

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Shenzhen TCL New Technology Co., Ltd.
TCL Optoelectronics Technology (Huizhou) Co., Ltd.
TCL Overseas Marketing Ltd.
TCL Technology Group Corporation (f/k/a TCL Corp.),
Petitioners

v.

LG Electronics Inc.,
Patent Owner

Case No. IPR2023-00238

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 10,334,311**

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PETITIONER’S EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 10,334,311 (“the ’311 Patent”)
1002	Excerpts of Prosecution History of U.S. Patent No. 10,334,311 (“Prosecution History”)
1003	Declaration of Immanuel Freedman
1004	U.S. Patent Publication No. 2005/0200811 A1 (“Nobori”)
1005	U.S. Patent Publication No. 2006/0158838 A1 (“Kinoshita”)
1006	U.S. Patent Publication No. 2006/0230360 A1 (“Young”)
1007	U.S. Patent Publication No. 2009/0201420 A1 (“Brown”)
1008	LGE’s Opening Claim Construction Brief
1009	U.S. Patent Publication No. 2003/0075983 (“Stecyk”)
1010	Fintiv Stipulation
1011	U.S. Patent No. 7,681,141 B2 (“Tu”)
1012	<u>Docket Control Order</u>
1013	<u>Average Time to Trial</u>
1014	<u>LGE v. TCL - Complaint for Patent Infringement</u>
1015	Infringement Contentions
1016	U.S. Patent No. 6,825,858 (“Sato”)
1017	U.S. Patent Publication No. 2009/0307615A1 (“Jalon”)
1018	U.S. Patent No. 7,065,752
1019	ISO/IEC 14496

Exhibit No.	Description
1020	Bouilhaguet, F. et al. (2000), <i>Proc. IEEE International Symposium on Circuits & Systems</i> , May 28-31, 2000: Geneva CH
1021	U.S. Patent Publication No. 2011/0214152
1022	Kwon, B. et al. (2007), SHADOW: A Cross-Platform GUI Middleware for Home Devices. pp. 906-910
1023	Bjelica, M. Z. et al. (2009), <i>Proc. Telsiks 2009</i> , Oct 7-9, 2009: Niš RS. pp. 285-288
1024	Digital Video Broadcasting (2011). Globally Executable MGP Specification 1.3, Document A153, March 2011
1025	Gil, A. et al. (2002), <i>Proc. IEEE R8 International Symposium on Video/Image Processing. & Multimedia Communications</i> . Jun 16-19, 2002: Zadar HR. pp. 447-451.
1026	ISO/IEC 13522-5
1027	SMPTE Declarative Data Essence (DDE)-1 standard ST 397:2003
1028	Nielsen, J. (2006). “Progressive Disclosure.” Nielsen Normal Group, Dec 3, 2006
1029	Kang, S. & Kim, W. (2007), “Minimalist and Intuitive User Interface Design Guidelines for Consumer Electronics Devices”, in <i>Journal of Object Technology</i> 6(3) Mar 2007. pp. 39-52
1030	Macintosh Human Interface Guidelines, Apple Computer Inc., 1992
1031	Microsoft Windows User Experience, Microsoft Press 1999
1032	U.S. Patent Publication No. 2009/0106674 A1 (“Bray”)
1033	U.S. Patent No. 7,200,683

I. INTRODUCTION

Petitioners request *Inter Partes* Review (“IPR”) of claims 1-21 (“Challenged Claims”) of U.S. Patent No. 10,334,311 (“the ’311 patent,” Ex. 1001¹).

The ’311 patent relates to a graphical user interface that allows a user of a television or other display device to switch between input signal sources, e.g., a DVD player or PC, where an icon for a selected device changes into a preview of that device’s content, and then changes back when the user moves on to a different icon. *See* Ex. 1001 at Abstract, 1:38-58.

Petitioners submit multiple references demonstrate that the claimed invention would have been obvious to a person of ordinary skill in the art (“POSITA”) at the time of the alleged invention. Accordingly, Petitioners respectfully request that the Board institute *inter partes* review and cancel the Challenged Claims.

II. MANDATORY NOTICES

A. Real Parties-in-Interest

Petitioners identify TCL Electronics Holdings Ltd. (f/k/a TCL Multimedia Technology Holdings, Ltd.); TCL Industries Holdings Co., Ltd.; TCL Industries Holdings (H.K.) Limited; TTE Technology, Inc. (d/b/a TCL North America); TTE Corporation; TCL Moka International Limited; TCL Moka Manufactruing S.A. de

¹ All exhibit page numbers reference pages in the original exhibit.

C.V.; TCL King Electrical Appliances (Huizhou) Co. Ltd.; Manufacturas Avanzadas S.A. de C.V.; TCL Smart Device (Vietnam) Co., Ltd.; Shenzhen TCL New Technology Co., Ltd.; TCL Optoelectronics Technology (Huizhou) Co., Ltd.; TCL Overseas Marketing Ltd.; TCL Technology Group Corporation (f/k/a TCL Corp.), (herein “Petitioners”) as the real parties-in-interest.

B. Related Matters

The ’311 patent is involved in litigation in the Eastern District of Texas, captioned *LG Electronics Inc. v. TCL Electronics Holdings Ltd. (f/k/a TCL Multimedia Technology Holdings, Ltd.) et al.*, Case No. 2:22-cv-00122-JRG.

The ’311 patent was asserted in *LG Electronics Inc. v. Hisense Electronics Manufacturing Company of America Corporation et al.*, filed in the United States District Court for the Central District of California on November 4, 2019, and assigned case #: 2:19-cv-09474-JAK-E (the “9474 case”). This case was dismissed on March 19, 2021. The ’311 patent was the subject of IPR2020-01513 (the “1513 IPR”) filed on August 28, 2020, and terminated on March 10, 2021, prior to a decision on institution.

Petitioners are not aware of any other judicial or administrative matter involving the ’311 patent.

C. Lead and Back-Up Counsel

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III. PAYMENT OF FEES

The fees required by 37 C.F.R. § 42.103(a) are submitted herewith. Any additional fees that may become due during this proceeding may be charged to Deposit Account No. 60-3815.

IV. REQUIREMENTS FOR *INTER PARTES* REVIEW UNDER 37 C.F.R. § 42.104

A. Grounds for Standing

Petitioners certify that the '311 patent is available for IPR and Petitioners are not barred or estopped from requesting IPR challenging the claims of the '311 patent under 37 C.F.R. § 42.101.

B. Claims for Which Review Is Requested

Petitioners request review of claims 1-21 of the '311 patent.

C. Statutory Grounds of Challenge

The statutory grounds for the challenges are:

Ground	Statute	Reference(s)	Challenged Claims
1	35 U.S.C. § 103	Nobori (Ex. 1004) and Kinoshita (Ex. 1005)	1- 7, 9, 11-18, and 21
2	35 U.S.C. § 103	Nobori in view Kinoshita and Brown (Ex. 1007)	8, 10, 19, and 20
3	35 U.S.C. § 103	Nobori in view of Young (Ex. 1006)	1-5, 7, 9, 11-16, 18, and 21
4	35 U.S.C. § 103	Nobori in view Young and Brown	8, 10, 19, 20
5	35 U.S.C. § 103	Nobori in view of Young and Kinoshita	6 and 17

The earliest priority date of the '311 patent, on its face, is September 2, 2011. *See* Ex. 1001, (30). The prior art references cited for each ground qualify as prior art for the following reasons:

- Nobori (Ex. 1004) is prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e) because it was filed on March 8, 2005, and published on September 15, 2005.
- Kinoshita (Ex. 1005) is prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e) because it was filed on January 11, 2006, and published on July 20, 2006.
- Young (Ex. 1006) is prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e) because it was filed on December 29, 2005, and published on October 12, 2006.
- Brown (Ex. 1007) is prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e) because it was filed on December 31, 2008, and published on August 13, 2009.

D. Claim Constructions

For the purposes of the Petition, Petitioners propose the below constructions for “external device icon” and the “select” terms in view of the parties proposed constructions for these terms in the 9474 case. Petitioners propose that all other

terms be afforded their plain and ordinary meanings as understood by POSITA at the time of the purported invention of the '311 patent.

1. *“External device icon”*

In its Opening Claim Construction Brief in the 9474 case, Patent Owner proposed a construction for this term. More specifically, Patent Owner stated: “‘external device icon’ should be construed according to its plain and ordinary meaning, which is an icon corresponding to an external device.” Ex. 1008 at 3. Patent Owner’s non-limiting examples of “external device icons” include text, images, and pictorial representations corresponding to external devices, and combinations thereof. *Id.* at 4-5; Ex. 1001 at FIG. 11.

2. *“select” (including “selected” and “selectable”)*

In the same Opening Claim Construction Brief, Patent Owner proposed a construction for these terms. More specifically, Patent Owner stated: that: “‘select’ (including ‘selected’ and ‘selectable’) should be construed according to its [their] plain and ordinary meaning, which includes selection by placing a cursor on or highlighting an icon. The plain and ordinary meaning is not limited to a two-step process (e.g., placing a cursor on an icon and then pressing OK).” Ex. 1008 at 5-7. The plain meaning of these terms also includes selecting by touching areas of touchscreen display. Ex. 1003 at ¶84.

E. How the Construed Claims Are Unpatentable

Pursuant to 37 C.F.R. § 42.104(b)(4), Petitioners provide an explanation of how the construed claims of the '311 patent are unpatentable under the statutory grounds identified above in section VII, *infra*.

F. Supporting Evidence

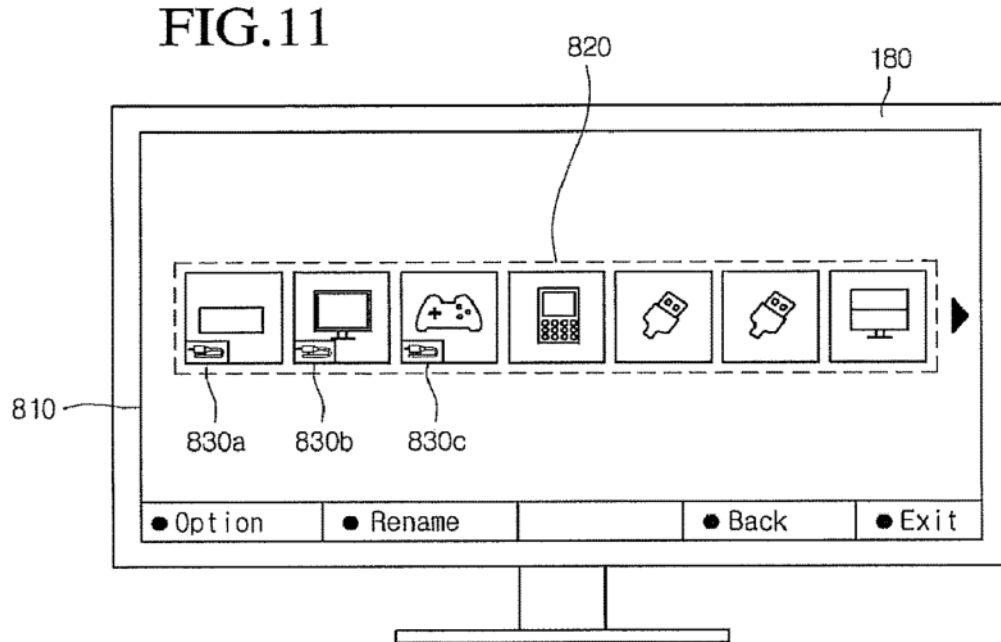
Pursuant to 37 C.F.R. § 42.104(b)(5), Petitioners identify the exhibit numbers of the evidence relied upon to support the challenges in section VII, *infra*. Exhibit List, *supra*.

V. THE '311 PATENT

A. Summary of the '311 Patent

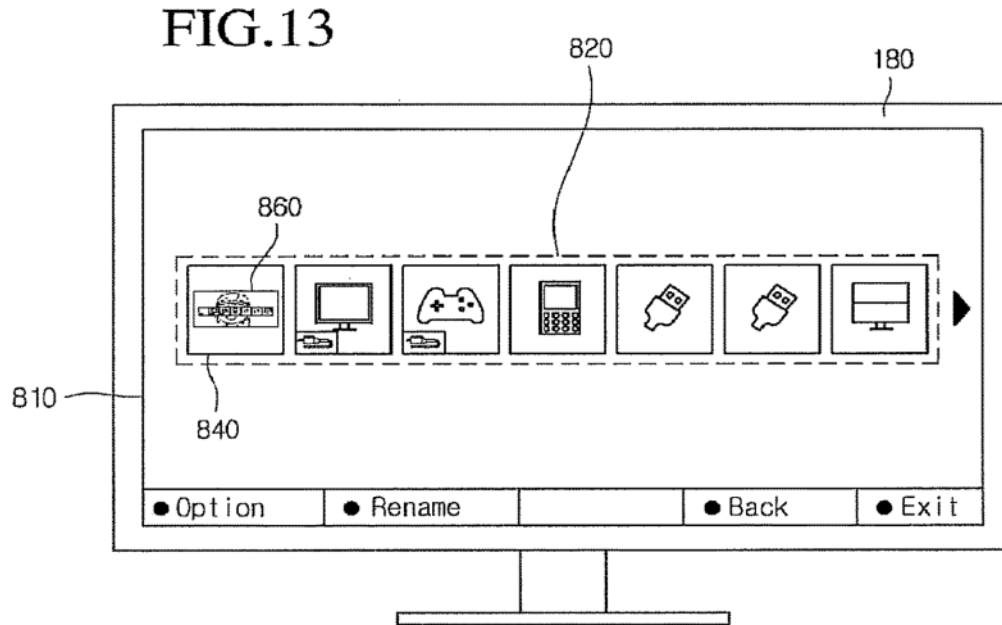
The '311 patent relates to a graphical user interface (“GUI”) for selecting an input source for a display device. Ex. 1001 at 1:21-34. The patent represents a variety of external devices as a corresponding icon and allows a user to preview content from an external device before switching the input of the TV to that device. *Id.* at 1:38-42.

As shown below, the system displays external device icons 820 that correspond to each external device. *Id.* at 20:35-37.



Id. at FIG. 11

When a cursor is moved onto the first external device icon 840 (FIG. 13) “an image signal 860 of an external device related to the first external device icon 840 ... may be displayed on the area where the first external device icon 840 is displayed.” *Id.* at 21:1-4. *I.E.*, the device icon is replaced with a preview from that device. Ex. 1003 at ¶71.



Ex. 1001 at FIG. 13

When the cursor is moved to another icon, that icon will change to display a preview from that device. *Id.* at FIG. 13.

B. Summary of the Prosecution History of the '311 Patent

1. First Office Action and Response

Originally filed claims recited that external device icons be displayed “on a first area of the display,” and that preview, or “first image based on the first image signal” be displayed on a “second area.” Ex. 1002 at 123. The Examiner rejected these claims over prior art. *Id.* at 84-89. In response, applicant added language requiring a “first default image identifying the first external device on the first external device icon,” and upon selection of the first icon, the displayed “first

image is an image which is currently being displayed on the first external device.”

Id. at 63.

2. Second Office Action and Response

The Examiner issued a Final Rejection. Ex. 1002 at 50. Applicant made further narrowing amendments requiring a specific transition to “change the first default image to” a first image, and then “change the first image to the first default image in response to the second external device icon being selected.” *Id.* at 40. Applicant added language requiring that “the first image is displayed at a position corresponding to an area where the first external device icon is displayed.” *Id.* The claim language was further amended to specify that the first default image “correspond[s] to” the “first external interface,” while the second default image “correspond[s]” to the “second external device.” *Id.*²

3. Third Office Action and Response

The Examiner again rejected the claims and added the Jeong reference. Ex. 1002 at 26. Applicant responded that Jeong was not prior art under §103(c)

² In a subsequent amendment after allowance, the applicant amended this limitation to recite that the second default image “correspond[s]” to the “second external interface.” Ex. 1002 at 2.

because it was assigned to Patent Owner. *Id.* at 20. The Examiner then allowed the application.

C. Level of Ordinary Skill in the Art

A POSITA at the time of the alleged invention of the '311 patent would have had at least an undergraduate degree in electrical or computer engineering or closely related scientific field, or similar advanced post-graduate education, and at least two years of experience with graphical user interfaces. Dr. Immanuel Freedman concludes that this is the appropriate level of ordinary skill in the art after considering the '311 patent, its prosecution history, and the cited references. Dr. Freedman bases his conclusion on knowledge of the field and after properly setting forth the factors that inform this inquiry. Ex. 1003 at ¶¶56-60.

VI. OVERVIEW OF THE PRIOR ART

A. Nobori

Nobori describes a user interface for navigating and selecting image input interface terminals by generating and displaying a plurality of thumbnail images. Ex. 1004 at Abstract, ¶¶4, 5. Nobori discloses a projector including image input interface terminals and a touch panel having an LCD to display image information inputted from the image input I/Fs as thumbnail images. *Id.* at Abstract, ¶5. “[T]he image input interface terminals are also referred to as image input I/Fs” include “S-Video terminal, a 3RCA terminal, a D-Sub terminal, an HDMI (High-Definition

Multimedia Interface) terminal.” *Id.* at ¶6. Image input devices include personal computers and video players. *Id.* at ¶25.

The components of Nobori's projector are illustrated below.

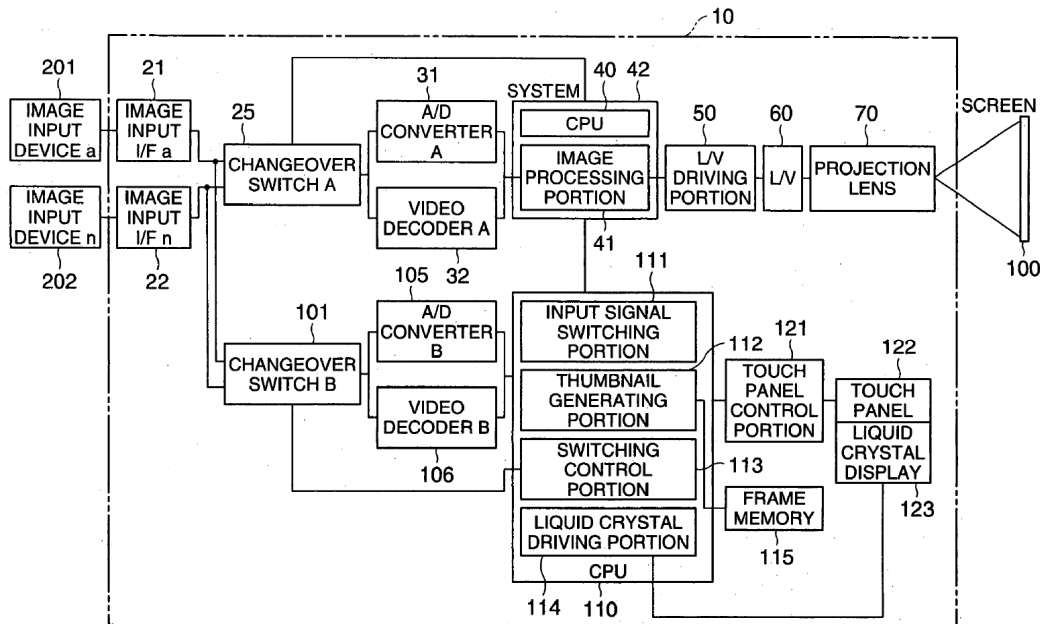


FIG. 1

Ex. 1004 at FIG. 1.

Image information from image input devices 201 and 202 is input into image input I/Fs 21 and 22, respectively. *Id.* at ¶35. Thumbnails generated by thumbnail generating portion 112 are displayed on LCD 123. *Id.* at ¶¶37-38. FIG. 1 shows two image input devices 201 and 202 and additional image input devices can be connected. *Id.* at ¶27.

FIG. 3 shows that the selection of an icon (image input I/F) causes the display of a preview image from the corresponding image input device. *Id.* at ¶¶49-53 & FIG. 3.

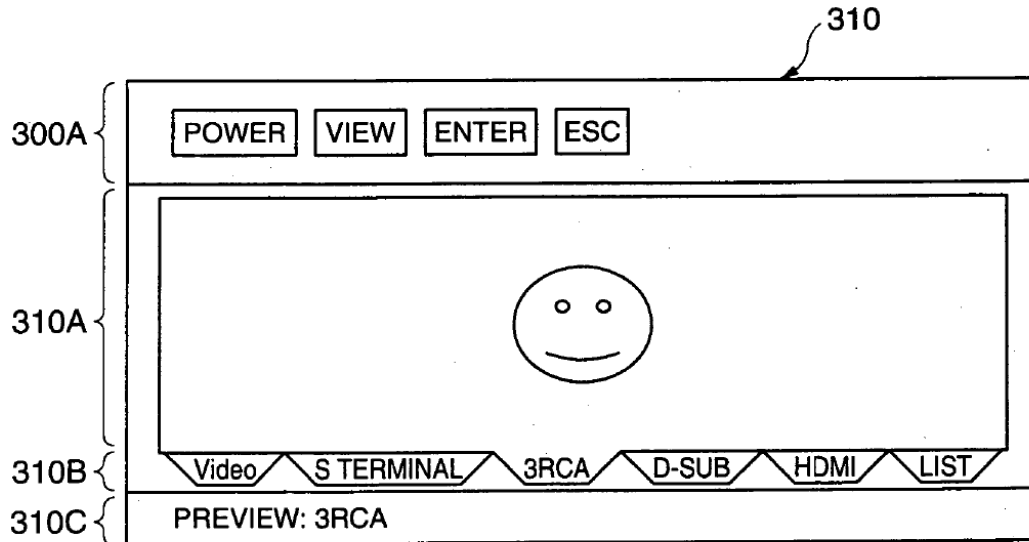


FIG. 3

Ex. 1004 at FIG. 3

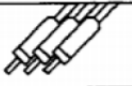
Nobori explains if image input I/F 3RCA terminal is selected “image information 310A of the selected I/F (3RCA) is displayed in the [form] of a thumbnail in the region within the image input I/F display screen 300B.” *Id.* at ¶49.

B. Kinoshita

Kinoshita relates to a user interface for selecting among a “plurality of AV (Audio-Visual) devices” connected to a display unit, such as a digital television. Ex. 1005 at Abstract, ¶4. Kinoshita addresses problems of a user not recognizing terminal input names such as “component” or “Video1” by displaying icons, such

as those shown below, that are images of the input terminals so that the user can easily confirm by the shape of the input terminal the identity of the device supplying the video signal. *Id.* at Abstract, ¶4, FIG. 7.

FIG.2

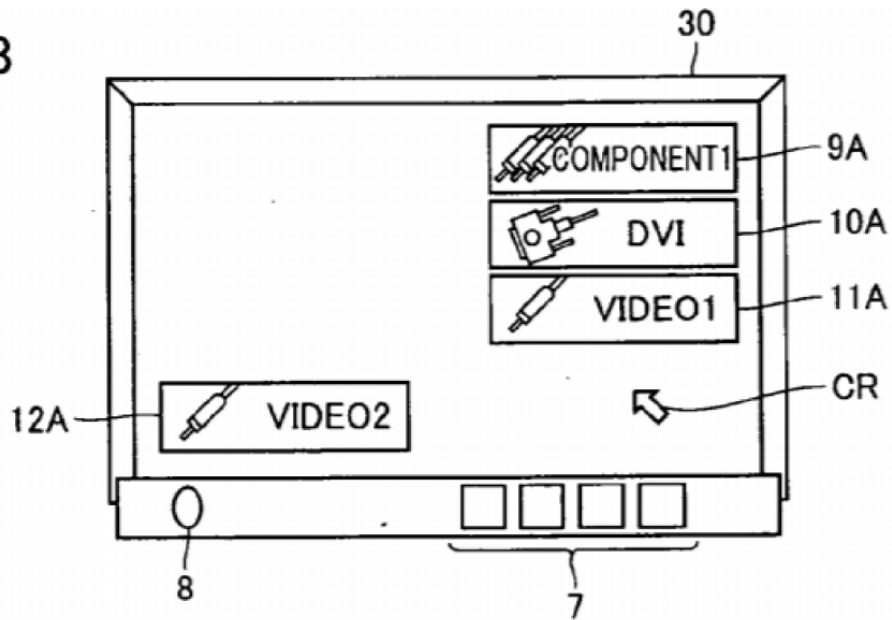
51 INPUT TERMINAL	52 INPUT NAME	53 SHAPE OF TERMINAL	54 DISPLAY POSITION
I1	'COMPONENT'		(X1,Y1)
I2	'DVI'		(X2,Y2)
I3	'VIDEO1'		(X3,Y3)
I4	'VIDEO2'		(X4,Y4)
⋮	⋮	⋮	⋮

Ex. 1005 at FIG. 2

Each input has associated with it “terminal shape data 53 for displaying the picture indicating the shape of corresponding input terminal.” *Id.* at ¶41.

FIG. 5B shows an exemplary display which includes “[i]cons 9A, 10A, 11A and 12A.” *Id.* at ¶41, 32.

FIG.5B

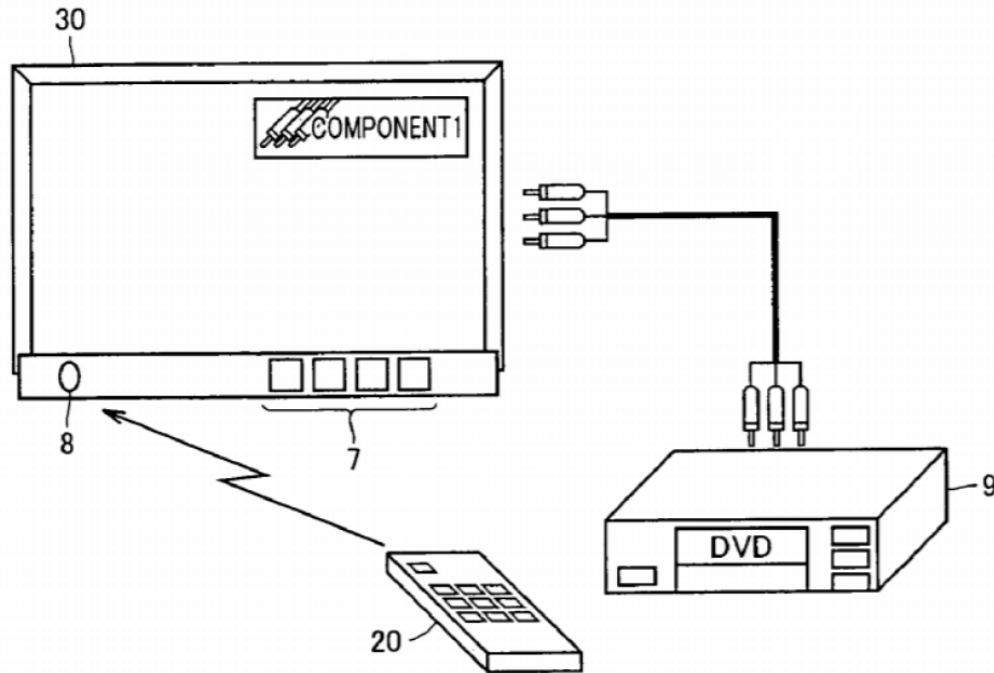


Ex. 1005 at FIG. 5B

Cursor CR selects the icon of the input name as the desired input source. *Id.* at ¶55.

Kinoshita emphasizes the benefits of presenting a terminal shape in the icon, namely using a picture, the user can easily recognize the input terminal and reliably connect to it. *Id.* at ¶60.

FIG. 6



Ex. 1005 at FIG. 6

Kinoshita further teaches that the display of icons may be different (i.e. color or tone) to indicate connection status of devices. *Id.* at ¶57. “By such different manner of display, the user can recognize only the actually connected AV devices as the candidates of input switching...” *Id.*

C. Young

Young discloses improving user convenience for selecting among a variety of signal sources by displaying in windows image contents and the status of the signal sources. Ex. 1006 at Abstract, ¶3. Young shows a TV with input terminals displayed in the windows to identify sources such as Analog TV, Digital TV, Component 1, ... *Id.* at ¶¶6, 16.

FIG. 2 is an exemplary display.

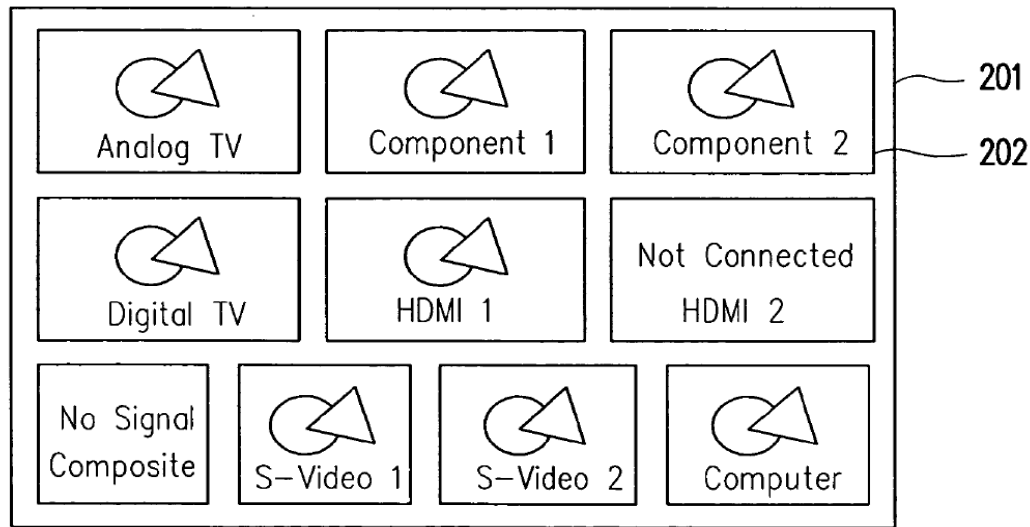


FIG. 2

Id. at FIG. 2

Figure 2 shows a menu 201 having 10 windows 202 for displaying and selecting ten signal sources is displayed as an on-screen display (OSD). *Id.* at ¶16. For an unconnected device, Young presents a blank image content (with the text “Not Connected”) labeled with the interface name, such as HDMI2. *Id.* at ¶17.

Young's process is illustrated in FIG. 3, below:

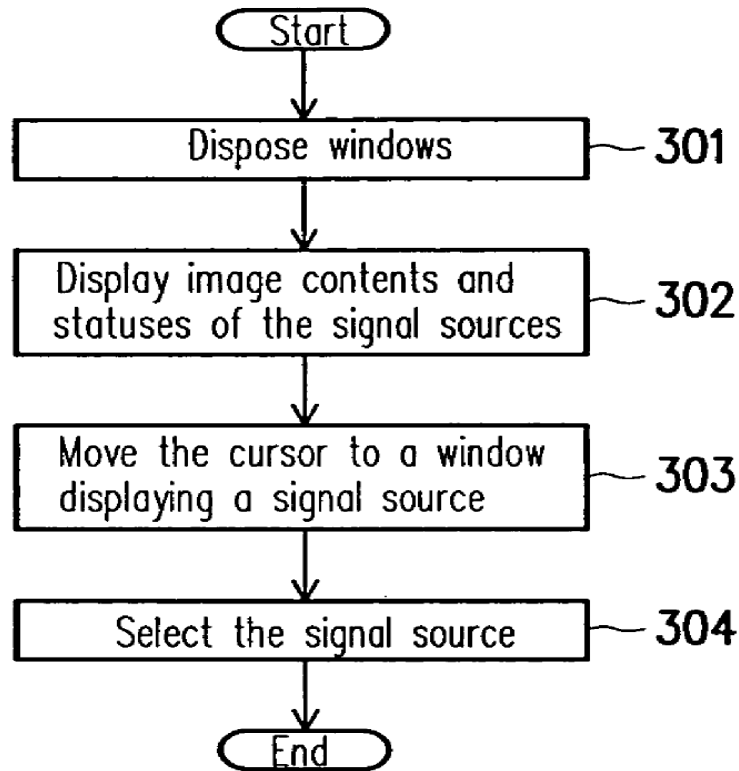


FIG. 3

Id. at FIG. 3

D. Brown

Brown discloses “[a] television system that provides an on screen display menu system that allows a user to select from available input source[s] using a graphical user interface.” Ex. 1007 at Abstract. The input sources include examples such as VCR, DVD, cable, etc. *Id.* at ¶3. FIG. 1 shows a variety of devices connected to the television system using connections 111A-D. *Id.* at ¶28.

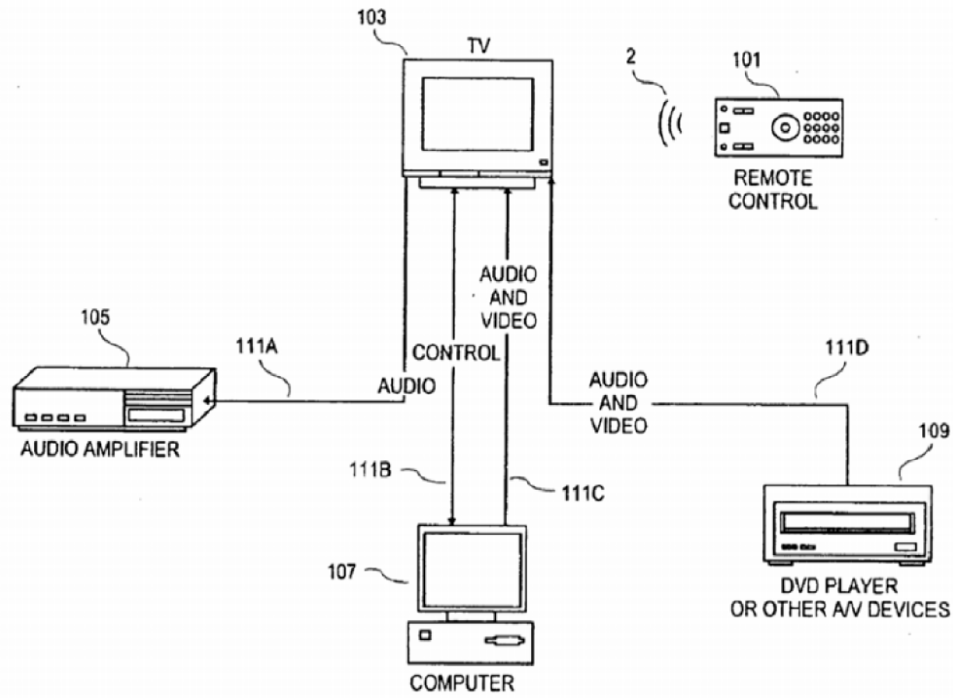


FIG. 1

Id. at FIG. 1

Functional components of Brown's television system are illustrated in FIG.

8.

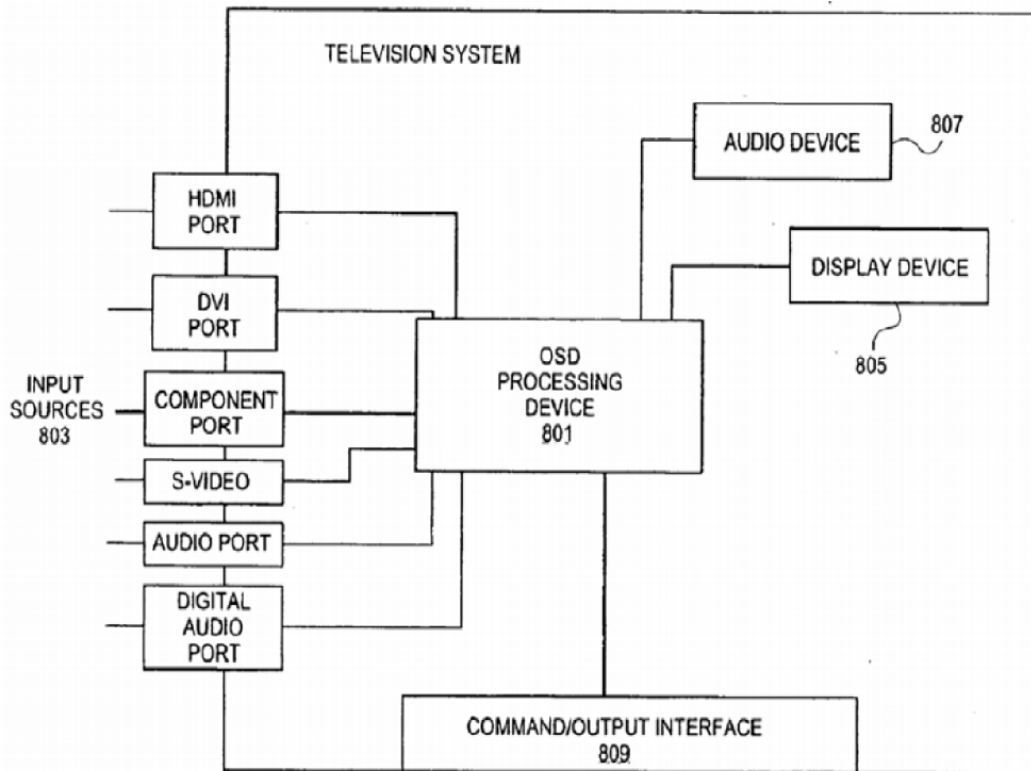


FIG. 8

Id. at FIG. 8

“The television system can utilize any number of input sources within the user interface (e.g., the OSD) to display the input sources to the user to assist in the decision making process of the user.” *Id.* at ¶¶30, 41.

Brown describes ways to display navigation options such as simple icons with labels or graphical icons that represent the input devices: *Id.* at ¶41. The navigation options may also be displayed “as text labels or as text labels combined with icons.” *Id.* at ¶43.

As shown below, Brown discloses that the selection of an icon causes the display of a preview image from the external device. *Id.* at ¶¶57-59 & FIG. 6A.

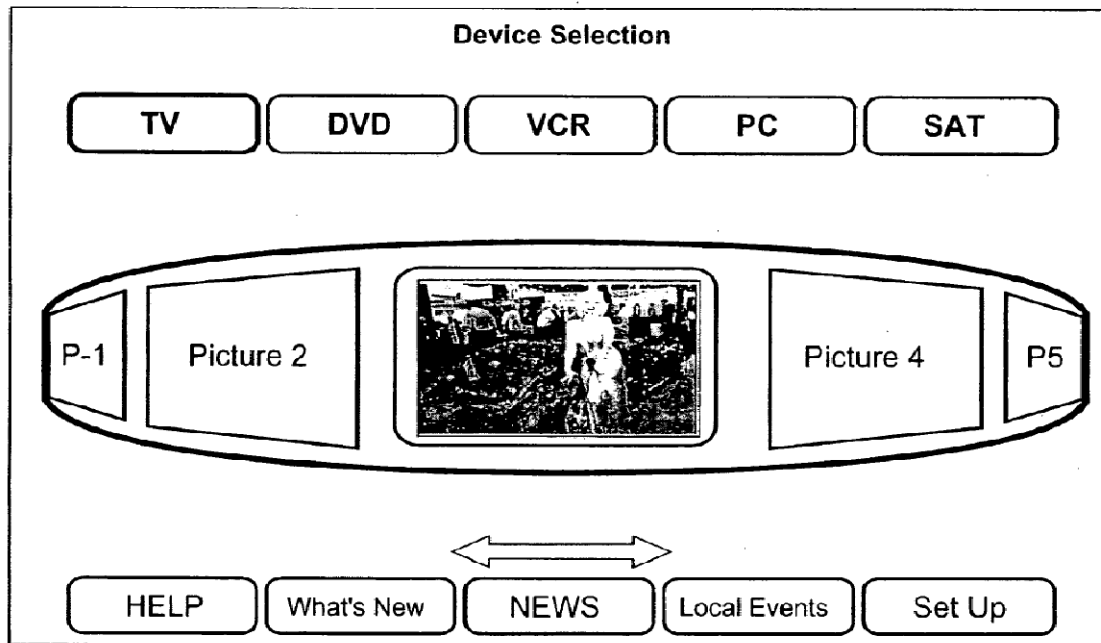


FIG. 6A

Id. at FIG. 6A

“As each icon is selected, the corresponding input source video and audio are displayed and output to allow a user to confirm that the desired content has been selected.” Ex. 1007 at ¶59.

VII. DETAILED GROUNDS OF UNPATENTABILITY

Below is an explanation of each proposed ground of unpatentability in accordance with 37 C.F.R. § 42.104(b) as well as an identification of the specific

portions of the evidence that support each ground in accordance with 37 C.F.R. § 42.104(c).

Claims 1-21 are obvious over combinations of Nobori, Kinoshita, and Brown as explained below.

A. Ground 1: Claims 1-7, 9, 11-18, and 21 of the '311 Patent Would Have Been Obvious in View of the Combination of Nobori and Kinoshita

1. Independent Claim 1

a. [1.P]: “An image display device comprising:”

To the extent the preamble is limiting, it is disclosed in Nobori. Nobori discloses a video projector to display image information inputted to the projector on a screen 100. Ex. 1004 at ¶¶5, 43. The projector also includes an LCD display 123 for displaying image information. *Id.* at Abstract, ¶25 and FIG. 1; Ex. 1003 at ¶119.

b. [1.1]: “a display;”

Nobori discloses LCD display 123 in FIG. 1. Ex. 1004 at ¶28; Ex. 1003 at ¶120.

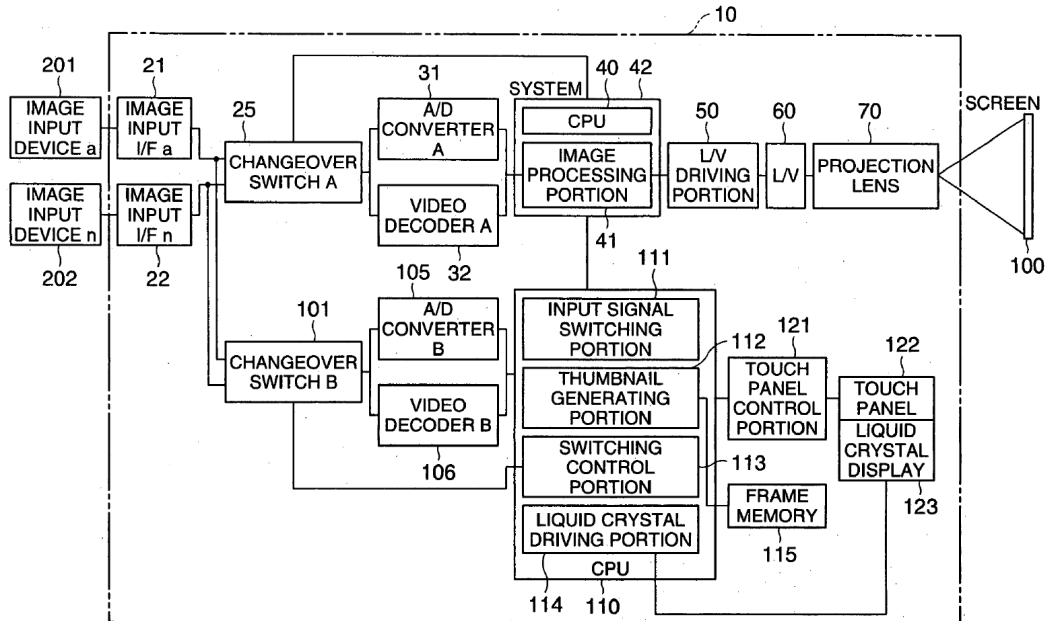


FIG. 1

Ex. 1004 at FIG. 1

- c. [1.2]: “a first external interface configured to receive a first image signal input from a first external device connected to the image display device;”

Nobori discloses this limitation. Ex. 1003 at ¶121. In FIG. 1 above, the projector 10 includes an image input I/F 21 used as image input I/F into which image input signal from image input device 201, such as a personal computer, is inputted. Ex. 1004 at ¶¶25, 31.

Nobori teaches that the image input interface terminals (also referred to as image input I/Fs) include S-Video terminal, a 3RCA terminal, a D-Sub terminal, an HDMI (High-Definition Multimedia Interface) terminal. *Id.* at ¶6. Video image input devices include “a personal computer and a video player” that can be selected for display. *Id.* at ¶25. The '311 patent describes exemplary external interface units

as delivering examples such as images or sound. Ex. 1001, 8:3-26. Therefore, any of Nobori's image input I/Fs, such as the S-Video, 3RCA, D-Sub, and HDMI terminals, constitutes a first external interface configured to receive an image signal from a first external device connected to the image display device. Ex. 1003 at ¶122.

- d. [1.3]: “a second external interface configured to receive a second image signal input from a second external device connected to the image display device; and”

Nobori discloses image input I/Fs for connecting multiple external devices. Ex. 1003 at ¶123. Any image input I/Fs other than the one selected as the first external interface constitutes a second external interface that satisfies this limitation for the same reasons addressed above for limitation 1.2. Ex. 1004, ¶¶5, 6, 25, 31; Ex. 1003 at ¶123.

As shown in FIG. 1, projector 10 includes an image input I/F 22 used as image input I/F into which image input signal from image input device 202, such as a video player, is inputted. Ex. 1004 at ¶¶25, 31.

- e. [1.4]: “a controller coupled with the display, the first external interface and the second external interface, the controller configured to:”

Nobori discloses a controller coupled to the display and to the two external interfaces. Ex. 1003 at ¶125. In FIG. 1, above, a system CPU 40 controls the overall system of the projector 10 and a CPU 110 is connected to each of image

input I/Fs 21, 22 by the changeover switch B101 and to liquid crystal display device 123. Ex. 1004 at ¶¶26, 28-29, 35. Further, “operations are controlled by a program installed inside.” *Id.* at ¶26. Thus, system CPU 40 and/or CPU 110 is “a controller coupled with the display, the first external interface and the second external interface.” Ex. 1003 at ¶125.

- f. [1.5]: “display a plurality of external device icons, on the display, wherein the plurality of external device icons include a first external device icon and a second external device icon, wherein a first default image corresponding to the first external interface is displayed on the first external device icon and a second default image corresponding to the second external interface is displayed on the second external device icon, and”

Nobori discloses “displaying a plurality of external device icons, on the display, wherein the plurality of external device icons, [which Patent Owner has previously construed as including the display of only text (see, Section IV.D.1, *supra*)] include a first external device icon and a second external device icon.” Ex. 1003 at ¶126. Nobori teaches that the projector displays on the image input I/F display screen 300B “Video”, “S-Video”, “3RCA”, “D-Sub”, and “HDMI” representing the image input I/Fs. Ex. 1004 at ¶¶45, 48. Thus, Nobori teaches displaying a plurality of icons corresponding to external devices. *Id.* Because multiple external devices may be connected concurrently to the projector, Nobori teaches displaying a plurality of external device icons, which includes a first

external device icon and a second external device icon. Ex. 1004 at ¶31, FIGs. 1 & 2; Ex. 1003 at ¶126.

Nobori discloses an embodiment that displays icons (e.g., “Video”, “S-Video”, “3RCA”, “D-Sub”, and “HDMI”) on the image input I/F display screen 300B. *See* Ex. 1004 at ¶¶45, 48.

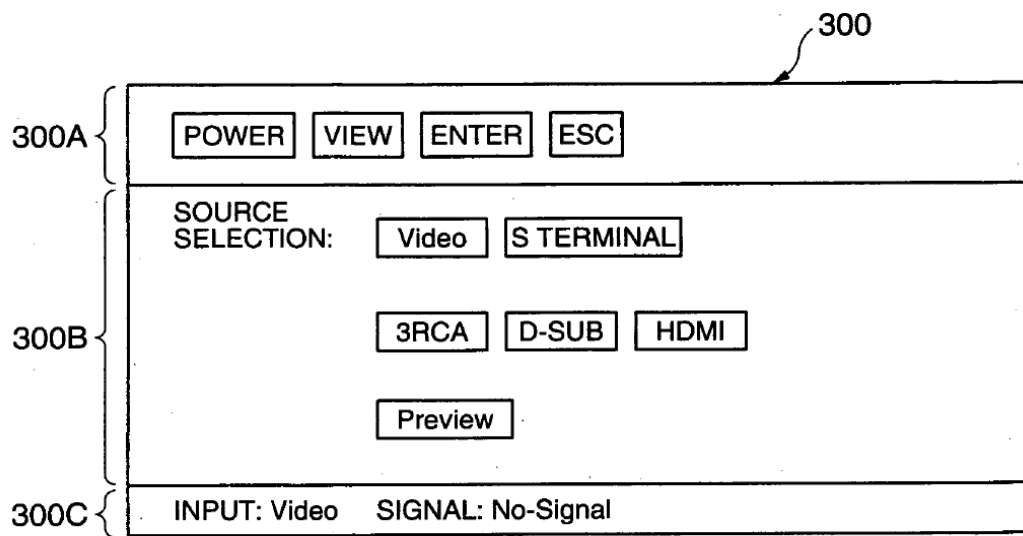


FIG. 2

Ex. 1004 at FIG. 2.

Kinoshita discloses square digital television terminal-shaped icons (Ex. 1005 at ¶¶ 41, 32) meeting the limitation “wherein a first default image corresponding to the first external interface is displayed on the first external device icon and a second default image corresponding to the second external interface is displayed on the second external device icon.” Ex. 1003 at ¶128.

FIG.2

51 INPUT TERMINAL	52 INPUT NAME	53 SHAPE OF TERMINAL	54 DISPLAY POSITION
I1	'COMPONENT'		(X1,Y1)
I2	'DVI'		(X2,Y2)
I3	'VIDEO1'		(X3,Y3)
I4	'VIDEO2'		(X4,Y4)
⋮	⋮	⋮	⋮

Ex. 1005 at Fig. 2.

A POSITA would have been motivated to modify Nobori to incorporate the square terminal-shaped icons taught in Kinoshita. Ex. 1003 at ¶132. Specifically, Kinoshita suggests displaying icons in the form of terminal images differentiating external devices. Ex. 1005 at ¶¶41, 60. Nobori teaches that icons may be used to represent image input I/Fs to which the image input devices are connected. Ex. 1004 at ¶41. For example, the terminal images of Kinoshita may be used as the icons representing various devices. Ex. 1003 at ¶133.

A POSITA would have been motivated to modify Nobori in view of Kinoshita. As discussed above, Kinoshita, like Nobori, provides an interface for selecting content from multiple video sources to improve user convenience. Ex. 1003 at ¶132. A POSITA would have recognized that Kinoshita's teachings could further improve user convenience. *Id.* Kinoshita is especially concerned with difficulties that arise when multiple external devices are connected via different

terminals. *Id.* Kinoshita recognizes that a user may not recognize terminal names. Ex. 1005 at ¶4. Kinoshita addresses this problem by providing images that “show shapes of the input terminals” on the icons provided to a user for input selection. *Id.*

Since Nobori’s projector receives inputs from multiple external devices, the problem recognized in Kinoshita would also affect users of Nobori’s projector. Ex. 1003 at ¶133. It would have been obvious to combine the terminal images of Kinoshita with Nobori’s image input I/Fs icons to provide image input I/Fs icons that display an image corresponding to the terminal in a manner similar to Kinoshita's terminal icons 9A, 10A, 11A and 12A. *Id.* This would provide a user of Nobori’s projector the additional convenience of identifying more easily the appropriate input terminal for use with a particular external device. *Id.*

A POSITA would have had a reasonable expectation of success in making this combination because it would amount to no more than the combination of known elements to yield predictable results. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 415-16 (2007); Ex. 1003 at ¶134. Nobori discloses using icons to represent image input I/Fs for connected image input devices. A POSITA would have been readily able to modify these icons to show images of terminal shapes using known techniques, and expect success. *Id.*

- g. [1.6]: “change the first default image to a first image based on the first image signal in response to the first external device icon being selected if the first external device is connected to the image display device, and”

Nobori discloses this limitation. Ex. 1003 at ¶135. As shown in FIG. 3 below, Nobori discloses an embodiment that displays the thumbnail image in the region within the image input I/F display screen 300B in which the icons (e.g., “Video”, “S-Video”, “3RCA”, “D-Sub”, and “HDMI”) are displayed in response to the first external device icon being selected. Ex. 1004 at ¶¶49-53 & FIG. 3.

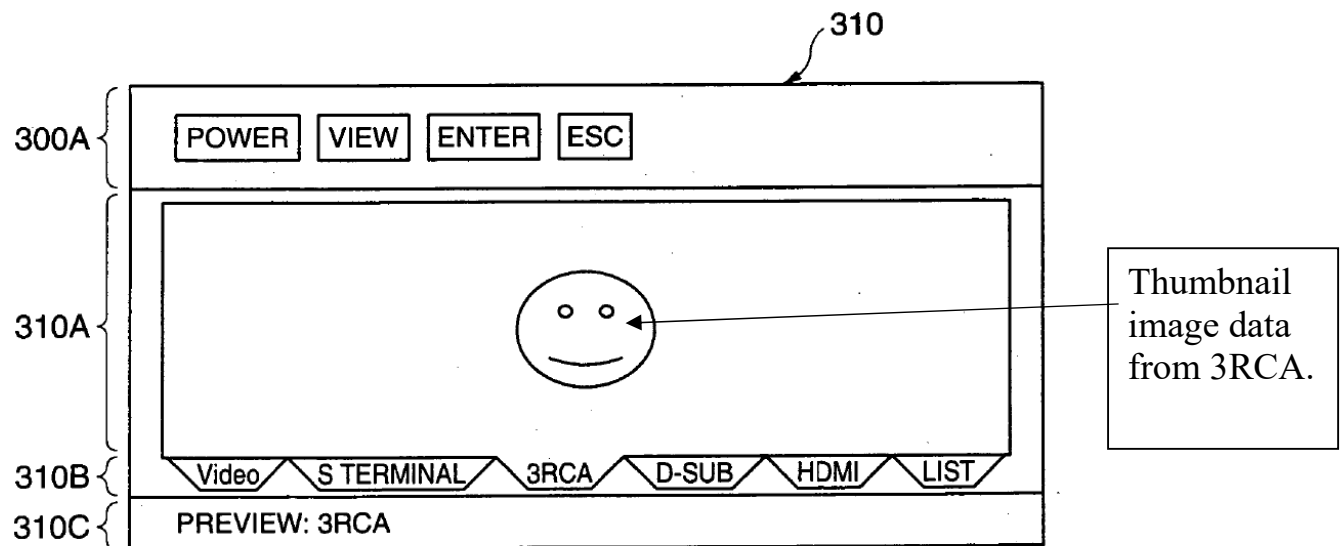


FIG. 3

Ex. 1004 at FIG. 3 (annotated).

Nobori teaches that when an icon is selected by the user through a touch panel display, a preview of the content from the associated input source is displayed on the screen of a touch panel display. Ex. 1004 at ¶49; Ex. 1003 at

¶136. Nobori explains that “when one desired image input I/F (here, 3RCA terminal) is selected from the plural image input I/Fs, ... image information 310A of the selected image input I/F (3RCA) is displayed in the [form] of a thumbnail in the region within the image input I/F display screen 300B.” Ex. 1004 at ¶¶49, 52. As shown in FIG. 3 the selected icon “3RCA” is changed to be displayed in a manner different from the unselected icons. Ex. 1003 at ¶136. By displaying “3RCA” in the form of a tab hollow on the inverse background, it is possible to judge which of the image input I/Fs in the tab display column is currently selected.” *Id.* As discussed previously, by combining Nobori with Kinoshita, the “Video,” “S Terminal,” “D-Sub,” and “HDMI” icons would be a square shaped external device icon with a default image of the source displayed thereon instead of the inverted trapezoid tab shown in figure 3. *Id.*

In FIG. 3 the preview image is displayed in the form of a thumbnail in the region within the image input I/F display screen 300B. *Id.* at ¶49, FIG. 3. In this figure, the thumbnail image is a “first image based on the first image signal in response to the first external device icon being selected.” Ex. 1003 at ¶137; Ex. 1004 at ¶66. The thumbnail image [in FIG. 3] is displayed in the region within the image input I/F display screen 300B, when the image input I/F [3RCA in FIG. 3] is selected. *Id.* That is, the thumbnail image is input from an external device and displayed when the user selects an image input I/F from the array of image input

I/F icons, such as the “Video”, “S-Video”, “3RCA”, “D-Sub”, and “HDMI”, etc.

Id.

The preview image is only displayed if the external device is connected to the projector because otherwise no signal is available to display and “No-Signal” is displayed. Ex. 1003 at ¶138; Ex. 1004 at ¶56.

- h. [1.7]: “change the first image to the first default image in response to the second external device icon being selected,”

Nobori discloses this limitation. Ex. 1003 at ¶139. As shown in FIG. 3 above, Nobori explains that “[b]y displaying ‘3RCA’ in the form of a tab hollow on the inverse background [a modified icon], it is possible to judge which of the image input I/Fs in the tab display column is currently selected.” Ex. 1004 at ¶52.

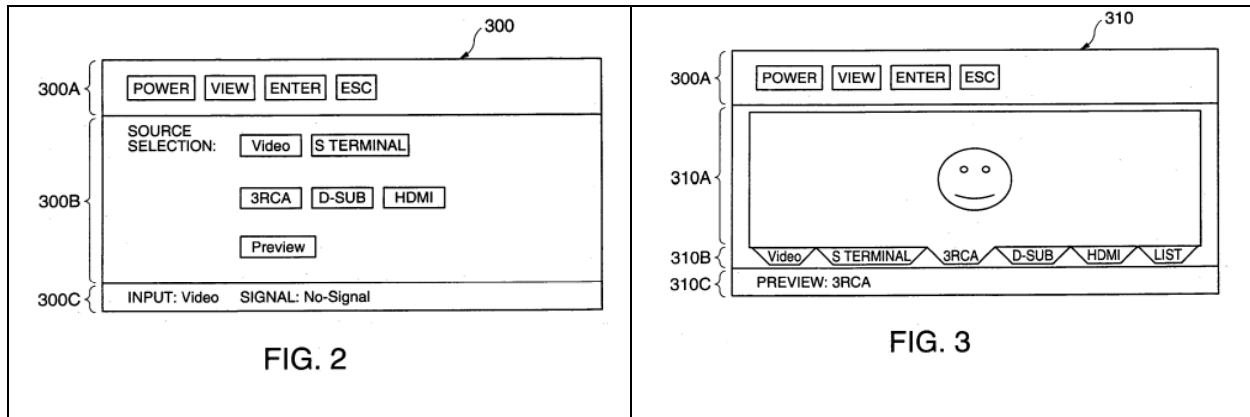
Nobori teaches that “[w]hen an image input I/F other than ‘3RCA’ ... is selected, a desired image input I/F is selected by selecting a tab for the desired image to be displayed.” *Id.* at ¶54. Thus, Nobori teaches changing the first image to the first default image in response to the second image input I/F icon being selected. Ex. 1003 at ¶140. Because the icon currently selected (e.g., in the form of a tab hollow on an inverse background) and unselected icons (e.g., in the form of a closed tab) are displayed differently, Nobori teaches displaying the first default image (i.e., the image input I/F icon) when the second image input I/F icon is selected. Ex. 1004 at ¶¶52, 54, FIG. 3; Ex. 1003 at ¶140. Specifically, the

combination of Noburi and Kinoshita teaches, changing the first image in the tab hollow back to the first default image with the 3RCA picture in the external device icon. Ex. 1003 at ¶140. This first default image is now located at the bottom of 310B portion of Figure 3. *Id.* Notably, the Asserted Claims contain no limitations regarding where the first external device icon and first default image are located after the first image is displayed. *Id.* Therefore, it is entirely appropriate that the first external device icon is displayed in the bottom of 310B instead of the middle of the screen. *Id.*

- i. [1.8]: “wherein the first image is displayed at a position corresponding to an area where the first external device icon is displayed.”

Nobori discloses this limitation. Ex. 1003 at ¶141. Referring again to FIGs. 2 and 3 juxtaposed below, Nobori describes that on the image input I/F display screen 300B shown in the middle of the display screen 300 are displayed: “Video”, “S-Video”, “3RCA”, “D-Sub”, and “HDMI” representing the image input I/Fs to which the image input devices are connected. Ex. 1004 at ¶¶45, 48.

FIG. 2	FIG. 3
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Ex. 1004 at Figs 2 and 3.

Further, Nobori teaches that “image information 310A of the selected image input I/F (3RCA) is displayed in the [form] of a thumbnail in the region within the image input I/F display screen 300B.” *Id.* at ¶49, FIG. 3. Thus, Nobori teaches displaying the first image (i.e., the thumbnail image) at a position corresponding to an area where the first external device icon (i.e., the image input I/F icon) is displayed. Ex. 1003 at ¶142. Because the thumbnail image is displayed in the region within the image input I/F display screen 300B in which the image input I/F icon is displayed, Nobori teaches displaying the first image at a position corresponding to an area where the first external device icon is displayed. Ex. 1004 at ¶¶48-49; Ex. 1003 at ¶142.

2. Claim 2: “The image display device according to claim 1, wherein the controller is further configured to: highlight the first external device icon in response to the first external device icon being selected, and highlight the second external device icon in response to the second external device icon being selected.”

Nobori discloses this limitation. Ex. 1003 at ¶143. In particular, Nobori discloses that the image input I/F icon can be highlighted (i.e., displayed differently than how the other icons are displayed) as the user changes the selection from one image input I/F icon to another. Ex. 1004 at ¶¶52, 54. Nobori also discloses that this can be accomplished in the form of a tab hollow on the inverse background of, for example, the 3RCA icon in FIG. 3. *Id.*

3. Claim 3: “The image display device according to claim 1, wherein the first image displayed on the display is simultaneously displayed with the plurality of external device icons while the first external device icon is selected.”

Nobori discloses this limitation in connection with Nobori's FIG. 3 discussed above with respect to limitation 1.6. Ex. 1003 at ¶144. In particular, the thumbnail image is displayed simultaneously with the display of the icons for the other image input I/Fs (Video, S-Video, D-Sub, HDMI). Ex1004 at ¶¶49, 52, FIG. 3; Ex. 1003 at ¶144.

4. Claim 4: “The image display device according to claim 1, wherein the first and second external device icons are selectable via a cursor positioned on the first and second external device icons, respectively.”

Kinoshita discloses this limitation. Ex. 1003 at ¶139. For example, Kinoshita teaches that the user positions the cursor CR to the icon and selects this icon using a remote control. Ex. 1005 at ¶55, FIG. 5B; Ex. 1003 at ¶139. Thus, the combination of Nobori modified in view of Kinoshita discloses that the first and second external device icons are selectable via a cursor positioned on the first and second external device icons, respectively. Ex. 1003 at ¶145.

5. Claim 5: “The image display device according to claim 4, wherein the cursor is controlled by a remote controller interfacing with the image display device.”

The combination of Nobori with Kinoshita discloses this limitation. Ex. 1003 at ¶146. For example, Kinoshita teaches that the user positions the cursor CR to the icon, such as the representation of the terminal, of the desired input source, and selects this icon using a remote control. Ex. 1005 at ¶55, FIG. 5B; Ex. 1003 at ¶146. Thus, modification of Nobori in view of Kinoshita discloses that the cursor is controlled by a remote controller interfacing with the image display device. *Id.*

6. Claim 6: “The image display device according to claim 1, wherein the controller is further configured to display a symbol representing that the first external device or the second external device is being connected to the display device on the first external device icon or the second external device icon.”

Nobori modified in view of Kinoshita renders this limitation obvious. Ex. 1003 at ¶147. Nobori discloses making it more convenient for a user to understand “into which image input I/F an image signal is inputted ... by displaying ... ‘No-Signal’ for the image input I/F that is not connected, or into which no image signal is inputted.” Ex. 1004 at ¶17.

FIG. 2 shows a state where the video terminal is currently selected, and “No-Signal” is displayed for the video signal, indicating that no video signal is being inputted. *Id.* at ¶¶45, 56 & FIG. 4. By doing this, input I/Fs connected to external devices are inherently identified because a user would have understood that an icon displayed without the designation “No-Signal” would be connected because the presence of a signal had been detected from input I/F. Ex. 1003 at ¶148.

Moreover, Kinoshita discloses identifying devices that are connected to the display device so that the user can easily understand which devices are available to provide video content for display on the display device. Specifically, Kinoshita discloses that “the display color of icons may be made different, or the tone of display color may be made different.” From Kinoshita, POSITA would readily color the icon representing the first external device green if it is connected and the

icon representing the second external device red if it is not connected to provide noticeable symbols “indicating first external device or the second external device is being connected to the display device.” The use of colored symbols as taught by Kinoshita would have assisted a user to recognize which AV devices are connected and thereby are candidates for connection to make the operation of input switching is facilitated.” Ex. 1005 at ¶57, Ex. 1003 at 150.

Thus, this claim is obvious in view of Nobori modified in accordance with Kinoshita to change the color of an icon associated with a specific external device to indicate that the external device is connected or disconnected. Ex. 1003 at ¶¶151-152. For the reasons discussed above in §VII.A.1.f it would have been obvious for a POSITA to modify Nobori in view of Kinoshita.

7. Claim 7: “The image display device according to claim 1, wherein the controller is further configured to: change the second default image to a second image signal in response to the second external device icon being selected if the second external device is connected to the image display device.”

Nobori discloses this limitation for the reasons discussed above with respect to limitations 1.6 and 1.7. In particular, Nobori teaches that when the user selects an image input I/F icon other than 3RCA, the input to the display changes to a thumbnail of the input from the second external device and the icon corresponding to the second I/F changes to the tab hollow format. Ex. 1004 at ¶54; Ex. 1003 at ¶153.

8. Claim 9: “The image display device according to claim 1, wherein the first default image is an image identifying the first external interface and the second default image is an image identifying the second external interface.”

Nobori in combination with Kinoshita discloses this limitation. Ex. 1003 at ¶161. Specifically, the combination of Nobori with Kinoshita results in icons that include images of the terminal shapes of the inputs to the video device. *Id.*

Kinoshita teaches displaying icons including images of terminal shapes Ex. 1005 at Abstract. Thus, the images of terminal shapes identify their respective interfaces. *Id.* Accordingly, the first and second default images identify the first and second external interfaces, respectively. *Id.*

9. Claim 11: “The image display device according to claim 1, wherein the controller is further configured to display the first default image although the first external device icon is selected if the first external device is not connected to the image display device.”

Nobori discloses this limitation. Ex. 1003 at ¶163. Specifically, Nobori teaches continuing to display an image containing the interface name even when there is no external device connected. Ex. 1004 at ¶56, FIG. 4.

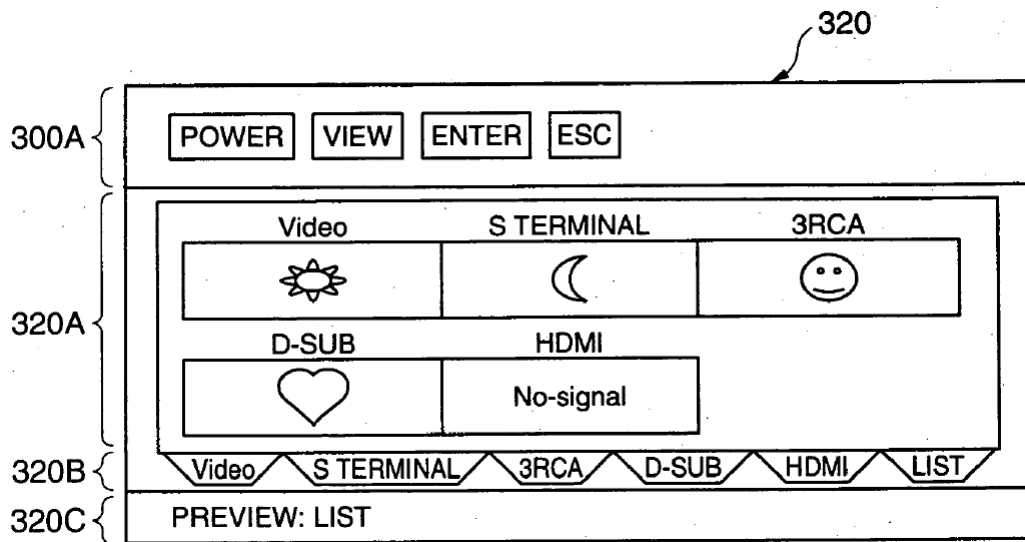


FIG. 4

Ex. 1004 at FIG. 4

Nobori teaches that “[f]or an image input I/F to which the image input device is not connected or an image input I/F into which an image input signal is not inputted, ‘No-Signal’ is displayed. FIG. 4 shows a state where no image input signal is inputted into the “HDMI” terminal.” *Id.* at ¶56. Thus, Nobori teaches displaying the first default image although the first external device icon is selected if the first external device is not connected to the image display device. Ex. 1003 at ¶164.

10. Independent Claim 12

- a. [12.P]: “A method of an image display device, the method comprising:”

This is a method version of apparatus limitation 1.P and is disclosed for the reasons discussed for limitation 1.P. Ex. 1003 at ¶165.

- b. [12.1]: “receiving, by a first external interface, a first image signal input from a first external device connected to the image display device;”

This is a method version of apparatus limitation 1.2 and is disclosed for the reasons discussed for limitation 1.2. Ex. 1003 at ¶166.

- c. [12.2]: “receiving, by a second external interface, a second image signal input from a second external device connected to the image display device;”

This is a method version of apparatus limitation 1.3 and is disclosed for the reasons discussed for limitation 1.3. Ex. 1003 at ¶167.

- d. [12.3]: “displaying a plurality of external device icons, on a display, wherein the plurality of external device icons include a first external device icon and a second external device icon, wherein a first default image corresponding to the first external interface is displayed on the first external device icon and a second default image corresponding to the second external interface is displayed on the second external device icon;”

This is a method version of apparatus limitation 1.4 and 1.5 and is rendered obvious for the reasons discussed for limitation 1.4 and 1.5. Ex. 1003 at ¶168.

- e. [12.4]: “changing the first default image to a first image based on the first image signal in response to the first external device icon being selected if the first external device is connected to the image display device; and”

This is a method version of apparatus limitation 1.6 and is disclosed for the reasons discussed above for limitation 1.6. Ex. 1003 at ¶169.

- f. [12.5]: “changing the first image to the first default image in response to the second external device icon being selected,”

This is a method version of apparatus limitation 1.7 and is disclosed for the reasons discussed above for limitation 1.7. Ex. 1003 at ¶170.

- g. [12.6]: “wherein the first image is displayed at a position corresponding to an area where the first external device icon is displayed”

This is a method version of apparatus limitation 1.8 and is disclosed for the reasons discussed above for limitation 1.8. Ex. 1003 at ¶171.

- 11. Claim 13: “The method according to claim 12, further comprising: highlighting the first external device icon in response to the first external device icon being selected; and highlighting the second external device icon in response to the second external device icon being selected.”

This is a method version of apparatus claim 2 and is rendered obvious for the reasons discussed for claim 2. Ex. 1003 at ¶172.

12. Claim 14: “The method according to claim 12, wherein the first image displayed on the display is simultaneously displayed with the plurality of external device icons while the first external device icon is selected.”

This is a method version of apparatus claim 3 and is rendered obvious for the reasons discussed for claim 3. Ex. 1003 at ¶173.

13. Claim 15: “The method according to claim 12, wherein the first and second external device icons are selectable via a cursor positioned on the first and second external device icons, respectively.”

This is a method version of apparatus claim 4 and is rendered obvious for the reasons discussed for claim 4. Ex. 1003 at ¶174.

14. Claim 16: “The method according to claim 15, wherein the cursor is controlled by a remote controller interfacing with the image display device.”

This is a method version of apparatus claim 5 and is rendered obvious for the reasons discussed for claim 5. Ex. 1003 at ¶175.

15. Claim 17: “The method according to claim 12, further comprising: displaying a symbol representing that the first external device or the second external device is being connected to the display device on the first external device icon or the second external device icon.”

This is a method version of apparatus claim 6 and is rendered obvious for the reasons discussed for claim 6. Ex. 1003 at ¶176.

16. Claim 18

- a. [18.1]: “The method according to claim 12, further comprising: changing the second default image to a second image signal in response to the second external device icon being selected if the second external device is connected to the image display device,”

This limitation is a method version of apparatus claim 7 and is rendered obvious for the same reasons discussed for claim 7. Ex. 1003 at ¶177.

- b. [18.2]: “wherein the second image is displayed at a position corresponding to an area where the second external device icon is displayed.”

This limitation would have been obvious based on Nobori alone, or alternatively Nobori in view of Kinoshita. Ex. 1003 at ¶178. Nobori teaches that “image information 310A of the selected image input I/F (3RCA) is displayed in the [form] of a thumbnail in the region within the image input I/F display screen 300B.” Ex. 1004 at ¶49, FIG. 3. In particular, for the same reasons that the first image is displayed at a position corresponding to an area where the first image input I/F icon is displayed as discussed above for limitation 1.8, the second image is similarly displayed at a position corresponding to an area where the second image input I/F is displayed (i.e., the region within the image input I/F display screen 300B in which the image input I/F icon is displayed). *Id.*; Ex. 1003 at ¶178.

17. Claim 21: “The method according to claim 12, further comprising: displaying the first default image although first external device icon is selected if the first external device is not connected to the image display device.”

This is a method version of apparatus claim 11 and is rendered obvious for the reasons discussed for claim 11. Ex. 1003 at ¶181.

B. Ground 2: Claims 8, 10, 19 and 20 of the '311 Patent Would Have Been Obvious in View of Nobori Modified in View of Kinoshita and Brown

1. Claim 8: “The image display device according to claim 1, wherein the controller is further configured to: transmit a control command for controlling the first external device to the first external device, and display an execution result of the control command on the display.”

Nobori as modified in view of Kinoshita and further modified in view of Brown discloses this limitation. Ex. 1003 at ¶154-160.

Brown discloses that the system can transmit commands to control an attached PC, and display the results of those commands on the display. Ex. 1003 at ¶155. More specifically, “[i]n an example where personal computer control is initiated, the television is set to the personal computer input and the user watches personal computer-based content. *Id.* The user presses a personal computer related button, such as channel up. *Id.* The television system sends the command to the personal computer. *Id.* The personal computer responds to the remote control command.” Ex. 1007 at ¶80; see also ¶68-70, 74-75, 79. The effect of changing the channel for the personal computer content necessarily changes the content being

displayed on the display operating in PC mode such that “an execution result of the control command on [is displayed on] the display.” Ex. 1003 at ¶¶155-158. Moreover, a POSITA would have been motivated to modify Nobori in view of Kinoshita and Brown. Ex. 1003 at ¶159. The references are all directed to facilitating a user select the video content to be displayed by selecting icons shown on the display device. Kinoshita teaches using a remote control to select the icons and the video input for a display. *Id.* at ¶160. Brown teaches an icon-based system using a remote control to control the video output of a PC providing video content to a television and to control the operation of the television itself, including selection of video input. *Id.* A POSITA would have been motivated to adopt the remote of Brown to control both the content of the video output of a PC to a television (display) and the television itself to eliminate the necessity and inconvenience of requiring two remote controls. *Id.* This conventional adoption of conventional technology would have been easily within the skill of a POSITA and would have had a high expectation of success. *Id.* at ¶¶160.

2. Claim 10: “The image display device according to claim 1, wherein the changed first image is an image which is currently displayed on the first external device.”

Brown discloses this limitation. Ex. 1003 at ¶163. Specifically, Brown discloses displaying a preview image from a PC on the television screen. Ex. 1003 at ¶163; Ex. 1007 at ¶64, FIG. 6E. Brown’s FIG. 1 shows a desktop PC 107 with

its own display separate from the television system 103. Brown further discloses that when personal computer video input is selected as the video input to a television the user may also watch on the television system 103 the video content being displayed on the personal computer. Ex. 1007 at ¶80. The changed first image is displayed on both the PC and the television at the same time. *Id.* at ¶82. Accordingly, a POSITA would have understood that Nobori modified in view of Kinoshita and further modified in view of Brown would provide the ability to select as the first image, computer-based video input from a personal computer a preview image from a PC on the television screen. Ex. 1003 at ¶163. This meets the additional limitation of claim 10. *Id.* As discussed in the previous section, a POSITA would have been motivated to make this change.

3. Claim 19: “The method according to claim 12, further comprising: transmitting a control command for controlling the first external device to the first external device, and displaying an execution result of the control command on the display.”

This is a method version of apparatus claim 8 and is rendered obvious for the same reasons discussed for claim 8. Ex. 1003 at ¶180.

4. Claim 20: “The method according to claim 12, wherein the changed first image is an image which is currently displayed on the first external device.”

This is a method version of apparatus claim 10 and is rendered obvious for the reasons discussed above for claim 10. Ex. 1003 at ¶181.

C. Ground 3: Claims 1-6, 9, 11-16, 18, and 21 of the '311 Patent Would Have Been Obvious in View of Nobori Modified in View of Young

As discussed below, combinations of Nobori, Young, and Brown disclose all the limitations of claims 1-21.

1. Independent Claim 1

a. [1.P]: “An image display device comprising:”

This limitation is taught by Nobori for the reasons discussed above with respect to Ground 1, claim 1, limitation [1.P]. Ex. 1003 at ¶183.

b. [1.1]: “a display;”

This limitation is taught by Nobori for the reasons discussed above with respect to Ground 1, claim 1, limitation [1.1]. Ex. 1003 at ¶184.

c. [1.2]: “a first external interface configured to receive a first image signal input from a first external device connected to the image display device;”

This limitation is taught by Nobori for the reasons discussed above with respect to Ground 1, claim 1, limitation [1.2]. Ex. 1003 at ¶185.

d. [1.3]: “a second external interface configured to receive a second image signal input from a second external device connected to the image display device; and”

This limitation is taught by Nobori for the reasons discussed above with respect to Ground 1, claim 1, limitation [1.3]. Ex. 1003 at ¶186.

- e. [1.4]: “a controller coupled with the display, the first external interface and the second external interface, the controller configured to:”

This limitation is taught by Nobori for the reasons discussed above with respect to Ground 1, claim 1, limitation [1.4]. Ex. 1003 at ¶187.

- f. [1.5]: “display a plurality of external device icons, on the display, wherein the plurality of external device icons include a first external device icon and a second external device icon, wherein a first default image corresponding to the first external interface is displayed on the first external device icon and a second default image corresponding to the second external interface is displayed on the second external device icon, and”

As explained in Ground 1, claim 1, limitation [1.5], Nobori discloses “displaying a plurality of external device icons, on the display, wherein the plurality of external device icons include a first external device icon and a second external device icon.” Ex. 1004 at ¶¶31, 45, 48, FIGs. 1 & 2; Ex. 1003 at ¶188. It would have been obvious to a POSITA to modify Nobori to incorporate Young’s teachings of a digital television presenting windows for displaying image contents from signal sources and the names of the signal sources such that “a first default image corresponding to the first external interface is displayed on the first external device icon and a second default image corresponding to the second external interface is displayed on the second external device icon.” Ex. 1006 at ¶¶16-17; Ex. 1003 at ¶188.

FIG. 3 shows that the selection of an icon (image input I/F) causes the display of a preview image from the corresponding image input device. Ex. 1006 at ¶¶49-53 & FIG. 3.

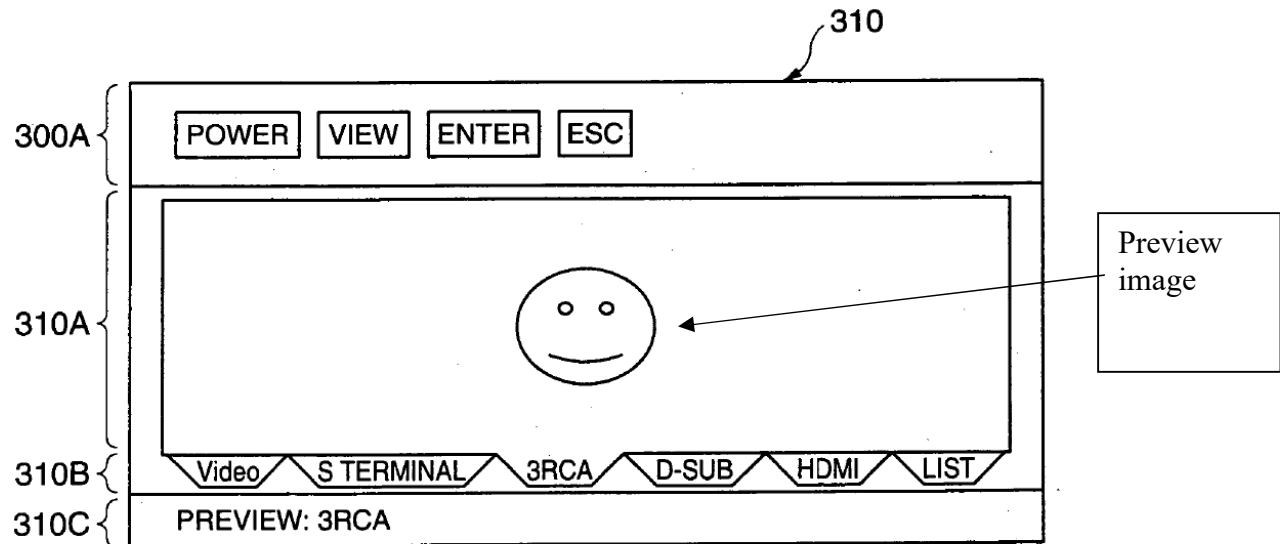


FIG. 3

Ex. 1004 at FIG. 3.

Nobori explains, “when one desired image input I/F (herein, 3RCA terminal) is selected from the plural image input I/Fs, ... image information 310A of the selected I/F (3RCA) is displayed in the [form] of a thumbnail in the region within the image input I/F display screen 300B.” *Id.* at ¶49.

FIG. 2 of Young is an exemplary display.

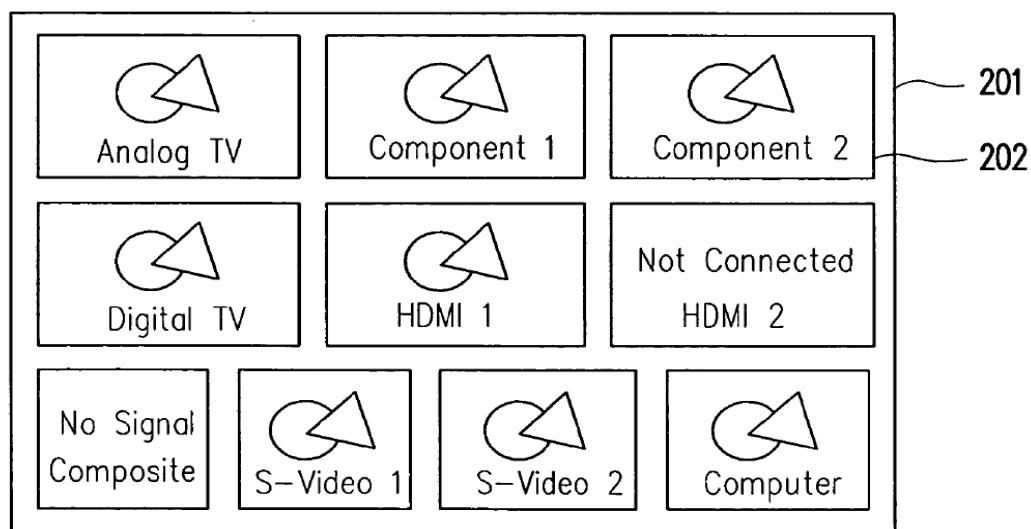


FIG. 2

Ex. 1006 at FIG. 2.

The menu 201 having ten windows 202 for selecting signal sources is displayed as an on-screen display (OSD) on the television along with the names of the signal sources. *Id.* at ¶16. “The image contents of the signal sources can be either instant extracted static images, namely snapshots, or real-time motion images.” *Id.* Further, for an unconnected device, Young presents a blank image content (with the text “Not Connected”) labeled with the interface name, such as HDMI2. *Id.* at ¶17; Ex. 1003 at ¶192.

Specifically, Young discloses displaying an image content for an external device. Ex. 1006 at ¶16. Nobori also teaches displaying image content in the form of a thumbnail for a device corresponding to a selected icon used to represent

image input I/Fs to which the image input devices are connected. Ex. 1004 at ¶41; Ex. 1003 at ¶193. Both Young and Nobori are icon-based user interfaces for selecting video inputs to a display device. Nobori discloses that a preview image of a selected video interface (I/F) is displayed to assist a user of the display to select a video input. Young demonstrates that the prior art contemplated the extension of Nobori, and Young further assists the user in selecting a desired video input by displaying on an input device icon a thumbnail of the video content for each of the selectable icons. It would have been obvious to replace the more limited use of preview images in Nobori with the expanded use of preview images in Young to further assist a user in deciding which video input to select. Ex. 1003 at ¶194.

A POSITA would have been motivated to combine Nobori with Young. Ex. 1003 at ¶¶195-199. As discussed above, Young, like Nobori, provides an improved interface for selecting content from multiple signal sources with the aim of improving user convenience. *Id.* A POSITA would have recognized that Young's teachings could further improve the degree of convenience to a user. *Id.* While both Nobori and Young provide improved interfaces, Young is especially concerned with difficulties that arise specifically when multiple external devices are connected via different input terminals. Ex. 1006 at ¶8; Ex. 1003 at ¶195-199. Nobori teaches receiving inputs from multiple external devices, while previewing

video from only one video input at a time, Young provides the solution for extending the benefit of image preview to all available video input sources.

A POSITA would have understood the value of Young's proposed solution and, with the application of conventional technology disclosed in Young, would have provided the user simultaneous video previews such that a user of Nobori's projector would select the appropriate input terminal for use with a particular external device. Ex. 1003 at ¶¶195-199. The adoption of Young's improvement into the Nobori projector would have been within the ability of a POSITA and yielded predictable results. *Id.* Moreover, a POSITA would have had a reasonable expectation of success in making this combination because it would amount to no more than the combination of known elements to yield predictable results. *Id.*; *KSR*, 550 U.S. at 415-16 (2007). Nobori discloses the benefit to a user of the projector of using video preview a selected image input I/F. Young demonstrates the usefulness of simultaneously showing previews from multiple video sources (I/Fs). A POSITA would have been readily able to modify these icons to show image contents of the input terminals using known techniques, and expect success. Ex. 1003 at ¶¶195-199.

- g. [1.6]: “change the first default image to a first image based on the first image signal in response to the first external device icon being selected if the first external device is connected to the image display device, and;”

This limitation is taught by Nobori for the reasons discussed above with respect to Ground 1, claim 1, limitation [1.6]. Ex. 1003 at ¶200.

- h. [1.7]: “change the first image to the first default image in response to the second external device icon being selected”

This limitation is taught by Nobori for the reasons discussed above with respect to Ground 1, claim 1, limitation [1.7]. Ex. 1003 at ¶201.

- i. [1.8]: “wherein the first image is displayed at a position corresponding to an area where the first external device icon is displayed.”

This limitation is taught by Nobori for the reasons discussed above with respect to Ground 1, claim 1, limitation [1.8]. Ex. 1003 at ¶202.

For the foregoing reasons, Claim 1 is obvious over the combination of Nobori modified in view of Young. Ex. 1003 at ¶203.

2. Claim 2: “The image display device according to claim 1, wherein the controller is further configured to: highlight the first external device icon in response to the first external device icon being selected, and highlight the second external device icon in response to the second external device icon being selected.”

Nobori discloses this limitation for the reasons discussed in Ground 1, claim

2. Therefore, Nobori in combination with Young also renders claim 2 obvious. Ex. 1003 at ¶204.

3. Claim 3: “The image display device according to claim 1, wherein the first image displayed on the display is simultaneously displayed with the plurality of external device icons while the first external device icon is selected.”

Nobori discloses this limitation for the reasons discussed in Ground 1, claim

3. Therefore, Nobori in combination with Young also renders claim 3 obvious. Ex. 1003 at ¶205.

4. Claim 4: “The image display device according to claim 1, wherein the first and second external device icons are selectable via a cursor positioned on the first and second external device icons, respectively.”

The combination of Nobori modified in view of Young discloses this limitation. Ex. 1003 at ¶206. For example, Young teaches that “[t]he users have several ways for selecting signal sources, such as ... selecting by moving a cursor.” Ex. 1006 at ¶18. Thus, the combination of Nobori and Young discloses that the first and second external device icons are selectable via a cursor positioned on the first and second external device icons, respectively. Ex. 1003 at ¶206. As

explained above in §VII.C.1.f a POSITA would have been motivated to make this combination.

5. Claim 5: “The image display device according to claim 4, wherein the cursor is controlled by a remote controller interfacing with the image display device.”

Nobori modified in view Young renders this limitation obvious. Ex. 1003 at ¶207. Young teaches that selecting signal sources can be applied on either the display apparatus or a remote control. A moving mode of the cursor for selecting signal sources is not limited. It can be a one-dimensional right-and-left moving or a two-dimensional up-and-down and right-and-left moving. Ex. 1006 at ¶18; Ex. 1003 at ¶202. Thus, the combination of Nobori and Young discloses that the cursor is controlled by a remote controller interfacing with the image display device. Ex. 1003 at ¶207. As explained above in §VII.C.1.f a POSITA would have been motivated to make this combination.

6. Claim 7: “The image display device according to claim 1, wherein the controller is further configured to: change the second default image to a second image signal in response to the second external device icon being selected if the second external device is connected to the image display device.”

Nobori discloses this limitation for the reasons discussed in Ground 1, claim 7. Ex. 1003 at ¶214.

FIG. 5 of Nobori shows that a user can change the selection of I/F. This would be done by the user touching an icon associated with a different I/F. FIG. 5 shows in steps ST 20 and ST 21 the results of such a change in the selection of I/F.

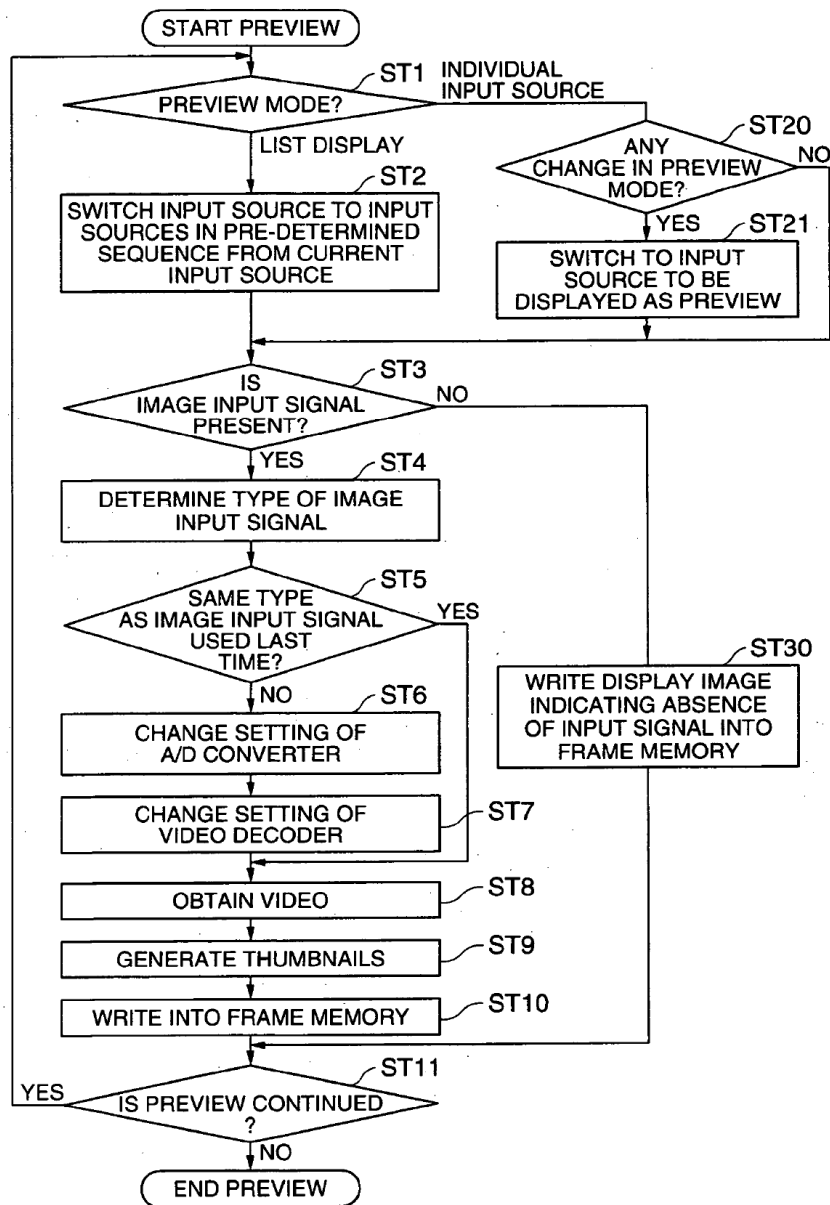


FIG. 5

Ex. 1004 at FIG. 5.

Nobori discloses in the presence of a change in selection, the display is switched to the image input I/F (input source) on the preview screen 310 in response to the touch operation on the touch panel 122 (ST21), for example when “3RCA” is selected. Ex. 1004 FIG. 3; ¶61.

In this manner, Nobori teaches the ability to select a different icon to select different input image signal from the one being displayed. Ex. 1003 at ¶216. When the user selects a different icon its default image will be changed to its corresponding input image signal. *Id.* If the different image input is not connected it will not be able to provide an input image signal so none can be displayed. *Id.* Thus, Nobori renders obvious the subject matter of claim 7. *Id.*

7. Claim 9: “The image display device according to claim 1, wherein the first default image is an image identifying the first external interface and the second default image is an image identifying the second external interface.”

Nobori in view of Young discloses this limitation. Specifically, the combination of Nobori with Young results in icons that include images and names of input terminals. Ex. 1003 at ¶219. Young teaches that displaying icons including image contents of signal sources and names of the signal sources identifying which device supplying the video signal is connected. Ex. 1006 at ¶16. For example, Young describes display inputs inputting images in the form of instant extracted static images, namely snapshots, or real-time motion images. *Id.* Thus, the image contents of the signal sources identify their respective input interfaces. Ex. 1003 at ¶219. Accordingly, the first and second default images identify the first and second external interfaces, respectively. *Id.* Nobori modified

in view of Young renders claim 9 obvious. *Id.* . As explained above in §VII.C.1.f a POSITA would have been motivated to make this combination.

8. Claim 11: “The image display device according to claim 1, wherein the controller is further configured to display the first default image although the first external device icon is selected if the first external device is not connected to the image display device.”

As discussed in Ground 1, claim 11, this limitation would have been obvious based on Nobori. Alternatively, Nobori in combination with Young discloses this limitation. Ex. 1003 at ¶221. A POSITA would have been motivated to combine Young’s image and text identifying interfaces with Nobori’s text representing image input I/Fs. Young further teaches continuing to display an image containing the interface name even when there is no external device connected, i.e., identifying HDMI (HDMI 2) as Not Connected or No Signal. Ex. 1006 at ¶¶11, 16-17, FIG. 2.

FIG. 2 shows a menu having windows for selecting signal sources of a display apparatus:

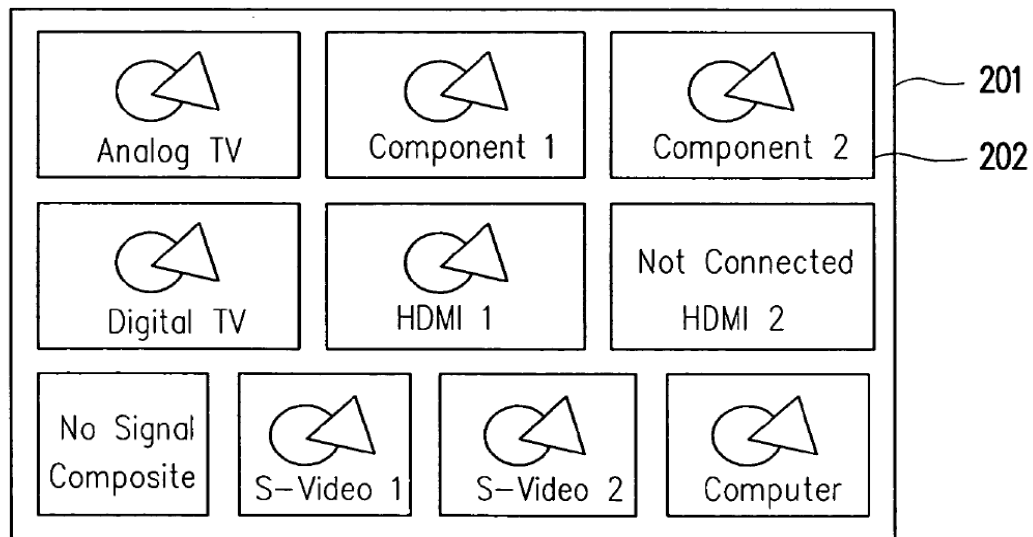


FIG. 2

Ex. 1006 at FIG. 2.

Accordingly, the combination of Nobori and Young satisfies this limitation because the external device icon would continue to display the default image even if the selected device is not connected. Ex. 1003 at ¶¶221-223. A POSITA would have been motivated to incorporate this teaching from Young into Nobori for the same reasons discussed above for Ground 2, limitation 1.5 and for Ground 1, claim 11. *Id.*

9. Independent Claim 12

- a. [12.P]: “A method of an image display device, the method comprising:”

This is a method version of apparatus limitation addressed in Ground 2, claim 1, limitation 1.P, and is taught by the prior art for the reasons discussed for that limitation. Ex. 1003 at ¶224.

- b. [12.1]: “receiving, by a first external interface, a first image signal input from a first external device connected to the image display device;”

This a method version of apparatus limitation addressed in Ground 2, claim 1, limitation 1.2, and is taught by the prior art for the reasons discussed for that limitation. Ex. 1003 at ¶225.

- c. [12.2]: “receiving, by a second external interface, a second image signal input from a second external device connected to the image display device;”

This is a method version of apparatus limitation addressed in Ground 2, claim 1, limitation 1.3, and is taught by the prior art for the reasons discussed for that limitation. Ex. 1003 at ¶226.

- d. [12.3]: “displaying a plurality of external device icons, on a display, wherein the plurality of external device icons include a first external device icon and a second external device icon, wherein a first default image corresponding to the first external interface is displayed on the first external device icon and a second default image corresponding to the second external interface is displayed on the second external device icon;”

This is a method version of apparatus limitation addressed in Ground 2, claim 1, limitation 1.5, and is taught by the prior art for the reasons discussed for that limitation. Ex. 1003 at ¶227.

- e. [12.4]: “changing the first default image to a first image based on the first image signal in response to the first external device icon being selected if the first external device is connected to the image display device;”

This is a method version of apparatus limitation addressed in Ground 2, claim 1, limitation 1.6, and is taught by the prior art for the reasons discussed for that limitation. Ex. 1003 at ¶228.

- f. [12.5]: “changing the first image to the first default image in response to the second external device icon being selected”

This is a method version of apparatus limitation addressed in Ground 2, claim 1, limitation 1.7, and is taught by the prior art for the reasons discussed for that limitation. Ex. 1003 at ¶229.

- g. [12.6]: “wherein the first image is displayed at a position corresponding to an area where the first external device icon is displayed”

This is a method version of apparatus limitation addressed in Ground 2, claim 1, limitation 1.8, and is taught by the prior art for the reasons discussed for that limitation. Ex. 1003 at ¶230.

- 10. Claim 13: “The method according to claim 12, further comprising: highlighting the first external device icon in response to the first external device icon being selected; and highlighting the second external device icon in response to the second external device icon being selected.”

Claim 13 is a method version of apparatus claim 2, and is taught by the prior art for the reasons discussed for Ground 2, claim 2. Ex. 1003 at ¶231.

- 11. Claim 14: “The method according to claim 12, wherein the first image displayed on the display is simultaneously displayed with the plurality of external device icons while the first external device icon is selected.”

Claim 14 is a method version of apparatus claim 3, and is taught by the prior art for the reasons discussed for Ground 2, claim 3. Ex. 1003 at ¶232.

- 12. Claim 15: “The method according to claim 12, wherein the first and second external device icons are selectable via a cursor positioned on the first and second external device icons, respectively.”

Claim 15 is a method version of apparatus claim 4, and is taught by the prior art for the reasons discussed for Ground 2, claim 4. Ex. 1003 at ¶223.

13. Claim 16: “The method according to claim 15, wherein the cursor is controlled by a remote controller interfacing with the image display device.”

Claim 16 is a method version of apparatus claim 5, and is taught by the prior art for the reasons discussed for Ground 2, claim 5. Ex. 1003 at ¶234.

14. Claim 18

- a. [18.1]: “The method according to claim 12, further comprising: changing the second default image to a second image signal in response to the second external device icon being selected if the second external device is connected to the image display device,”

This limitation is a method version of apparatus claim 7, and is taught by the prior art for the reasons discussed for Ground 2, claim 7. Ex. 1003 at ¶236.

- b. [18.2]: “wherein the second image is displayed at a position corresponding to an area where the second external device icon is displayed.”

This limitation, which relates to the location of the second image, would have been obvious based on Nobori for the same reasons that the first image is displayed at a position corresponding to an area where the first image input I/F icon is displayed as discussed above for Ground 2, claim 1, limitation [1.8]. Ex. 1003 at ¶¶237-239.

15. Claim 21: “The method according to claim 12, further comprising: displaying the first default image although first external device icon is selected if the first external device is not connected to the image display device.”

Claim 21 is a method version of apparatus claim 11, and is taught by the prior art for the reasons discussed for Ground 2, claim 11. Ex. 1003 at ¶242.

D. Ground 4: Claims 8, 10, 19, and 20 of the '311 Patent Would Have Been Obvious in View of Nobori Modified in View of Young and Brown

1. Claim 8: “The image display device according to claim 1, wherein the controller is further configured to: transmit a control command for controlling the first external device to the first external device, and display an execution result of the control command on the display.”

Nobori modified in view of Young and Brown meet the limitations of this combination of claim 1 and claim 8. More specifically, Brown discloses this limitation for the reasons discussed in Ground 1, claim 8. Ex. 1003 at ¶217. Brown teaches “the television is set to the personal computer input and the user watches personal computer-based content. The user presses a personal computer related button, such as channel up. The television system sends the command to the personal computer. The personal computer responds to the remote control command.” Ex. 1007 at ¶80; see also ¶68-70, 74-75, 79.

A POSITA would have been motivated to modify Nobori in view of Brown and Young because it would have obvious advantages, including providing the viewer the ability to use a single remote control to transition a television system

among multiple, attached devices such as a personal computer or console device and to control the displayed content of personal computer or other devices. Ex. 1003 at ¶218.

2. Claim 10: “The image display device according to claim 1, wherein the changed first image is an image which is currently displayed on the first external device.”

Nobori modified in view of Brown and Young render claim 10 invalid. More specifically, Brown teaches this limitation for the reasons discussed in Ground 1, claim 10. Ex. 1003 at ¶220. Moreover, a POSITA would have understood that Nobori modified in view of Young Brown would provide the ability to select as the first image, computer-based input such as displaying a preview image from a PC on the television screen to meet the additional limitation of claim 10. *Id.* As explained above in §VII.D.1 a POSITA would have been motivated to make this combination.

3. Claim 19: “The method according to claim 12, further comprising: transmitting a control command for controlling the first external device to the first external device, and displaying an execution result of the control command on the display.”

This claim is a method version of apparatus claim 8 and is rendered obvious for the reasons discussed for Ground 2, claim 8. Ex. 1003 at ¶240.

4. Claim 20: “The method according to claim 12, wherein the changed first image is an image which is currently displayed on the first external device.”

This is a method version of apparatus claim 10 and is rendered obvious by for the reasons discussed for Ground 2, claim 10. Ex. 1003 at ¶241.

E. Ground 5: Claims 6 and 17 of the '311 Patent Would Have Been Obvious in View of Nobori Modified in View of Young and Kinoshita

1. Claim 6: “The image display device according to claim 1, wherein the controller is further configured to display a symbol representing that the first external device or the second external device is being connected to the display device on the first external device icon or the second external device icon.”

Nobori modified in view of Young and Kinoshita renders this limitation obvious. Ex. 1003 at ¶208. Nobori discloses another aspect for making it more convenient for a user to understand “into which image input I/F an image signal is inputted ... by displaying ... ‘No-Signal’ for the image input I/F that is not connected, or into which no image signal is inputted.” Ex. 1004 at ¶17.

FIG. 2 shows a state where the video terminal is currently selected, and “No-Signal” is displayed for the video signal, indicating that no video signal is being inputted.” *Id.* at ¶45.

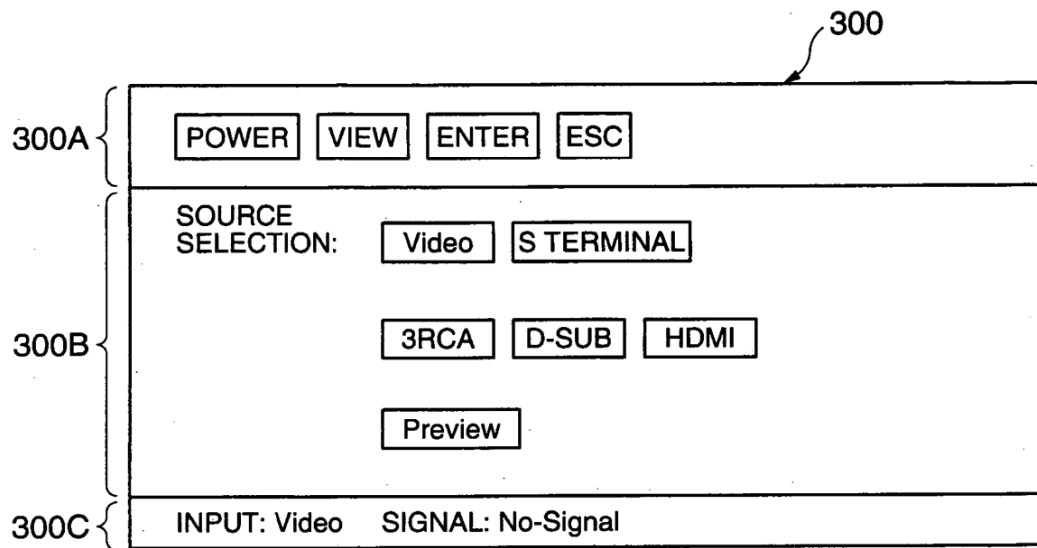


FIG. 2

Ex. 1004 at FIG. 2.

As stated in Nobori for displaying “No-Signal” when an image input is not connected. *Id.* at ¶56 & FIG. 4. A user would have understood that an icon displayed without the designation “No-Signal” would be connected because the presence of a signal had been detected from the input I/F.

FIG. 2 of Young is an exemplary display indicating that an input, such as HDMI2, is “Not Connected” and that there is no signal from the “Composite” input.

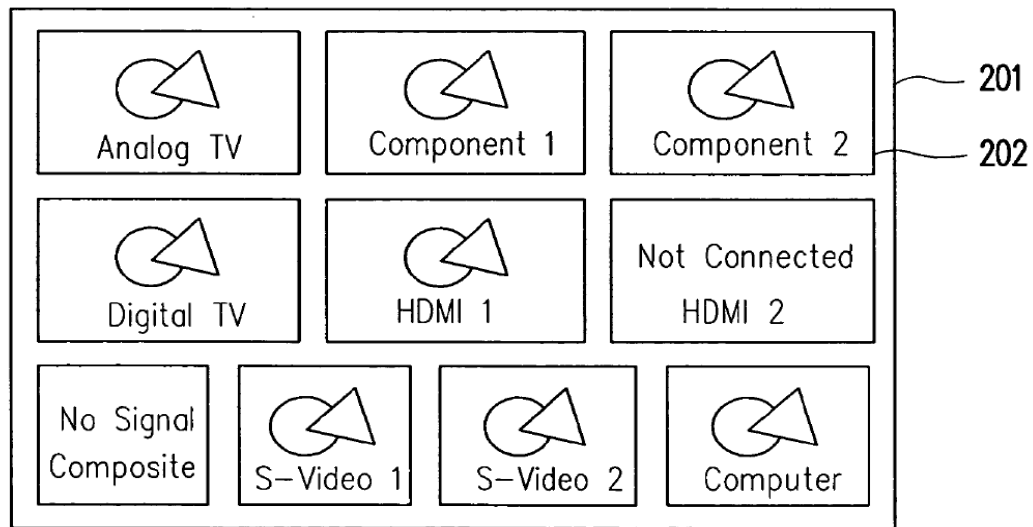


FIG. 2

Ex. 1006 at FIG. 2.

Specifically, Kinoshita discloses that “the name of a connected AV device is simply indicated in a color different from the name of an un-connected AV device.” Ex. 1005 at [0011]. Kinoshita also discloses showing an icon which is not connected in a different manner, such as by color or tone and by using “such different manner of display, the user can recognize only the actually connected AV devices as the candidates of input switching, and therefore, operation of input switching is facilitated.” Ex. 1005 at ¶57.

The combination of Nobori modified in view of Young and further modified in view of Kinoshita results in device icons indicating by text the connection status of the associated input device and also by color with the color of the icon being

correlated to the connection status of the associated input device. Ex. 1003 at

¶213. Such modification would have been readily apparent to a POSITA because both Nobori and Young identify the connection status using a text icon to assist the user in understanding which video inputs are connected to the display device.

Kinoshita's use of color to further draw attention to and differentiate the connection status is an additional way to inform a user of the connection status of the input devices which is a concern to both Nobori and Young. *Id.* Claim 6 is obvious in view of Nobori modified in accordance with Young as for claim 1 and further modified in view of Kinoshita to change the color of an icon associated with a specific external device to indicate that the external device is connected or, alternatively, disconnected. Ex. 1003 at ¶¶232-235.

2. Claim 17: "The method according to claim 12, further comprising: displaying a symbol representing that the first external device or the second external device is being connected to the display device on the first external device icon or the second external device icon."

Claim 17 is a method version of apparatus claim 6. As such, this claim is rendered obvious by Nobori in view of Young and Kinoshita for the reasons discussed for Ground 2, claim 6. Ex. 1003 at ¶235.

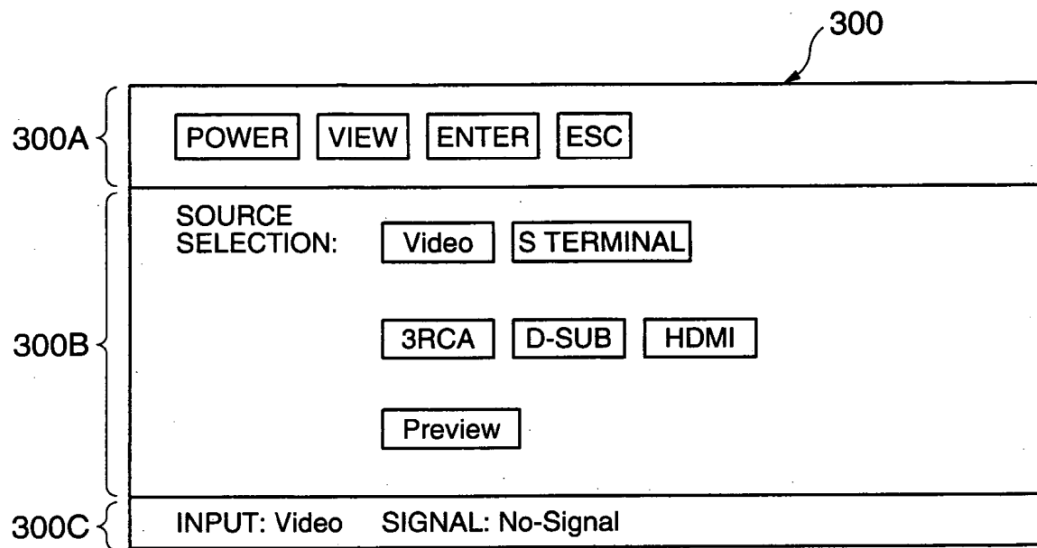


FIG. 2

Ex. 1004 at FIG. 2.

As stated in Nobori for an image input device which is not connected, “No-Signal” is displayed. *Id.* at ¶56 & FIG. 4. A user would have understood that an icon displayed without the designation “No-Signal” would be connected because the presence of a signal had been detected from the input I/F. Ex. 1003 at ¶148.

FIG. 2 of Young is an exemplary display indicating that an input, such as HDMI2, is “Not Connected” and that there is no signal from the “Composite” input.

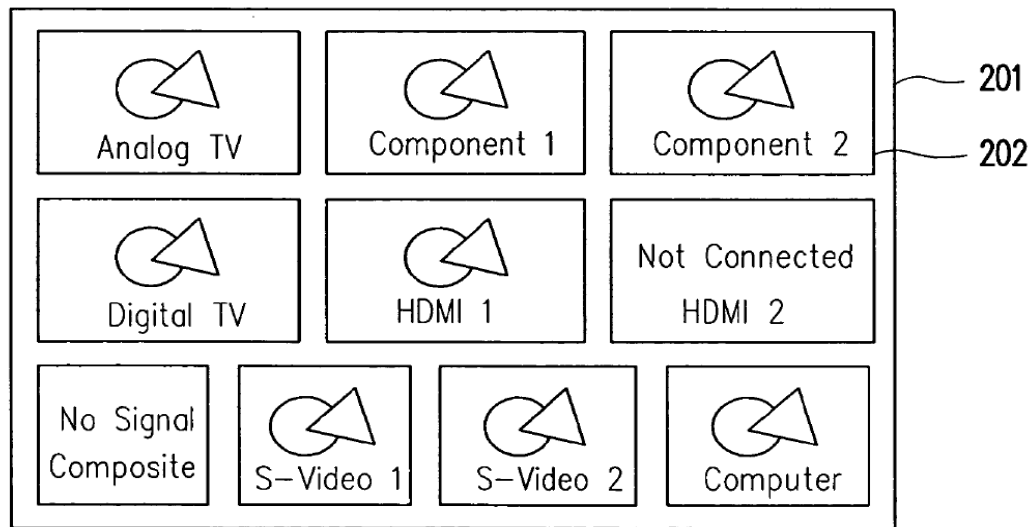


FIG. 2

Ex. 1006 at FIG. 2.

Kinoshita also discloses using a different color or tone for an icon to show that the AV device is not connected and [b] y such different manner of display, the user can recognize only the actually connected AV devices as the candidates of input switching, and therefore, operation of input switching is facilitated.” Ex. 1005 at ¶57.

Thus, this claim is obvious in view of Nobori modified in accordance with Young as for claim 1 and further modified in view of Kinoshita to change the color of an icon associated with a specific external device to indicate that the external device is connected or, alternatively, disconnected. Ex. 1003 at ¶¶208-213. As

explained above in §VII.E.1 a POSITA would have been motivated to make this combination.

VIII. THE BOARD SHOULD NOT EXERCISE ITS DISCRETION TO DENY INSTITUTION

A. 35 U.S.C. § 314(a)

The Board should grant institution notwithstanding the parallel litigation between Patent Owner and Petitioners. In determining whether the exercise its discretion to deny institution of IPR in view of a parallel proceeding, the Board considers the following factors:

1. whether a stay of the parallel proceeding has been granted or may be granted if an IPR proceeding is instituted;
2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the Petitioners and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020)

(precedential) (“*Fintiv*”).

In evaluating these factors, the Board “takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.*

1. *Factor 1: The parallel proceeding is not stayed, and it is unknown whether a stay would be granted (Fintiv factor 1)*

Fintiv factor 1 is neutral. This factor considers whether the court presiding over the parallel proceeding has granted a stay or likely would grant a stay if the Board institutes IPR. *Fintiv*, Paper 11 at 6. Where a stay has not been granted, and it is unknown whether the presiding court would grant a stay if the Board institutes IPR, this factor is neutral. *See Cisco Sys., Inc. v. Estech Sys., Inc.*, IPR2021-00333, Paper 12 at 10 (PTAB July 7, 2021) (finding *Fintiv* factor 1 neutral after “declin[ing] to speculate on the likelihood of a stay.”).

In this case, neither party requested a stay in the parallel proceeding, and it is unknown whether the Court would grant a stay if the IPR is instituted. Accordingly, this factor is neutral.

2. *Factor 2: The trial will commence after the due date of a Final Written Decision (Fintiv factor 2)*

This factor weighs in favor of institution. The answer to the complaint was due on August 15. The Court in the parallel proceeding has issued a schedule. Currently, the Court has jury selection set for February 5, 2024. Ex. 1012 at p. 1.

Further, the Interim *Fintiv* Guidance³ states: “Parties may present evidence regarding the most recent statistics on median time-to-trial for civil actions in the district court in which the parallel litigation resides for the PTAB's consideration.” USPTO *Fintiv* Guidance, 8-9. The Interim *Fintiv* Guidance states that such statistics are available a U.S. District Courts—Combined Civil and Criminal Federal Court Management Statistics (March 31, 2022) (“U.S. District Court Statistics”).⁴ *Id.* at 9 n.12. The most recent statistic on median time-to-trial for civil actions in the Eastern District of Texas is 24.2 months. Ex. 1013 at p. 35.

Here, the complaint was filed on April 21, 2022. Ex. 1014. Applying the above statistic, the expected trial date would be approximately May 2024, well after the Board’s FWD deadline in this case which should be about February 2024. In such circumstances, the Board weighs *Fintiv* factor 2 as against exercising

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https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621.pdf. (“USPTO *Fintiv* Guidance”).

⁴ Available at <https://www.uscourts.gov/statistics/table/nadefederal-court-management-statistics/2022/03/31-1>.

discretion to deny institution. *See, e.g., Hanwha Solutions Corp. v. REC Solar Pte. Ltd.*, IPR2021-00989, Paper 12 at 14 (PTAB Dec. 13, 2021).

3. *Factor 3: The parties' investments in the parallel proceeding weigh in favor of institution (Fintiv factor 3)*

Fintiv factor 3 favors institution. This factor considers “the investment in the parallel proceeding by the court and the parties.” *Fintiv*, Paper 11 at 6. As stated, the date of the FWD is estimated to be in February. 35 U.S.C. § 314(b); 37 CFR § 42.107(b).

A scheduling conference was set for September 22, 2022. Ex. 1012. The date for a claim construction hearing and jury selection are August 15, 2023 and February 5, 2024 respectively. Ex.1012. The deadline to substantially complete document production in the parallel proceeding and file opening claim construction briefs is set for July 5, 2023, completion of fact and expert discovery is September 5, 2023 and October 17, 2023, respectively. The Decision on Institution (approximately February 2023) will be well before each of those deadlines. *Id.* Moreover, the District Court will not have considered any dispositive issues in the case, or any invalidity issues based on the prior art. Accordingly, this factor favors institution.

4. *Factor 4: IPR will address issues not raised in the parallel proceeding (Fintiv factor 4)*

Fintiv factor 4 will likely favor institution. On September 8, 2022, Plaintiff served infringement contentions against the Defendants in the parallel litigation. Ex. 1015. To date, Plaintiff has only accused claims 1-3, 7-29, and 31 of infringement. *Id* at p. 3. This Petition asserts invalidity of all 21 claims under two distinct grounds for each claim. Further, Petitioners submitted a stipulation (Ex. 1010) that if IPR is instituted they will not pursue in the parallel proceeding invalidity positions that are brought or could have brought in this Petition. The Board recognizes with regard to factor 4 such stipulation weighs against exercising discretion. *Acuity Brands Lighting, Inc. v. Ultravision Technologies, LLC*, IPR2020-01638, Paper 8 at 12-13 (PTAB May 6, 2021). Accordingly, factor 4 also favors institution.

5. *Factor 5: PO and Petitioners are parties in the parallel proceeding (Fintiv factor 5)*

In addition, when the Board's deadline for FWD precedes the district court trial date and the parties are the same in both proceedings, *Fintiv* factor 5 typically weighs against exercising discretion to deny institution. *See, e.g., Hanwha Solutions Corp.*, IPR2021-00989, Paper 12 at 17; *Carrier Fire & Security Americas Corp. v. Sentrilock, LLC*, IPR2021-00665, Paper 12 at 13-14 (PTAB Sept. 16, 2021).

6. *Factor 6: Other circumstances weigh in favor of institution
(Fintiv factor 6)*

This factor considers “other circumstances that impact the Board’s exercise of discretion, including the merits.” *Fintiv*, Paper 11 at 6. The merits of the Petition and considerations of efficiency and fairness not addressed in *Fintiv* factors 1-5 favor institution.

The merits of this Petition are strong. The Petition exposes the claims are merely obvious combinations of elements that were well-known in the prior art. The Board has found *Fintiv* factor 6 “strongly weighs against denying institution” in view of similarly strong petitions. *HP Inc. v. Slingshot Printing LLC*, IPR2020-01084, Paper 13 at 11-12 (PTAB Jan. 13, 2021).

Considerations of efficiency and fairness also favor institution. Unlike in *Fintiv* (involving a one-patent district court case), PO asserts six patents in the parallel proceeding. Rather than leave to the District Court the issues of invalidity and non-infringement for all six patents, it is more efficient for the Board to address the invalidity grounds in this Petition. Doing so would help alleviate the burdens on the District Court in addressing six patents and several accused products.

Moreover, the Board’s technically trained judges are well suited to assess the patentability grounds presented in this Petition. This fact weighs heavily against discretionary denial. *Fintiv* factor 6 favors institution.

In this case, *Fintiv* factor 1 is neutral and factors 2-6 favor institution.

The merits of this Petition are strong. The Petition exposes the claims as mere obvious combinations of elements that were well-known in the prior art. The Board has found *Fintiv* factor 6 “strongly weighs against denying institution” in view of similarly strong petitions. *HP Inc. v. Slingshot Printing LLC*, IPR2020-01084, Paper 13 (PTAB Jan. 13, 2021).

B. 35 U.S.C. § 325(d)

Under 35 U.S.C. § 325(d), “[i]n determining whether to institute . . . the Director may take into account whether . . . the same or substantially the same prior art or arguments previously were presented to the Office.” Certain factors have been identified as informing whether the Board should exercise its discretion under this statute, particularly the following:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;

- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioners rely on the prior art or PO distinguishes the prior art;
- (e) whether Petitioners have pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson & Co. v. B. Braun Melsungen AG, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential in relevant part).

Nobori, Young, and Brown are not cited on the face of the '311 patent and are not referenced in the file history of the '311 patent with the consequence that factors c, d, e, and f are not applicable. USP 7,880,816 to Kinoshita is cited on the face of the patent and is the patent that issued from the Kinoshita published application applied in this Petition. Ex. 1005. However, '816 patent was cited in a List of References as part of a Notice of Allowance mailed on February 6, 2019. Ex. 1002 at 13. The '816 patent was neither discussed nor applied as a reference. Factors c, d, e, and f are also inapplicable to Kinoshita.

This Petition shows that had the Examiner considered the combinations set forth in this Petition, the obviousness of the claims would have been manifest. (factors (a) and (b)).

Thus, in this case, these factors counsel against the Board exercising its discretion under 35 U.S.C. § 325(d).

IX. CONCLUSION

Based on the foregoing, the challenged claims are unpatentable. Accordingly, Petitioners request institution of an *inter partes* review to cancel these claims.

Dated: November 29, 2022

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Petitioners hereby certify, in reliance on the word count feature provided by the word-processing system used to prepare this Petition, that the number of words in this Petition is 13,994. Pursuant to 37 C.F.R. § 42.24(a), words in the table of contents, table of authorities, mandatory notices under § 42.8, certificate of service, certificate of word count, appendix of exhibits, and claim listing were excluded.

Dated: November 29, 2022

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Petition and all exhibits and other documents filed together with the Petition were served on November 29, 2022 via Federal Express on the attorney of record for Patent Owner at the following address:

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A copy of the foregoing Petition and all exhibits and other documents filed together with the Petition were also served on November 29, 2022 via electronic mail to counsel for LG Electronics Inc., in the Eastern District of Texas litigation at the email address below:

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IPR2023-00238, Petition for *Inter Partes* Review
U.S. Patent No. 10,334,311

Dated: November 29, 2022

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