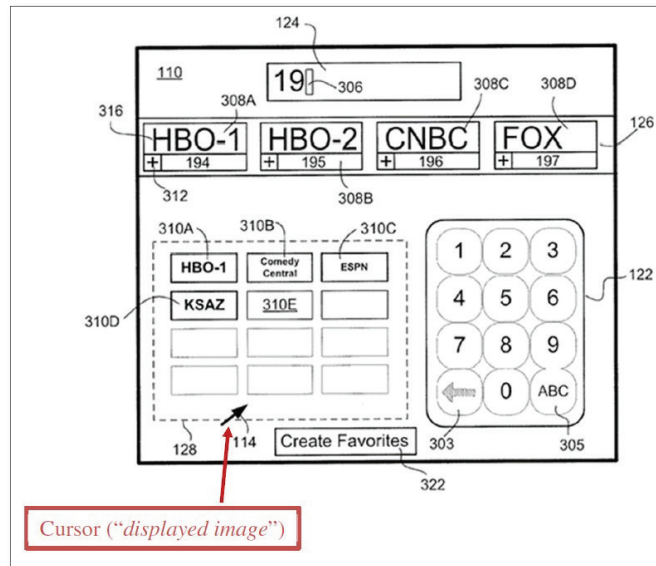
Ex.1009, Fig. 4 (annotated); Petition, 126.

[0046] Information entered on keypad 122 and/or displayed in window 124 may be processed in any manner. In various embodiments, the information may be used to select a channel or program for decoding and presentation, for searching a disk, network or the like for content, and/or for any other purpose. In various embodiments, data entered into window 124 can be processed in a predictive manner. In the embodiment shown in FIG. 3, for example, numeric inputs from keypad 122 are used to select a channel to be tuned and presented by receiver 104. As the viewer enters the first few digits of the channel number, imagery 110 may be updated as appropriate to present channels (or other objects) that correspond to the initially-entered data. As the user enters an initial "1", for example, the content of identifier window 126 may be updated to show identifiers 308A-D that begin with 1 (e.g., "1", "10", "100" or the like). In an implementation that uses three-digit channel numbers (100-999), for example, an initial "1" could be result in window 126 showing identifiers 308A-D including channel 100 (corresponding to the beginning of the number range), channel 150 (corresponding to the approximate middle of the channel range), or any other channel as desired. As the viewer enters additional symbols from keypad 122, the additional data may be used to further refine the identifiers 308A-D presented in window 126. After the viewer entered both numerals "1" and "9", for example, window 126 may be updated to show channel identifiers 308A-D associated with channels in the 190-199 range (e.g., channels 194-197, as shown in the example of FIG. 3). Predictive behaviors may be modified in any manner, or omitted in some embodiments.

Ex.1009, [0046]; Petition, 124-5.

Coburn provides details for implementing a remote control having a joystick

Coburn



Ex.1009, Fig. 3 (annotated); Petition, 128.

[0025] Remote control 112 generally includes any sort of buttons, sliders, rocker switches and/or other features for receiving physical inputs from the viewer. As the user depresses or otherwise interacts with the features, remote control 112 suitably produces wireless signals 125 in response. In further embodiments, remote control 112 includes a two-dimensional input device 124 that is able to receive inputs from the user in any multi-dimensional format (e.g., “X,Y”, “r,Θ”), and/or the like). Examples of two-dimensional input devices 124 that could be used in various embodiments include, without limitation, touchpads, directional pads, joysticks, trackballs, sets of arrows or other buttons, and/or the like. In a typical implementation, two-dimensional input device 124 provides coordinates or other signals 125 that indicate absolute (e.g., “X,Y”) and/or relative (e.g., “ΔX, ΔY”) movement in two or more dimensions. Such signals 125 may be decoded at controller 108 or elsewhere to coordinate the viewer’s actions with respect to input device 124 to movement of cursor 114 or other features presented on display 102.

Ex.1009, [0025]; Petition, 127-9.

Inter Partes Review U.S. Patent No. 9,055,254

LG Electronics, Inc. v. Multimedia Technologies PTE. Ltd., IPR2024-00353

Andrew S. Ehmke,
Haynes and Boone, LLP



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