

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TCL Electronics Holdings Ltd.
(f/k/a TCL Multimedia Technology Holdings, Ltd.)

Petitioner,
v.

Maxell, Ltd.

Patent Owner.

Case No. IPR2025-00120

U.S. Patent No. 10,375,341

Title: Video display apparatus and terminal apparatus

**Petition for *Inter Partes* Review of U.S. Patent No. US 10,375,341
Under U.S.C. §§ 311-319 and 37 C.F.R. §§ 42.1-.8, 42.100-.123**

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EXHIBIT LIST

Exhibit No.	Document Description
EX1001	United States Patent No. 10,375,341
EX1002	Prosecution History of United States Patent No. 10,375,341
EX1003	Declaration of Andrew Wolfe, Ph.D.
EX1004	U.S. Patent Publication No. 20050036509 (“Acharya”)
EX1005	Eli Saber Deposition Transcript (Maxell’s expert deposition)
EX1006	Andrew Wolfe, Ph.D. Curriculum Vitae
EX1007	SAMSUNG UN55B8500 Manual
EX1008	New Service Will Stream Local TV Stations in New York

I. INTRODUCTION

Petitioner respectfully requests that the Board institute *inter partes* review of claims 1–4 of U.S. Patent No. 10,375,341 (“‘341 Patent”). EX1001.

Each of claims 1–4 of the ‘341 Patent is directed to an apparatus or method of controlling a video display apparatus having two types of bi-directional wireless communication. A first bi-directional wireless communication goes through a router. A second bi-directional wireless communication does not go through a router. Ground 1 is supported by the expert declaration of Andrew Wolfe, Ph.D. EX1003. Dr. Wolfe qualifies as an expert on the relevant technology. Ex1003, ¶¶5-18.

U.S. Patent Publication No. 20050036509 A1 to Acharya, et al. (“Acharya”) discloses essentially the same system and methods as claimed in claims 1–4 of the ‘341 Patent. Acharya does not always use precisely the same language as the challenged claims, but any differences between the language of the challenged claims and Acharya’s disclosure would have been well within the knowledge of a person of ordinary skill in the art (“POSITA”). Thus, Petitioner respectfully submits that the Board should initiate *inter partes* review and find the challenged claims unpatentable under 35 U.S.C. § 103 (Pre-AIA).

II. MANDATORY NOTICES

A. Real Parties-in-Interest (37 C.F.R. § 42.8(b)(1))

Petition for *Inter Partes* Review of U.S. Patent No. 10,375,341

In addition to the Petitioner, the real parties-in-interest for this proceeding are TCL Industries Holdings Co., Ltd.; T.C.L. Industries Holdings (H.K.) Limited; TTE Corporation; TCL Moka International Limited; TCL Moka Manufacturing S.A. De 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.)

B. Related Matters (37 C.F.R. § 42.8(b)(2))

The 10,375,341 Patent is related to the following United States Patent Nos. 10,219,020 and 10,650,780.

Petitioner is contemporaneously filing Petitions for *Inter Partes* Review of U.S. Patent No. 10,219,020 (IPR2025-00135) and U.S. Patent No. 10,650,780 (IPR2025-00134). Other than this proceeding, Petitioner is not aware of any other *inter partes* review petition regarding the 10,375,341 Patent.

To Petitioner's knowledge, the 10,375,341 Patent has been involved in only the following district court litigations:

Maxell v. TCL et al., Case No. 5:23-CV-00108-RWS-JBB.

C. Lead and Back-Up Counsel (37 C.F.R. § 42.8(b)(3))

Lead Counsel	Back-Up Counsel
<p>Douglas A. Robinson (Reg. No. 59,703) drobins@harnessip.com Harness IP 7700 Bonhomme Ave. Suite 400 St. Louis, MO 63105 Tel: (314) 726-7500 Fax: (314) 726-7501</p>	<p>Glenn E. Forbis (Reg. No. 40,610) gforbis@harnessip.com Harness IP 5445 Corporate Dr. Suite 200 Troy, MI 48098 Tel: (248) 641-1600 Fax: (248) 640-0270</p>

D. Service Information (37 C.F.R. § 42.8(b)(4))

Please address all correspondence to lead counsel and back-up counsel at the addresses shown above. Petitioner consents to electronic service by email.

III. STANDING

Petitioner certifies that the ‘341 Patent is available for *inter partes* review and Petitioner is not barred or estopped from seeking *inter partes* review.

Petitioner files this Petition within one year of service of the complaint filed by Patentholder against Petitioner in the related district court litigation.

IV. PRECISE RELIEF REQUESTED FOR EACH CHALLENGED CLAIM

Under 35 U.S.C. § 311, Petitioner requests review of and cancellation of Claims 1–4 of the ‘341 Patent. These claims are unpatentable in view of the following prior art and Grounds:

Prior Art References	
Ref. 1:	U.S. Patent Publication No. 20050036509 A1 to Acharya, et al.

	(“Acharya”) (EX1004).
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GROUNDS			
Ground	Challenged Claims	Asserted Prior Art	Statutory Grounds
1	Claims 1–4	Acharya in view of the knowledge of a POSITA	Pre-AIA 35 U.S.C. §103

V. GROUNDS OF UNPATABILITY BASED ON PRIOR ART REFERENCES NOT APPLIED DURING PROSECUTION

Petitioner has not challenged the ‘341 Patent’s claims in any prior AIA trial. Acharya is not included amongst the references listed on the face of the ‘341 Patent. Acharya was not applied by the Examiner during prosecution of the ‘341 Patent. Further, the Examiner did not have access to the expert testimony of Dr. Andrew Wolfe describing the disclosure of Acharya and the compelling motivations to combine various embodiments of Acharya.

VI. THE ‘341 PATENT

A. Overview

The ‘341 Patent is a continuation of a national phase application claiming priority back to Japanese Patent Application No. 2012-267765, filed December 7, 2012. For the purposes of this Petition, the priority date of ‘341 Patent is assumed to be December 7, 2012. 1:7-12, EX1001.

The ‘341 Patent is aiming to provide a “user-friendly video display apparatus and terminal apparatus.” 2:32-33, EX1001. More specifically, the ‘341 Patent goal is to provide a better viewing experience when multiple users are sharing a display apparatus for different contents. 2:19-23.

The ‘341 Patent has four claims, all of which are independent claims. Claims 1 and 3 are apparatus claims, and 2 and 4 are method claims. All four claims have essentially the same limitations.

All claims include two pairs of wireless control device and bi-directional wireless communication: a first wireless control device is paired with a first bi-directional wireless communication system *without a router* and a second wireless control device is paired with a second bi-directional wireless communication system *via a router*. Claims 1–4, EX1001. For example, see elements [1B] of claim 1 and [3B] of claim 3 shown below.

The claims also include the feature that, if a command for changing a video content is received, the display apparatus will terminate the previous content that was playing and start playing a newly requested content. The display apparatus will then send a signal informing the wireless control device that originally requested the previous content about the termination through the specifically paired bi-directional wireless communication route. Claims 1–4, EX1001.

For example, if the terminated content was originally requested by the first wireless control device (paired with the first bi-directional wireless communication without going through a router), then the termination signal is sent back to the first wireless control device without going through a router. Similarly, if the terminated content was originally requested by the second wireless control device (paired with the second bi-directional wireless communication going through a router), then the termination signal is sent back to the second wireless control device through a router. Claims 1–4, EX1001, EX1003, ¶43. Specifically, see elements [E] and [F] of claims 1–4 shown below. The differences of elements [E] and [F] among the claims are shown in bold text for clarity and will be further discussed in Section XI, Detailed Analysis of Grounds.

	Claim 1	Claim 2	Claim 3	Claim 4
Pre	A video display apparatus comprising:	A method for changing a content on a video display apparatus comprising	A video display apparatus comprising:	A method for changing a content on a video display apparatus comprising:
A	a display unit that displays a video content from a broadcast station or from a video content delivery source;	displaying step to display a video content from a broadcast station or from a video content delivery source, on a display unit of the video display	a display unit that displays a video content from a broadcast station or from a video content delivery source;	displaying step to display a video content from a broadcast station or from a video content delivery source, on a display unit of the video display

		apparatus;		apparatus;
B	a communication unit that executes two types of bi-directional wireless communication including first bi-directional wireless communication with a first wireless control device without going via a router and second bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device;	first communication step to execute bi-directional wireless communication with a first wireless control device without going via a router; second communication step to execute bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device; and	a communication unit that executes two types of bi-directional wireless communication including first bi-directional wireless communication with a first wireless control device without going via a router and second bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device;	first communication step to execute bi-directional wireless communication with a first wireless control device without going via a router; second communication step to execute bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device; and
C	an infrared receiver unit that receives infrared rays from a third wireless control device; and	infrared ray receiving step to receive infrared rays from a third wireless control device;	an infrared receiver unit that receives infrared rays from a third wireless control device; and	infrared ray receiving step to receive infrared rays from a third wireless control device;
D	a controller that controls the display unit, the communication unit and the infrared receiver unit,		a controller that controls the display unit, the communication unit and the infrared receiver unit,	

E	<p>wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to a second video content is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content and starts to display the second video content and the communication unit sends first information for informing termination of the displaying of the first video content to the first wireless</p>	<p>wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to a second video content is transmitted from the second wireless control device to the video display apparatus via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content and starts to display the second video content and the video display apparatus sends first information for informing termination of the displaying of the first video</p>	<p>wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to another video content is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content for changing a content to be displayed from the first video content to another video content and the communication unit sends first information for informing termination of the displaying of</p>	<p>wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to another video content is transmitted from the second wireless control device to the video display apparatus via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content for changing a content to be displayed from the first video content to another video content and the video display apparatus sends first information for informing termination of</p>
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	control device without going via a router, and	content to the first wireless control device without going via a router, and	the first video content to the first wireless control device without going via a router, and	the displaying of the first video content to the first wireless control device without going via a router, and
F	wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the infrared receiver unit by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and starts to display another video content and the communication unit sends	wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the video display apparatus by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and starts to display another video content and the	wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the infrared receiver unit by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content for changing a content to be displayed from the second video content to	wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the video display apparatus by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content for changing a content to be displayed from

	second information for informing termination of the displaying of the second video content via the router to the second wireless control device.	video display apparatus sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device.	another video content and the communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device.	the second video content to another video content and the video display apparatus sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device.
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Table 1

Claims 1 and 3 are apparatus claims directed to a “video display apparatus.” Claims 2 and 4 are a rewrite of claims 1 and 3 as methods for “changing a content on a video display apparatus.” EX1003, ¶44.

The preamble and limitations [A], [B], [C], and [D] of claims 1 and 3 are the same, as shown in Table 1 above. The difference between [3E] and [1E] is that [3E] recites “...the display unit terminates displaying the first video content for changing content to be displayed from the first video content to another ~~and starts to display the second~~ video content and...,” (wherein the strike-out language belongs to [1E]). Further, the difference between [3F] and [1F] is that element [3F] recites “...the display unit terminates displaying the second video content for changing content to be displayed from the second video content to ~~and starts to~~”

~~display~~ another video content and...,” wherein the strike-out language belongs to [1F]. See Table 1 above. The difference between claim 1 and 3 are not substantively discernible. EX1003, ¶45.

The preamble and limitations [A], [B], and [C] of claims 2 and 4 are the same.¹ The difference between [2E] and [4E] is that [4E] recites “...the video display apparatus terminates displaying the first video content for changing content to be displayed from the first video content to another ~~and starts to display the second~~ video content and ...,” (wherein the strike-out language belongs to [2D]). Further, the difference between [4F] and [2F] is that element [4F] recites “...the display unit terminates displaying the second video content for changing acontent to be displayed from the second video content to ~~and starts to display~~ another video content and ...,” wherein the strike-out language belongs to [2F]. See Table 1 above. The difference between claims 2 and 4 are not substantively discernible. EX1003, ¶46.

B. The Prosecution History

U.S. Patent No. 10,375,341 issued from U.S. Patent Application No. 15/889,735. Applicant filed U.S. application 15/889,735 on February 06, 2018,

¹ For comparison and clarity purposes, in Table 1, the indexing of the limitations of claims 2 and 4 skipped [D], because claims 2 and 4 lack the corresponding limitation “a controller...” recited in [1D] and [3D].

from which the ‘341 Patent issued on August 6, 2019. EX1002. The US application 15/889,735 is a continuation of U.S. patent application 14/649,895, filed June 4, 2015, which is a National Phase of PCT/JP2013/079953, filed November 6, 2013, which claims priority to Japanese Patent Application No. 2012-267765, filed December 7, 2012. The priority date of the ‘341 Patent is assumed to be December 7, 2012.

In the only substantive Office Action of January 25, 2019, the Examiner issued a non-statutory double patenting rejection based on U.S. Patent No. 9,924,124 (granted from U.S. Patent Application No. 14/649,895, the parent application of the ‘341 Patent). EX1002. In response, Applicant filed a terminal disclaimer to overcome the rejection. EX1002, EX1003, ¶¶49. The ‘341 Patent then issued on August 6, 2019. EX1001.

VII. THE LEVEL OF ORDINARY SKILL IN THE ART

The person of ordinary skill in the art (“POSITA”) in the field of the ‘341 Patent would have an educational background, such as a Bachelor of Science degree, in Electrical Engineering or Computer Engineering as well as some understanding of Wireless Communications. Additionally, a POSITA would have 2 years of practical experience in television or video display system development. Additional practical or work experience could result in a lower level of education being necessary, and vice versa. EX1003, ¶¶50–51.

VIII. CLAIM CONSTRUCTION

Claims only need to be construed to resolve a controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017). Here, no terms require express construction because the patent claims encompass the below prior-art mappings under any construction consistent with the *Phillips* standard. EX1003, ¶54.

In the parallel district court proceeding, *Maxell v. TCL et al.*, Case No. 5:23-CV-00108-RWS-JBB, Patent Owner has asserted that Communication Unit is a nonce term requiring construction under 112(f). Patent Owner has further asserted that the disclosure at 6:40-51 of the ‘341 Patent provides the requisite structure. In particular, Patent Owner has asserted that the “communication unit” must be construed to include the structure of a “LAN Communication Unit” that is “connected to the wireless router 6 by wire or by wireless, and can receive a video content or the like from the Internet network or the like” and “receive[s] various types of commands from the terminal apparatus 1 via the wireless router 6 or the like by using, for example, Wi-Fi” and “may directly transit and receive the command and the status information to and from the terminal apparatus 1 without the wireless router 6 or the like by using, for example, infrared rays, Wi-Fi Direct, or Bluetooth.” EX1001, 6:40-51. While TCL disagrees communication unit requires means-plus-function construction, TCL and Dr. Wolfe nevertheless

applies the prior art to this construction. EX1003, ¶55. To the extent the Court reaches a decision after the filing of this institution, TCL reserves the right to implement the Court's construction.

IX. BACKGROUND OF THE ART

A thorough description of the background of the relevant industry and technologies is set forth in the Declaration of Dr. Andrew Wolfe. EX1003, ¶¶32–36. In short, and as explained in more detail below, all elements of the '341 Patent's challenged claims were well known in the art, and the POSITA would have been motivated to combine those known elements in the manner claimed, with a reasonable expectation of success.

X. DESCRIPTION OF THE ASSERTED PRIOR ART

A. Acharya (EX1004)

Acharya was filed on June 2, 2004, and published on February 17, 2005. Acharya qualifies as a prior art over '341 Patent under Pre-AIA 35 U.S.C. § 102(a), (b), and (e). Acharya was not considered by the Examiner during prosecution history of the '341 Patent. EX1002; EX1003, ¶56.

Acharya is directed to a video display apparatus that can be shared by multiple users. EX1004, ¶¶3, 7-9. Each user may control the video display apparatus through different wireless controllers, e.g., laptop computers, handheld computing devices, personal digital assistants, and cellular telephones. EX1004,

¶¶3, 7-9. The wireless communication protocols between the display apparatus and wireless controllers can be, e.g., WiFi (IEEE 802.11a, 802.11b, 802.11g, 802.11n), Bluetooth, infra-red, and others. EX1004, ¶51. Note the mentioned wireless communication protocols IEEE 802.11a, 802.11b, 802.11g, and 802.11n can go through a router (an access point). EX1004, ¶¶51, 71. Moreover, before December 7, 2012, a POSITA would have been aware that the aforementioned communication protocols could be used for ad-hoc, peer-to-peer, Wi-Fi Direct protocols, without going through a router. [EX1003, INSERT]. The disclosed Bluetooth® and infra-red are other examples of ad-hoc, peer-to-peer communications that do not go through a router. EX1004, ¶¶51, 71.² EX1003, ¶57.

FIG. 1 of Acharya discloses an exemplary environment 100 in which a display system is shared by several users, which is reproduced below. ¶ [0036], EX1004; EX1003, ¶58.

² The ‘341 Patent explicitly disclosed Bluetooth®, infrared rays, and WiFi Direct are examples of communication protocols without going through a router. The ‘341 Patent disclosed in 5:57-62: “[a]lternatively, the LAN communication unit 26 may directly transmit and receive the command and the status information to and from the video display apparatus 3 without the wireless router 6 and the like by using, for example, infrared rays, Wi-Fi Direct, or Bluetooth (registered trademark).”

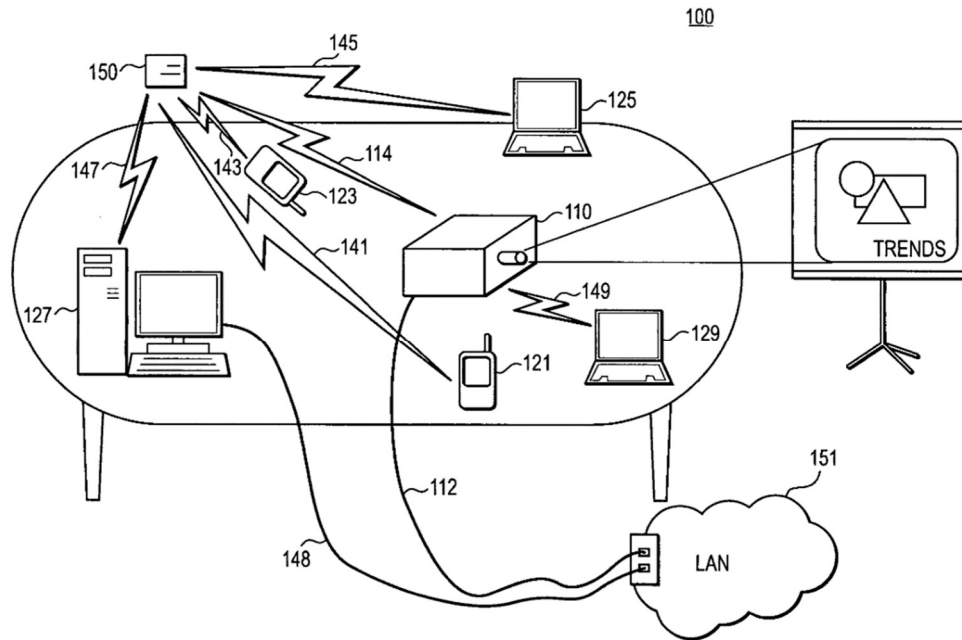


FIG. 1

Acharya discloses in ¶36 the following: “[a] projector 110 may be shared by several users for projecting video onto a projection screen. The various users may control the projector 110 through a variety of computing devices, such as laptop computers 125 and 129, a desktop computer 127, or PDAs 121 and 123. Other computing devices may also be used, including portable and non-portable computing devices. Portable devices include devices such as PDA's, cellular telephones and other mobile telephones, and integrated devices such as palm-held computing devices with or without wireless telephone or network connectivity.

The computing devices may connect to the projector 110 through a variety of links. In this illustration, the projector 110 is connected into a computer network through a wireless access point 150 through a wireless link 114.” A POSITA would understand the access point 150 can be a wireless router. EX1003, ¶59. The computing devices 121, 123, 125, and 127 connects to projector 110 through the wireless access point 150, e.g., a router. EX1004, ¶36. Hence, the computing device 129 connects to the projector 110 through an ad-hoc, peer-to-peer network link 149 without going through the access point 150, e.g., a router. EX1004, ¶¶36, 71; EX1003, ¶59.

FIG. 13, reproduced below, shows an example of a display-sharing interface 1300 that may be displayed on a user’s computing device once the user establishes communication with a shared display device, such as the projector 110 in FIG. 1, and gains control over that display device. EX1004, ¶84; EX1003, ¶60.

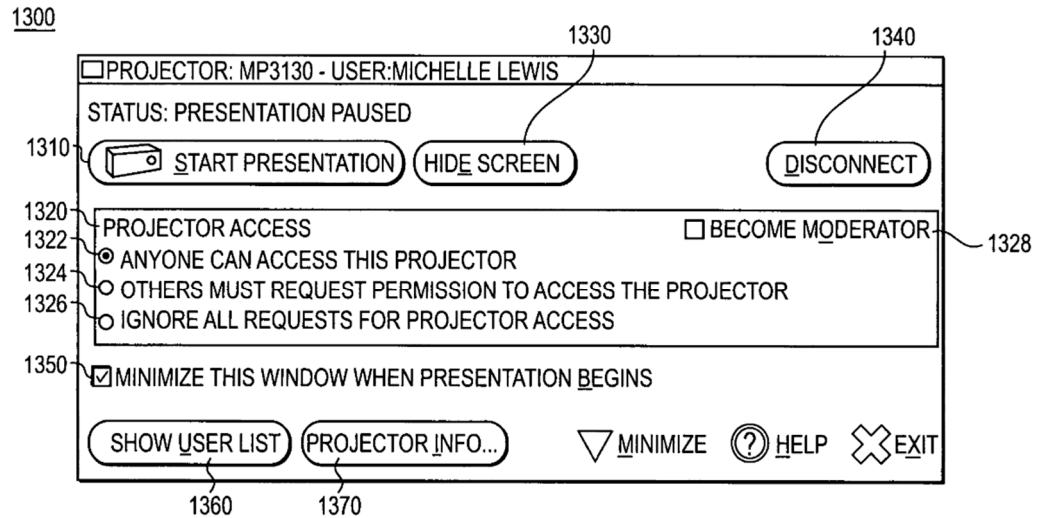


FIG. 13

Acharya discloses in ¶86 the following: “[t]he Sharing Mode section 1320 depicted in FIG. 13 includes options for selecting a mode for sharing access to the display device. As depicted in this example, this section includes radio buttons to select one of three access modes 1322, 1324, 1326. A first access mode 1322 is designated to allow any user to gain control of the projector. This first access mode 1322 may implement the access-sharing protocol described above for the self-service multiple-user access mode.” EX1003, ¶61.

Acharya discloses in ¶90 and FIGs. 15-18, under self-service multiple-user access mode 1322, a series of dialog windows that shows up on the wireless control devices when one user (e.g., Bob) takes control of the projector 110 from another user (e.g., Jane). EX1004, ¶90. FIG. 15 shows the sharing mode section 1320 in FIG. 13. “Anyone can access this projector” 1322 setting is selected. This means any user connected to projector 110 can take control over another user who is already in use. EX1004, ¶90; EX1003, ¶62.

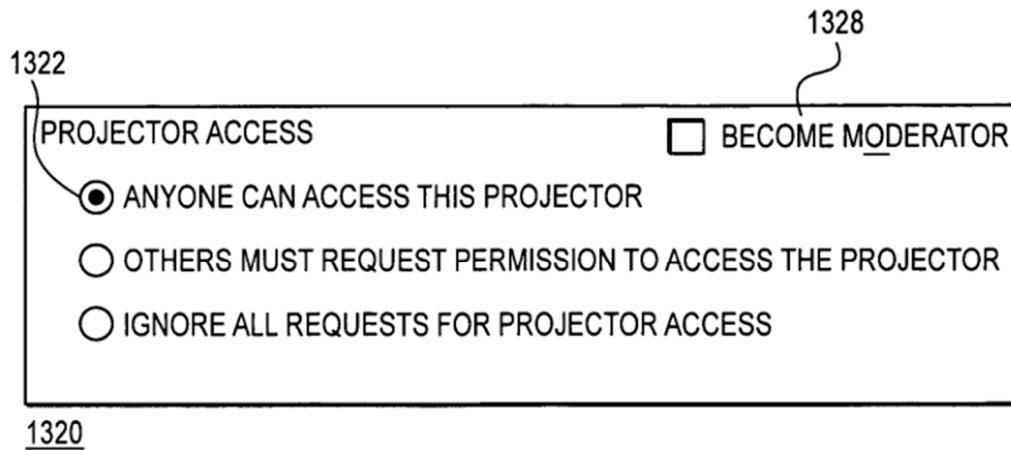


FIG. 15

When Bob requests control of the projector, Bob's computing device displays a dialog box 1600 from FIG. 16, informing Bob that “projector ABC is in use by Jane,” and that Jane will be disconnected if Bob elects to connect nonetheless. EX1004, ¶90; EX1003, ¶63. FIG. 16 is reproduced below.

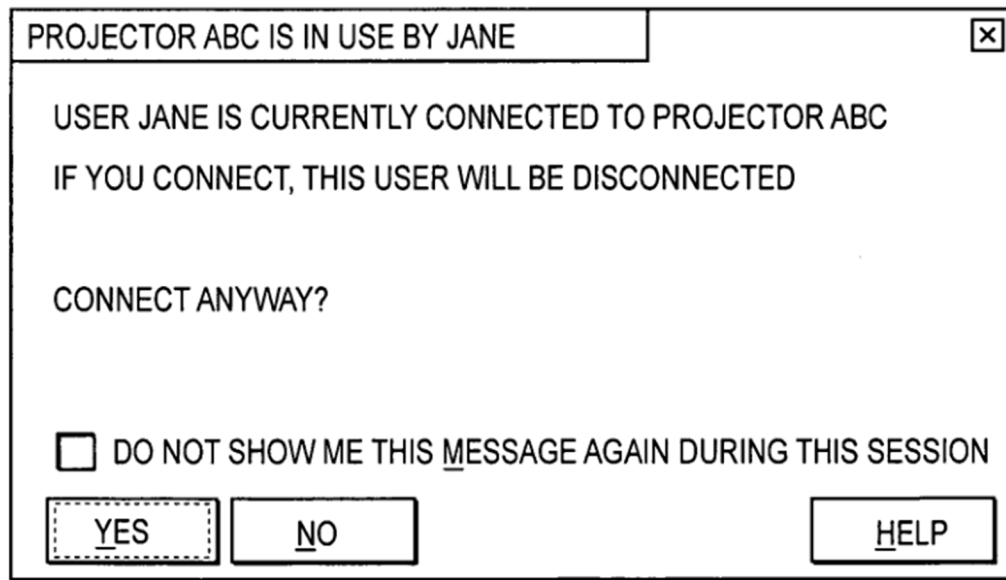


FIG. 16

1600

If Bob indicates that he wishes to connect nonetheless, his computing device then displays a message such as a dialog box 1700 in FIG. 17, informing him that he now has control over Projector ABC. EX1004, ¶90; EX1003, ¶64. FIG. 17 is reproduced below.

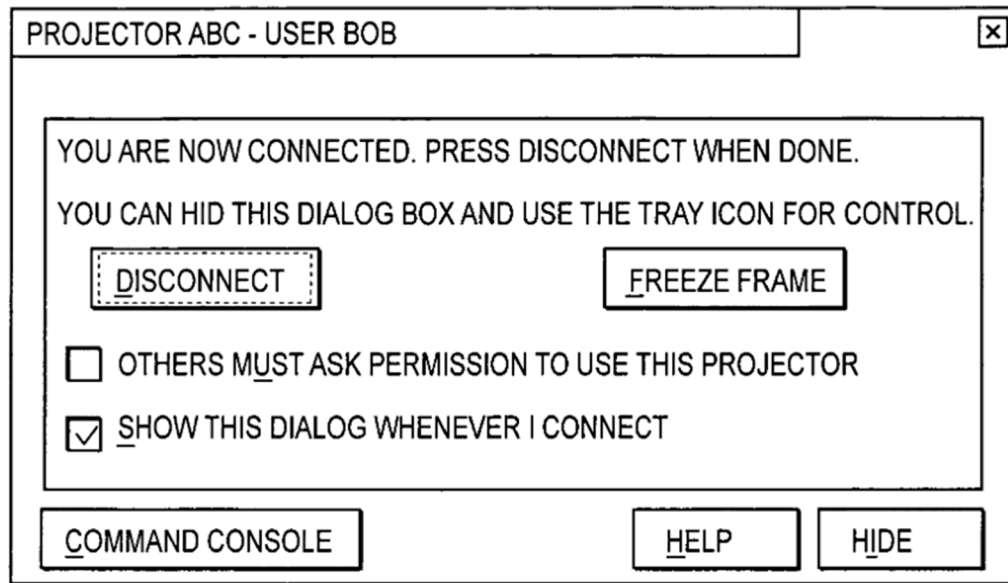
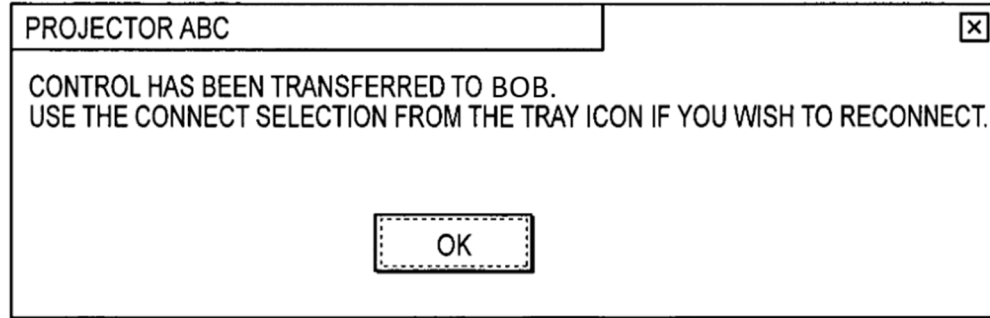


FIG. 17

At the same time, Jane's computing device displays a message such as a dialog box 1800 in FIG. 18, informing her that she has lost control over Projector ABC to Bob. EX1004, ¶90; EX1003, ¶65. Modified FIG. 18 is reproduced below.³

³ The original FIG. 18 of Acharya includes a typo (underlined): “CONTROL HAS BEEN TRANSFERRED TO JIM.” In view of the disclosure of Acharya ¶90, the name “Jim” is clearly a typo and should be “Bob.” EX1003, ¶65 n.3. Petitioner corrected the typo in the modified FIG. 18 reproduced.



1800

FIG. 18

FIG. 18 shows that the video display apparatus of Acharya returns a message informing the wireless device (Jane's device) that the display the content it requested is terminated. EX1003, ¶66.

Acharya disclosed in ¶13: "in a self-serve mode, users send video data to the shareable display system, and the shareable display system *updates* [emphasis added] the display with the most recently received video data received." A POSITA would understand this to mean the display apparatus will terminate the previous video content (e.g., Jane's video content) and play the newly received video content (e.g., Bob's video content). [EX1003, ¶67.

XI. DETAILED ANALYSIS OF GROUNDS

A. GROUND 1: Claims 1-4 Would Have Been Obvious to a POSITA in View of Acharya

1. Summary of Ground 1

Acharya either discloses or renders obvious each and every element of the challenged claims under Pre-AIA 35 U.S.C. § 103.

Petitioner notes that this petition cites various embodiments of Acharya, all of the cited embodiments apply to “self-serve mode,” which is one of various sharing modes of the shareable display system by Acharya. In “self-serve mode,” user#2 can take control of the shareable display system from user#1 and send video data to the shareable display system. EX1004, ¶¶13, 56, 90, FIGs. 4, 15-18. The shareable display system updates the display with the most recently received video data received from user#2, e.g., by terminating the video previously requested by user#1 and starting to play the new video requested by user#2. *Id.*; EX1003, ¶68.

Acharya Teaches All Elements of Challenged Claims and/or Renders them Obvious Under Ground 1.

2. Independent Claim 1

a. Preamble: “A video display apparatus comprising:”

The preamble to claim 1 is not limiting because claim 1’s body defines a “structurally complete invention” and the preamble does not recite essential structure, nor is the preamble “necessary to give life, meaning, and vitality” to the claim. *Catalina Mktg. Int’l v. Coolsavings.com, Inc.*, 289 F.3d 801, 809 (Fed. Cir. 2002). EX1003, ¶69. To the extent that the preamble is limiting, it is disclosed or rendered obvious by Acharya.

Acharya discloses a “multiple-user display system,” that can be shared and controlled by multiple users. EX1004, ¶¶5, 7-9. In particular, Acharya teaches a “multi-user display system,” can be e.g., a liquid crystal display (LCD) projector, computer monitor, or other video display that may be shared by a group of users. EX1004, ¶¶5, 7 (stating in ¶7 “[t]hese techniques and systems may be used in a display system that may be shared by a group of users, each of whom wishes to present video data on a shared digital projector, computer monitor, or other video display”). Acharya teaches that each user may control the video display apparatus through different wireless controllers, e.g., laptop computers, handheld computing devices, personal digital assistants, and cellular telephones. EX1004, ¶¶7-9; EX1003, ¶69.

As shown in FIG. 1, reproduced below, ¶36 discloses “[a] projector 110 may be shared by several users for projecting video onto a projection screen.”

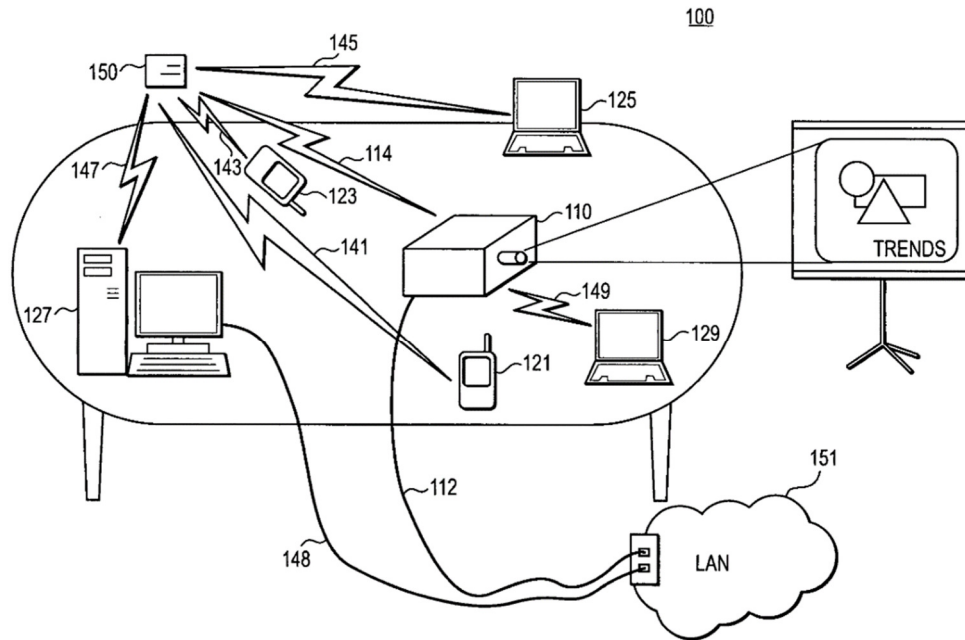


FIG. 1

EX1003, ¶70.

As Acharya contemplates that the multi-user display system can be a projector, computer monitor as well as other display devices, Acharya refers to its system as a “display system,” a “shared display system,” and a “projector,” throughout. A POSITA would understand that Acharya is referring to each of these devices generally as the multi-user display system. EX1003, ¶69. As such, the discussion that follows, whether with reference to a “multi-user display system,”

“display system,” a “shared display system,” or a “projector,” pertains to Acharya’s multi-user display system. *Id.*

Acharya thus disclosed or rendered obvious the preamble of claim 1. EX1003, ¶71.

b. Element [1A]: “a display unit that displays a video content from a broadcast station or from a video content delivery source;”

Regarding “a display unit” of 1[A], the ‘341 Patent provided in 5:29-30, “the display unit 22 is, for example, a liquid crystal panel and displays various types of information.” EX1001.

Acharya discloses in ¶¶5, 7 a liquid crystal display (LCD) projector, computer monitor, or other video display as the video display apparatus. Acharya also discloses in ¶10 that a shareable display system can be an LCD monitor or a CRT monitor that may use wired or wireless data connections. This disclosure correlates to “a display unit” of [1A]. EX1003, ¶73.

Acharya discloses in FIG. 2 a block diagram illustrating an example of the shareable video display apparatus, e.g., the LCD monitor or projector. FIG. 2 is reproduced below. EX1004, ¶16; EX1003, ¶74.

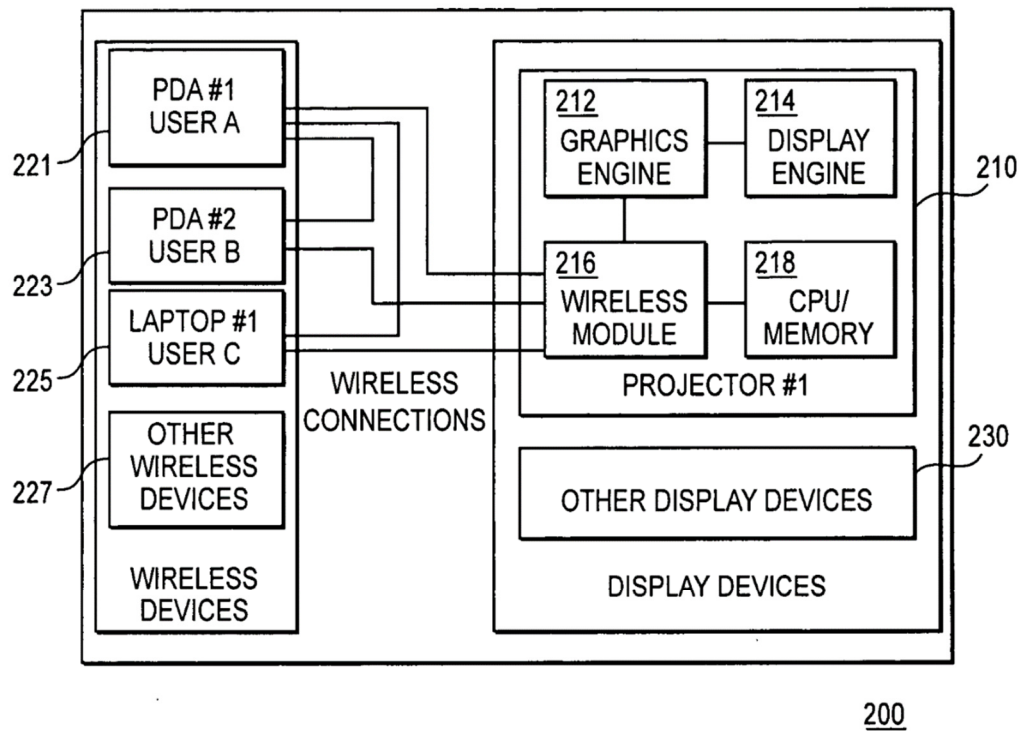


FIG. 2

Acharya in ¶51 discloses “[t]he projector 210 as shown here has a wireless module 216 to send and receive data or command signals by a wireless protocol, a CPU and memory 218 having a processor and associated memory for processing commands and reformatting data, a graphics engine 212 for setup timing, color information, image and scaling as required by the associated display, and a display engine 214 that provides interface circuitry to a display projector.” EX1003, ¶75.

The LCD monitor or LCD projector individually or, in alternative, in combination with the display engine 214 disclosed by Acharya correlates to “a display unit” of [1A]. EX1003, ¶76.

Regarding “displays a video content from a broadcast station *or* [emphasis added] from a video content delivery source” of [1A], the ‘341 Patent disclosed in 4:60-67 that a “broadcast station” is an example of “video content delivery source.” Internet video content accessed via a URL is another example of “video content delivery source.” EX1001, 4:60-67, EX1003, ¶77.

Acharya discloses in ¶40 that the display system, e.g., LCD projector or LCD monitor, may include a network interface that enables the display system to read video data from an archive, or a server, or an internet address, or a data file accessible through the network connection. Further, referring to circuit 3000 in FIG. 30, an embodiment of wireless module 216, Acharya disclosed in ¶125 that “a user may be able to issue a command to the display system to display an audiovisual presentation stored in a file or on a server or at a URL accessible through an internet connection or other network connection.” EX1004, ¶¶122, 125. Acharya’s disclosure of video content accessible through internet at a URL correlates to “video content delivery source” of [1A]. EX1003, ¶78.

A POSITA reading Acharya’s disclosure of a server storing video data accessible through internet in ¶¶40, 125, would understand it either implicitly discloses or renders obvious “a broadcast station” of [1A]. EX1003, ¶78. To the extent Acharya does not implicitly disclose or render obvious the “broadcast station,” Acharya at least disclosed the “video content delivery source” (e.g.,

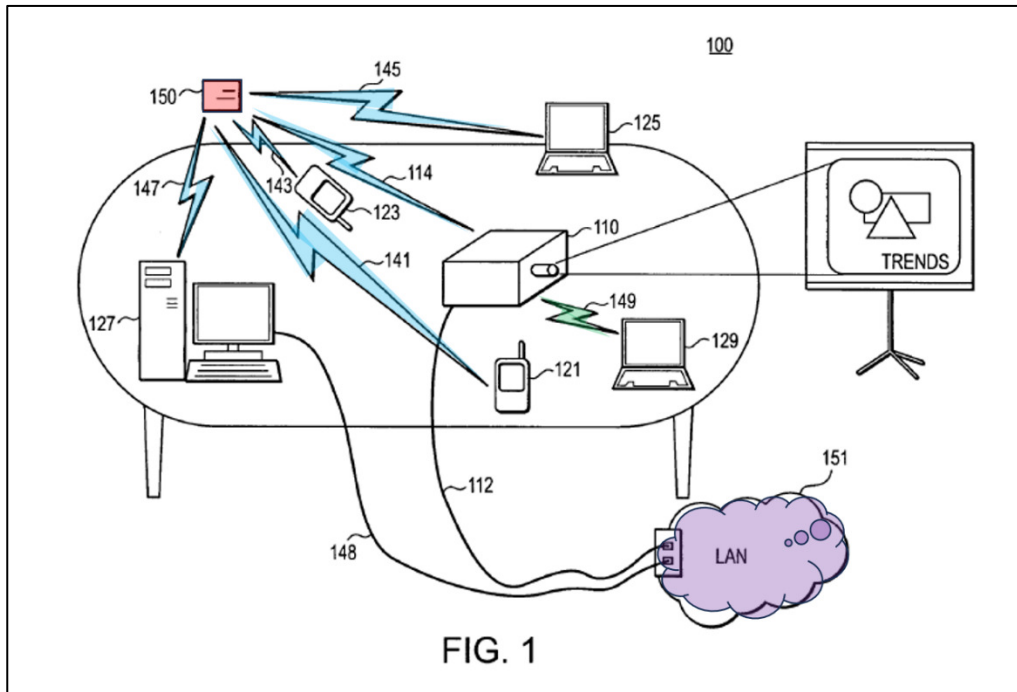
internet accessible video content at a URL). EX1003, ¶78. Since “broadcast station” and “video content delivery source” are connected in alternative by “or” in [1A], Acharya sufficiently disclosed element [1A]. EX1003, ¶78.

A POSITA would understand Acharya discloses or renders [1A] obvious. EX1003, ¶78.

- c. **Element [1B]: “a communication unit that executes two types of bi-directional wireless communication including first bi-directional wireless communication with a first wireless control device without going via a router and second bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device;”**

Acharya’s projector 110 includes a wireless module (*e.g.*, communication unit) that executes two types of bi-directional wireless communications with different devices, where one communication goes via a router and the other does not go via a router. EX1004, ¶¶36, 51. Acharya teaches that the “projector 110 may be shared by several users for projecting video onto a projection screen,” where “[t]he various users may control the projector 110 through a variety of computing devices, such as laptop computers 125 and 129, a desktop computer 127, or PDAs 121 and 123. EX1003, ¶79.

As shown in FIG. 1, reproduced and annotated below, Acharya’s projector includes a communication unit that communicates bidirectionally with different devices via different wireless links. EX1003, ¶80.

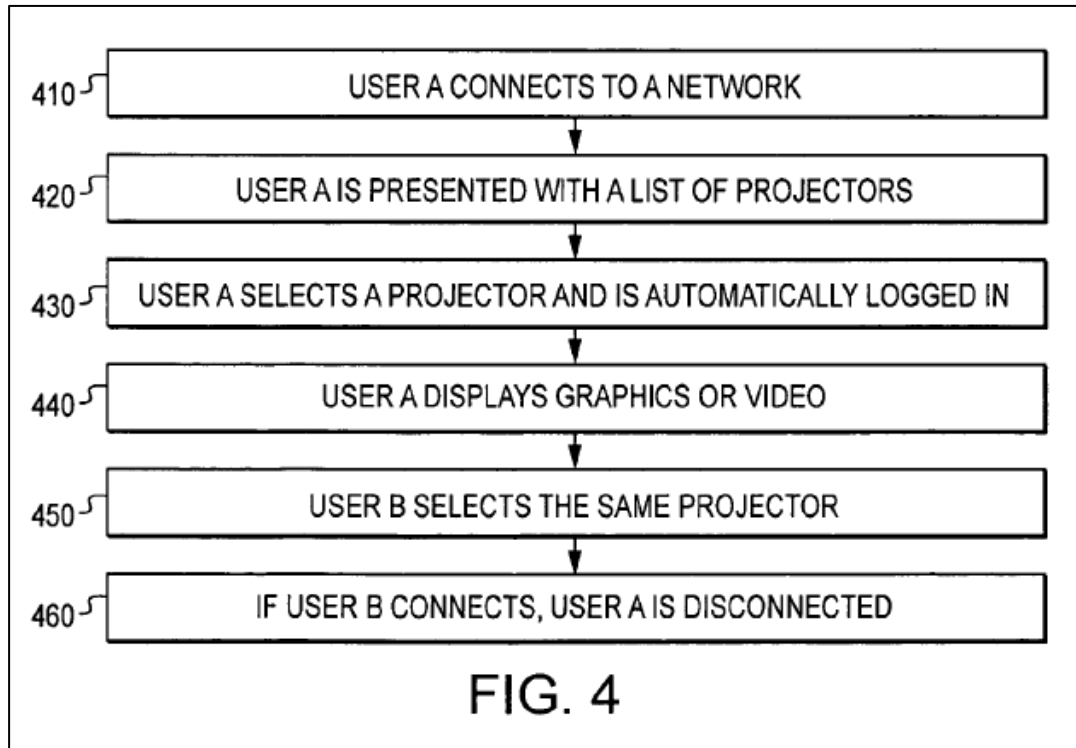


As shown in FIG. 1, Acharya’s projector 110 communicates with different computing devices 121, 123, 125, and 127 through **wireless access point 150** (e.g., a router) via **wireless links 141, 143, 145, and 147**. EX1004, ¶36. The computing devices 121, 123, 125, 127 of Acharya correlates to “a second wireless control device that is different from the first wireless control device” of [1B]. EX1003, ¶84.

Further, as shown in FIG. 1, Acharya communicates with computing device 129 “through an **ad-hoc network link 149**,” which a POSITA would understand, as illustrated in FIG. 1, to be a direct link that does not go through a router. EX1004, ¶36; EX1003, ¶82. The computing device 129 correlates to “a first wireless control device without going via a router” of [1B]. EX1003, ¶82.

Acharya teaches that different users may connect to the display device through different communication links, for example where one link is through a router (e.g., through a network) and where the other is not through a router (e.g., a direct or ad-hoc link). EX1004, ¶¶56-57; see also EX1003, ¶83.

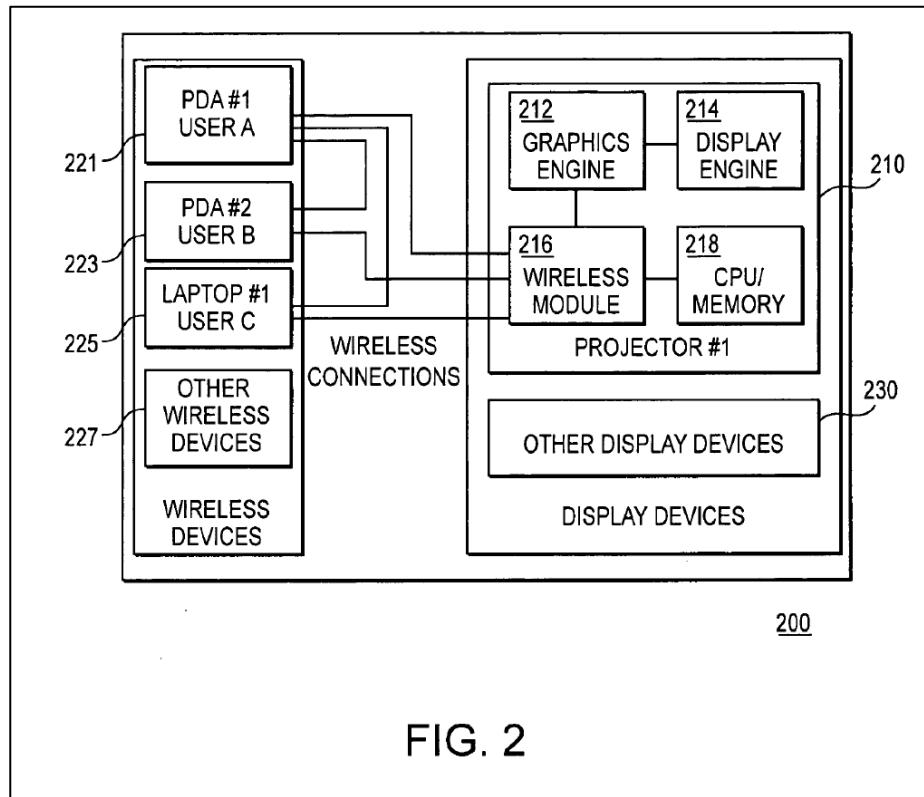
With respect to a “second bi-directional wireless communication via a router” of [1B], Acharya teaches in ¶56 and FIG. 4, reproduced below, that User A connects to a projector through a network, e.g., via a router. EX1004, ¶56, FIG. 4 (stating “User A, *connects with a network* [emphasis added] in act 410 through a computing device such as a laptop computer.” Next, at act 420, Acharya teaches that “User A’s computing device presents User A with a list of projectors available on the network” and that “User A then selects a projector, contemplates any sign-in or authentication procedures required by the projector in act 430, and is automatically granted control as the initial user.”). EX1003, ¶84.



With respect to the “first bi-directional wireless communication with a first wireless control device without going via a router” of [1B], in the continuing example in ¶57 and FIG. 4, Acharya teaches that User B may take control of the projector from User A, through **a direct or ad-hoc link** [emphasis added]. EX1004, ¶57. A POSITA would understand the direct or ad-hoc link of Acharya is a communication without going via a router. EX1003, ¶85.

Further with respect to wireless communications of [1B] “via a router” or “without going via a router”, Acharya provides WiFi, Bluetooth, and infra-red as examples, but contemplates “others” as well. EX1004, ¶51. As shown in FIG. 2 and ¶51, Acharya specifically teaches that the wireless links can be through various

protocols such as “IEEE 802.11b, ... 802.11a, 802.11g, 802.11n, 802.15.3a, Bluetooth, and infra-red, among others.” EX1004 ¶¶51. EX1003, ¶¶86.



A POSITA would recognize that Bluetooth® and infra-red are two specific examples of ad-hoc, peer-to-peer direct communication between wireless devices and display apparatus, correlating to “first bi-directional wireless communication...without going via a router” of [1B]. See footnote 2. EX1003, ¶¶87 (citing IEEE 802.15 standard) (explaining how Bluetooth is a peer-to-peer network option). A POSITA would understand the WiFi standards e.g., IEEE 802.11b, ... 802.11a, 802.11g, 802.11n, 802.15.3a, disclosed by Acharya correlates to the “second bi-directional wireless communication via a router” of [1B]. EX1003, ¶¶87.

Further, A POSITA reading Acharya would understand that Acharya's wireless access point 150 is synonymous with a router. For example, a POSITA would understand that a router is a typical example implementation of the wireless access point 150 disclosed in ¶36, including as illustrated in FIG. 1, especially as Acharya's projector connects to "a computer network" (e.g., internet) through the wireless access point 150. EX1004, ¶¶36, 41, FIG. 1 (illustrating the projector 110 being connected into a computer network through a wireless access point 150 and connecting to computing devices 121, 123, 125, and 127); EX1003, ¶88 (explaining that a router is a device that connects one or more computing devices to the internet). Furthermore, because Acharya teaches that devices like PDAs can communicate with the projector via IEEE 802.11 and Acharya illustrates PDAs 121 and 123 to communicate via access point 150, a POSITA would understand Acharya's access point 150 to be synonymous with the "router" of [1B]. EX1003, ¶88.

To the extent, access points other than a router exist, a POSITA would have, nevertheless, found it obvious to modify Acharya's teachings such that Acharya's access point is a router. EX1003, ¶88. For example, at the time the '341 Patent was filed, routers were common in households and offices as a means to connect devices to each other and to the internet. Thus, a POSITA would have found it obvious to use commonly available routers to carry out the teachings of Acharya

and would have determined that combining these prior art elements would have been according to known methods to yield predictable results. *Id.* Likewise, to the extent the access point is not a router, a POSITA would have found implementing the access point via a router to constitute a simple substitution of one known element for another to obtain predictable results. *Id.* Finally, and again understanding the household nature of routers, a POSITA would have found implementing Acharya's access point as a router to constitute choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success." *Id.*

Thus, Acharya discloses [1B], or, at least renders it obvious. EX1003, ¶89.

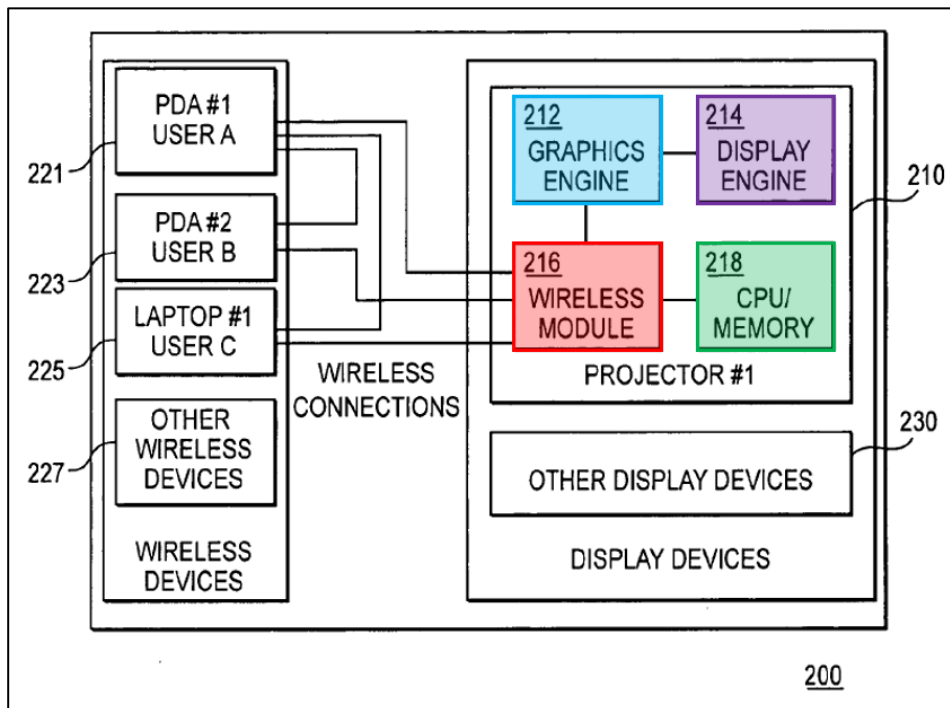
d. Element [1C]: “an infrared receiver unit that receives infrared rays from a third wireless control device; and”

Acharya in ¶51 teaches that the wireless communication protocols executed by its wireless module 216 of the projector 110, 210 can be “... infra-red ...”. This correlates to “an infrared receiver unit that receives infrared rays” of [1C]. See also ¶¶12, 16, 36, FIGs. 1 and 2, EX1004. EX1003, ¶90. Acharya in ¶51 and FIG. 2 further discloses wireless module 216 (which, as noted above, may include infrared capability) wirelessly connects to laptop device 225 by user C (in addition to PDA#1 by user A 221 and PDA#2 by user B 223). This correlates to “a third wireless control device” of [1C]. EX1003, ¶90.

Thus, wireless module 216 of Acharya correlates to “an infrared receiver unit that receives infrared rays from a third wireless control device” of [1C]. Acharya discloses [1C], or, at least renders it obvious. EX1003, ¶¶90.

e. Element [1D]: “a controller that controls the display unit, the communication unit and the infrared receiver unit,”

Acharya’s ¶51 and FIG. 2 disclosure of the CPU and memory 218 or, in alternative, in combination of the graphics engine 212 correlates to “a controller” of [1D]. Annotated FIG. 2 reproduced below. EX1003, ¶¶91.



Acharya discloses in ¶51 that “[t]he projector 210 may be, for example, a digital projection display device with 802.11b wireless communication protocol and a suitable firmware program loaded in its program memory. The projector 210 as shown here has a wireless module 216 to send and receive data or command

signals by a wireless protocol, a CPU and memory 218 having a processor and associated memory for processing commands and reformatting data, a graphics engine 212 for setup timing, color information, image and scaling as required by the associated display, and a display engine 214 that provides interface circuitry to a display projector.” EX1003, ¶92.

The CPU and memory 218 controls the display engine 214 (correlates to display unit, see arguments in [1A]) through the graphics engine 212. The CPU and memory 218, or in alternative, in combination with graphics engine 212 correlates to correlating to “a controller” that “controls the display unit” of [1D]. EX1003, ¶93. The CPU and memory 218 further controls the wireless module 216 (correlates to communication unit and infrared receiver unit, see arguments for [1B] and [1C]), correlating to “a controller controls...the communication unit and the infrared receiver unit” of [1D]. EX1003, ¶93.

Acharya further discloses in ¶101 an exemplary software architecture 2600 of CPU and memory block 218, stating “FIG. 26 is a block diagram of one implementation of an architecture 2600 for embedded software for a shared display system (such as the projector 110). Various portions of the software may be stored in a memory of the shared display system, such as memory in the CPU and memory block 218 shown in FIG. 2.” EX1003, ¶94. FIG 26 is reproduced below.

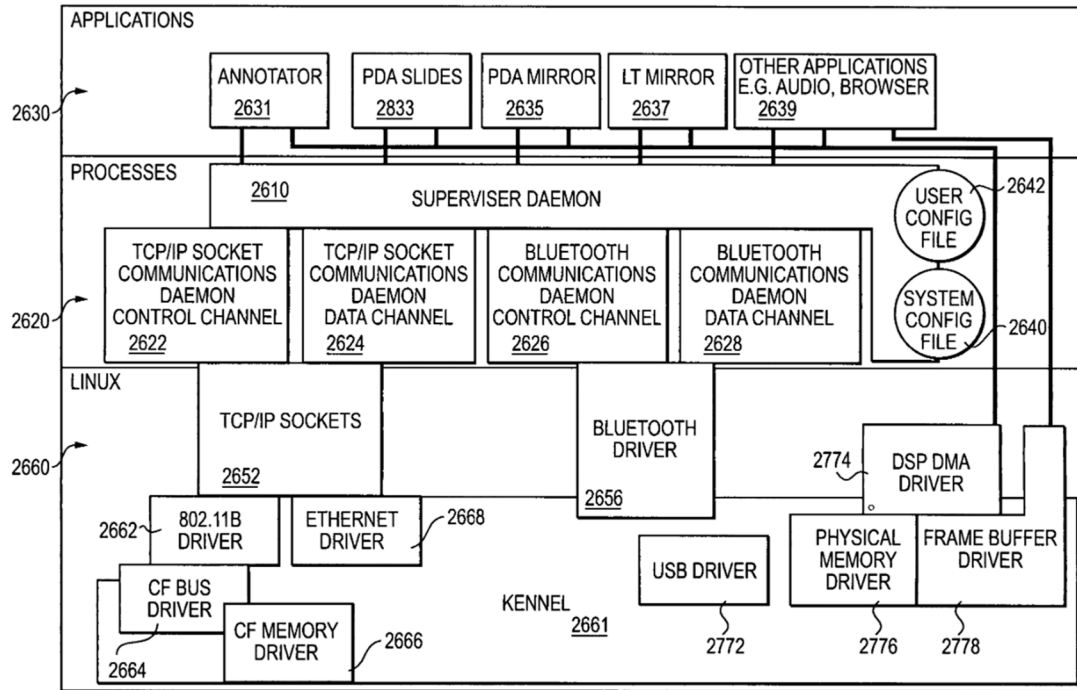


FIG. 26

The CPU and memory block 218 includes a supervisory daemon 2610, which controls the communication daemon 2620 and various applications 2630 for display. EX1004, ¶¶102, 105-107; EX1003, ¶95.

The communication daemon 2620 controls the TCP/IP daemon 2622, 2624 and Bluetooth daemon 2626, 2628. The TCP/IP daemon 2622, 2624 utilizes 802.11B [e.g., WiFi] driver 2662 to establish WiFi communication. EX1004, ¶105; EX1003, ¶95. The Bluetooth daemon 2626, 2628 utilizes Bluetooth driver 2656 to

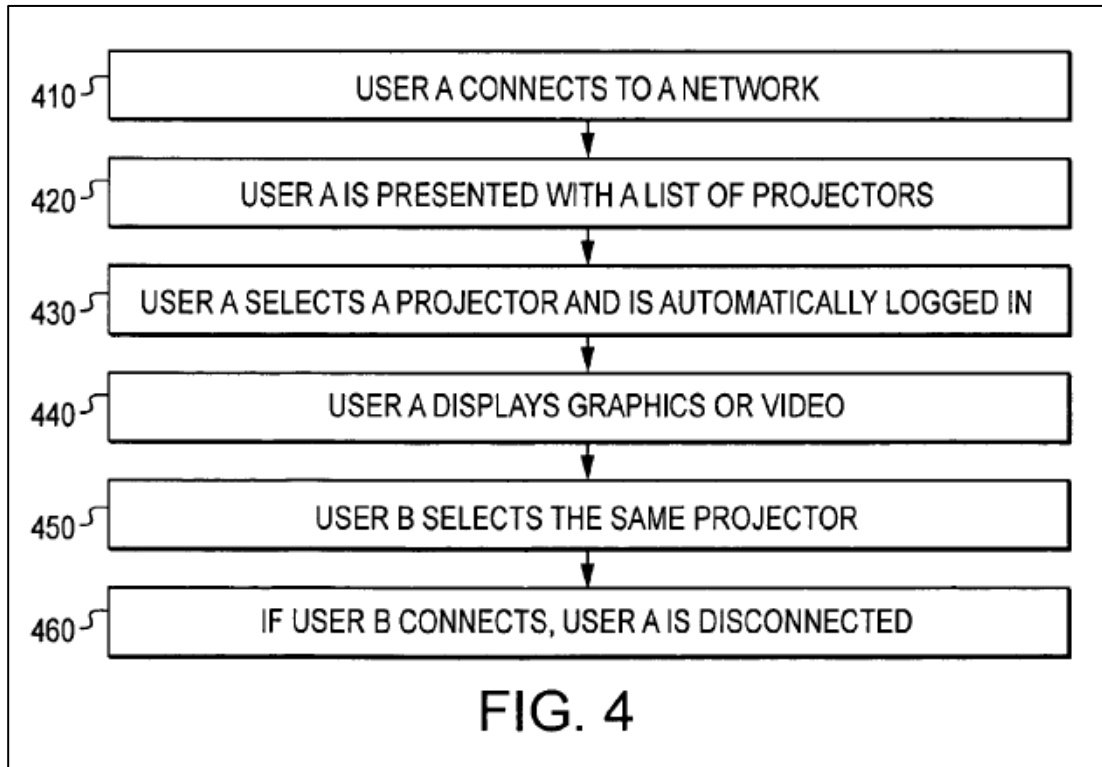
establish Bluetooth communication. EX1004, ¶105; EX1003, ¶95. A POSITA reading the ¶105 and ¶51 (stating infrared being a contemplated communication protocol) would understand the communication daemon 2620 may include infrared communication daemon for establishing infrared communication. EX1003, ¶95. The above shows that the CPU and memory block 218, that includes the supervisory daemon 2610, correlates to “a controller controls...the communication unit and the infrared receiver unit” of [1D]. EX1003, ¶95.

The supervisory daemon 2610 further controls various applications 2630 to control the display. EX1004, ¶107. The supervisory daemon 2610 may “arbitrate access to a graphics engine [212] or a display engine [214] or other components that process images for display on a shared display device.” EX1004, ¶107. For example, the annotator application 2631 may be configured to display a mouse cursor or other annotation overlaid on a display of the shared display device. EX1004, ¶108. The annotator application 2631 may share the display with one of the other applications. EX1004, ¶108. In another example, the PDA mirror software 2635 may be configured to receive PDA mirror data and transfer the mirror data to DSP display processing portions of the wireless module for decoding and display. EX1004, ¶110. Thus, the above shows that the CPU and memory block 218, that includes the supervisory daemon 2610, correlates to “a controller that controls the display unit” EX1003, ¶96.

Thus, the CPU and memory block 218 or in combination of graphics engine 212 thereof correlates to “a controller that controls the display unit, the communication unit and the infrared receiver unit” of [1D]. Acharya discloses [1D] or at least renders it obvious. EX1003, ¶¶97.

- f. **Element [1E]:** “wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to a second video content is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content and starts to display the second video content and the communication unit sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and”

Acharya teaches in ¶¶56-57 and FIG. 4, reproduced below, in self-serve mode, User B took over control of the projector from User A. Acharya specifically teaches in ¶57 among multiple users, e.g., Users A and B, “one of the users may communicate with the projector through a **networked link** [e.g., WiFi, via a router,] while the other user communicates with the projector through a **direct or ad-hoc link** [e.g., Bluetooth, infra-red].” EX1003, ¶¶98.



Also under a self-serve mode, Acharya discloses in ¶90 a second user, Bob, takes over the control of the projector 110 from a first user, Jane. EX1003, ¶99. FIGs. 16-17 of Acharya show two dialog windows that show up on Bob's second wireless control device. EX1003, ¶99. FIG. 18 of Acharya shows an information sent to Jane's first wireless control device for informing Jane that her display session with the projector 110 is terminated. EX1003, ¶99. As explained below, this disclosure teaches the limitation [1E] of the '341 Patent's claims 1.

A POSITA reading Acharya's disclosure in ¶¶36, 51, 71, and FIGs. 1-2 regarding the shareable display system, in view of ¶¶56-57 and FIG. 4 regarding the User B taking over control of the shareable display system from User A through different communication protocols, and further in view of the embodiment

in ¶90 and FIGs. 16-18 of Bob taking control of the projector from Jane, would envision a use scenario in which Jane's first wireless control device can directly connect to projector 110 through Bluetooth®, without going via a router (e.g., ad-hoc, peer-to-peer, link 149 in FIG. 1). EX1003, ¶100. Conversely, Bob's second wireless control device can connect to projector 110 through WiFi, IEEE 802.11b, via a router (e.g., access point 150 in FIG. 1). .EX1003, ¶100.

When Bob's second wireless control device requests control of the projector, Bob's computing device displays a dialog box 1600 from FIG. 16, informing Bob that "Projector ABC is in Use by Jane," and that Jane will be disconnected if Bob elects to connect nonetheless. EX1004, ¶90; EX1003, ¶101. FIG. 16 is reproduced below.

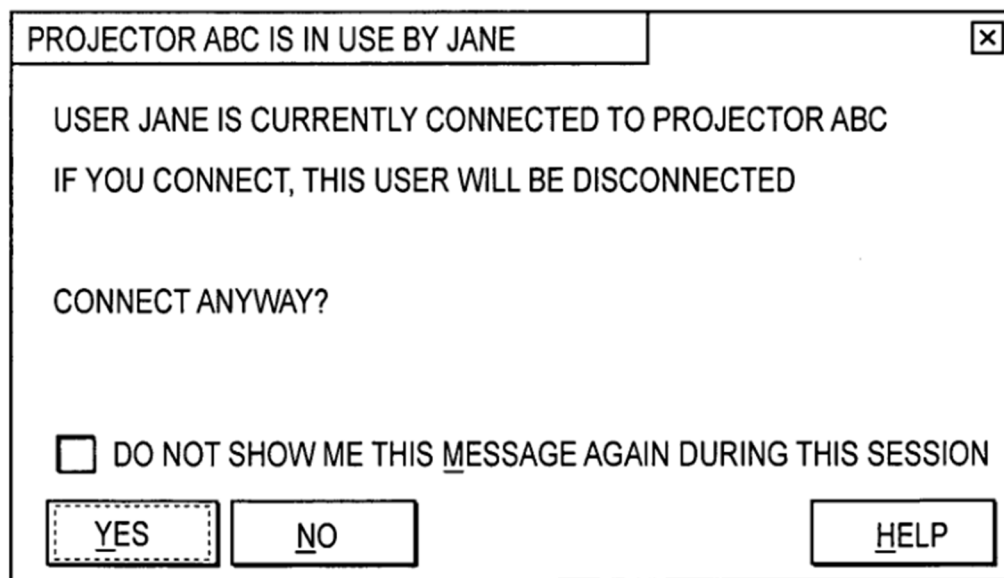


FIG. 16

1600

If Bob indicates that he wishes to connect nonetheless, his computing device then displays a message such as a dialog box 1700 in FIG. 17, informing him that he now has control over Projector ABC. EX1004, ¶¶90; EX1003, ¶¶102. FIG. 17 is reproduced below.

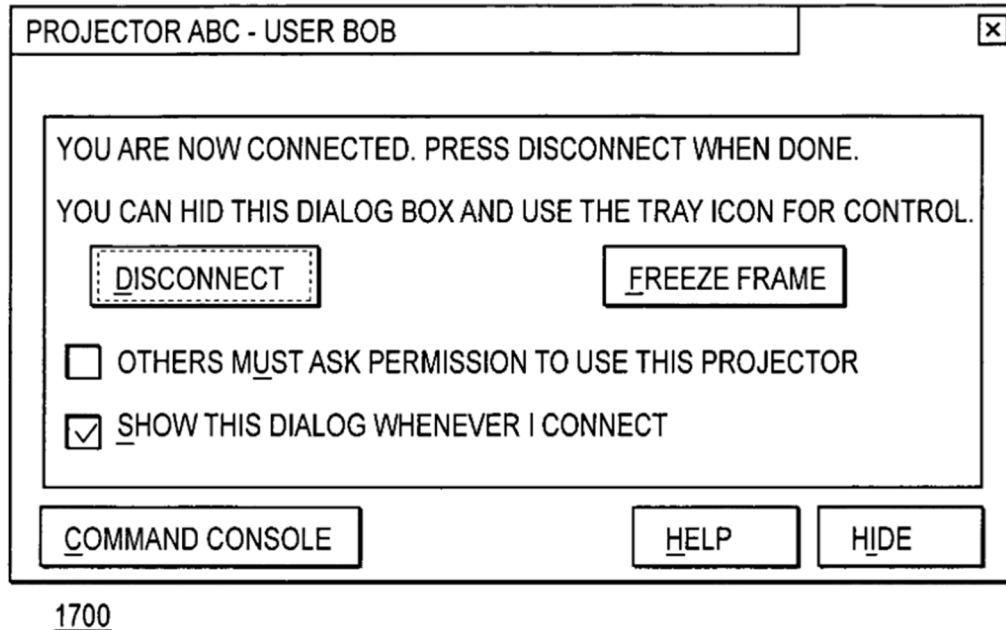


FIG. 17

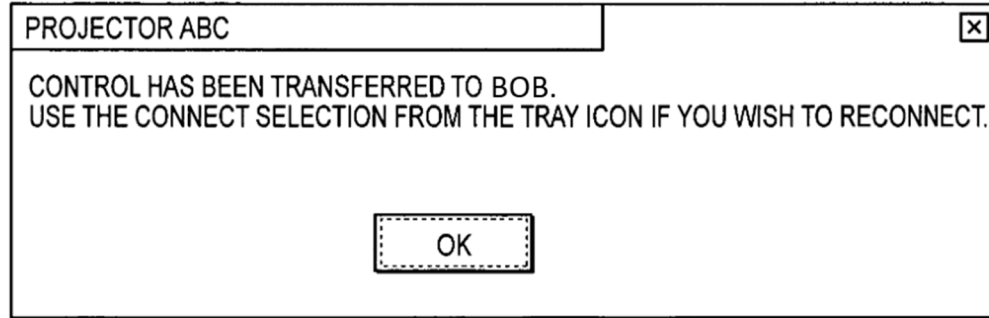
At this point, Bob's second wireless control device (via a router) has sent a first command for changing display from a first content (Jane's content) to a second content (Bob's content), while Jane's first wireless control device is directly connected to the projector without going via a router (Bluetooth®) and Bob's second wireless control device is connected to the projector going via a router (IEEE 802.11b). This correlates to the requirement of [1E] "wherein, if a first command for changing a video content on the display unit from a first video

content selected by the first wireless control device to a second video content is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the display unit terminates displaying the first video content and starts to display the second video content.” EX1003, ¶103.

In addition, and specific to the requirement of “starts to display the second video content” of [1E], Acharya discloses in ¶13 that in a self-serve mode, users send video data to the shareable display system, and the shareable display system **updates** [emphasis added] the display with the most recently received video data received. A POSITA reading ¶13 in view of ¶90 of Acharya would understand that, as Bob took over the control of the projector from Jane, Jane’s video content is terminated and Bob’s video content will be displayed. EX1003, ¶104.

As Bob took over the control, Jane's second wireless control device receives a message sent by the projector 110 such as a dialog box 1800 in FIG. 18, informing her that she has lost control of Projector ABC over to Bob. EX1004, ¶90; EX1003, ¶105. Modified FIG. 18 is reproduced below.⁴

⁴ See footnote 3 regarding the typographical error “Jim” in place of “Bob.”



1800

FIG. 18

The termination message of Acharya's FIG. 18 correlates to the feature "the communication unit sends first information for informing termination of the displaying of the first video content to the first wireless control device" of [1E]. EX1003, ¶106.

Since, by way of example supported by Acharya's disclosure, Jane's first wireless control device can be connected to the projector 110 through Bluetooth® without a router, the POSITA would have expected the termination information of FIG. 18 to be sent back to Jane through the original Bluetooth® connection without a router. EX1003, ¶107. This correlates to the limitation of [1E] "the communication unit sends first information for informing termination of the displaying of the first video content to the first wireless control device *without going via a router.*" *Id.*

Further supporting that a POSITA would reasonably understand that the termination information is sent back through the communication channel already

established between the shareable display device and the wireless control device, Patent Owner's expert Eli Saber (for the parallel district court case *Maxell v. TCL Electronics Holdings, et al*, E.D.Tex. 5:23-cv-00108) stated in his deposition that the termination signal is sent back to the wireless control device through the communication channel originally setup for that particular wireless control device. Page 71, line 25 to page 72, line 17, EX1005.⁵ Vis-à-vis the '341 Patent's lack of disclosure for any methods and/or mechanisms of sending back termination information, Mr. Saber further states in his deposition that it would be readily understood by a POSITA that the termination information is sent back through the

⁵ When questioned about what mechanism on the display apparatus is determining whether the termination message goes with or without via a router, Maxell's expert Eli Saber answered: "[w]ell, first of all, you obviously have -- you have multiple devices that communication unit can communicate with. You have device one that can communicate with via say a router. A device [two], it can communicate without a router or vice versa. So the communication unit and the device have -- you know, when you install the device and you basically -- there is essentially a pivotal understanding that -- how this communication is gonna take place. So, the communication unit knows that this device is a direct communication versus this other one I go through the router. So that's understood at the installation time and setup time and et cetera."

original communication channel. Page 74, lines 11-17, EX1005.⁶ Petitioner asserts that the feature “without going via a router” of [1E] is implicitly disclosed or, in alternative, obvious to a POSITA reading the disclosure of Acharya. Thus, Acharya discloses [1E], or, at least renders it obvious. EX1003, ¶108.

- g. **Element [1F]: “wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the infrared receiver unit by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and starts to display another video content and the communication unit sends second information for informing termination”**

Limitation [1F] is similar to [1E], but requires a command transmitted to the infrared receiver unit. Arguments for [1E] is incorporated by reference herein. Limitation [1E] is suggested by Acharya. EX1003, ¶109.

⁶ When questioned about ‘341 Patent’s lack of support regarding the feature of sending termination signal back to the wireless control device through its original communication channel with or without via a router, Mr. Saber responded: “it would be understood by a POSITA that a communication unit has to be able to communicate with a wireless device. So, depending on the capabilities of the wireless device, the communication unit has the capability of doing this communication with or without a wireless router.”

As with limitation [1E], it is beneficial to use FIGs. 16-18 to explain how Acharya's disclosure teaches [1F] or, in alternative, renders it obvious, by way of example.

A POSITA reading Acharya's disclosure in ¶¶36, 51, 71, and FIGs. 1-2 regarding the shareable display system, in view of ¶¶56-57 and FIG. 4 regarding the User B taking over control of the shareable display system from User A through different communication protocols, and further in view of the embodiment in ¶90 and FIGs. 16-18 of Bob taking control of the projector from Jane, would envision a use scenario in which Jane using the "second wireless control device," while Bob using the "third wireless control device" of [1F], wherein Jane's second wireless control device can connect to projector 110 through WiFi, IEEE 802.11b, via a router, e.g., access point 150 in FIG. 1. On the other hand, Bob's third wireless control device can directly connect to projector 110 through infra-red connection without going via a router, e.g., ad-hoc, peer-to-peer, link 149 in FIG. 1. EX1003, ¶111.

Combining the above-mentioned use scenario and ¶90 and FIGs. 16-17 of Acharya, it shows that Bob, using the third wireless device connected through infra-red connection without a router, sends a message (correlating to a "second command" of [1F]) to take control of the projector 110 from Jane. EX1003, ¶112. Before being terminated, Jane was displaying her content (which correlates to

“second video content” of [1F]) on projector 110. EX1003, ¶112. The content requested by Bob correlates to “another video content” of [1F]. EX1003, ¶112. Jane’s second wireless device was connected to projector 110 through IEEE 802.11b via a router. EX1003, ¶112. The aforementioned use scenario correlates to “wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the infrared receiver unit by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and starts to display another video content” of [1F]. EX1003, ¶112.

Specifically referring to “starts to display another video content” of [1F], Acharya discloses in ¶13 that in a self-serve mode, users send video data to the shareable display system, and the shareable display system **updates** the display with the most recently received video data received. Paragraph 90 of EX1004 shows the dialogs in FIGs. 15-18 are under the self-serve mode. EX1003, ¶113.

As Bob took over the control, Jane's second wireless control device receives a message sent by the projector 110 such as a dialog box 1800 in FIG. 18, informing her that she has lost control of Projector ABC over to Bob. EX1003, ¶114. The termination message of FIG. 18 correlates to “the communication unit sends second information for informing termination of the displaying of the second

video content via the router to the second wireless control device” of [1F]. EX1003, ¶114.

Specifically referring to “via the router” of [1F], since by way of example, Jane’s second wireless control device can be connected to the projector 110 through IEEE 802.11b via a router, a POSITA would have expected the termination message of FIG. 18 to be sent by the projector 110 to Jane’s second wireless control device through the original IEEE 802.11b communication via a router. EX1003, ¶115.

Further supporting that a POSITA would reasonably expect that the termination information is sent back through the original communication channel already established between the wireless device and shareable display system, Patent Owner’s expert Eli Saber stated in his deposition that the termination signal is sent back to the wireless control device through the communication channel originally setup for that particular wireless control device. Page 71, line 25 to page 72, line 17, EX1005. See footnote 5. As to the ‘341 Patent’s lack of disclosure for any methods and/or mechanisms of sending back termination information, Mr. Saber further states in his deposition that it would be readily understood by a PHOSITA that the termination information is sent back through the original communication channel. Page 74, lines 11-17, EX1005. See footnote 6.

Petitioner thus asserts that the feature “without going via a router” is implicitly disclosed or, in alternative, obvious to a POSITA reading the disclosure of Acharya. EX1003, ¶115.

For these reasons, Acharya discloses [1F], or at least renders it obvious. EX1003, ¶116.

Acharya discloses or renders obvious all elements of the ‘341 Patent’s claim 1. Further, based on the disclosure of Acharya, the POSITA would have been motivated to arrive at the invention claimed in the ‘341 Patent’s claim 1 because Acharya teaches or suggests the same arrangement of elements as the ‘341 Patent’s claim 1. Further, based on Acharya, the POSITA would have had a reasonable expectation that he or she would successfully create a system of the ‘341 Patent’s claim 1. EX1003, ¶117. Thus, claim 1 should be found unpatentable as obvious under 35 U.S.C. § 103.

3. Independent Claim 2

Independent claim 2 is a rewriting of claim 1 as a method claim. The substantive limitations of claims 1 and 2 are essentially the same. As explained below, Acharya discloses or at least renders obvious the ‘341 Patent’s claim 2.

a. Preamble: “A method for changing a content on a video display apparatus comprising:”

The preamble “[a] method for changing a content on a video display apparatus” should not be limiting. The only term in the preamble that is recited in

the claim language is the “video display apparatus.” Yet, the term merely repeats itself with no further limitation or structure given. The preamble to claim 1 is not limiting because claim 1’s body defines a “structurally complete invention” and the preamble does not recite essential structure, nor is the preamble “necessary to give life, meaning, and vitality” to the claim. *Catalina*, 289 F.3d at 809. However, to the extent that the preamble is limiting, it is disclosed by Acharya or at least rendered obvious by Acharya.

Acharya disclosed a video display apparatus that can be shared by multiple users. EX1004, ¶¶3, 7-9. Each user may control the video display apparatus through different wireless controllers, e.g., laptop computers, handheld computing devices, personal digital assistants, and cellular telephones. EX1004, ¶¶7-9, EX1004; EX1003, ¶69.

Further, Acharya disclosed in ¶90 and FIGs. 15-18 a method for a second user (e.g., Bob) to request control of the video display apparatus (e.g., projector 110) from a first user (e.g., Jane). Acharya disclosed the preamble of claim 2 or at least renders it obvious. EX1003, ¶62.

b. Element [2A]: “displaying step to display a video content from a broadcast station or from a video content delivery source, on a display unit of the video display apparatus;”

Element [2A] is a rewriting of [1A] as a method step with no meaningful difference in substance. See section VI.A for a side-by-side comparison of the

claim language. The arguments and analyses regarding [1A] above show that Acharya discloses [2A] or at least renders it obvious. EX1003, ¶120.

To the extent “displaying step” of [2A] is not argued in [1A], Acharya discloses in FIG. 4, reproduced below, a flow chart illustrating a self-service multiple user mode for access to a display device. EX1003, ¶121.

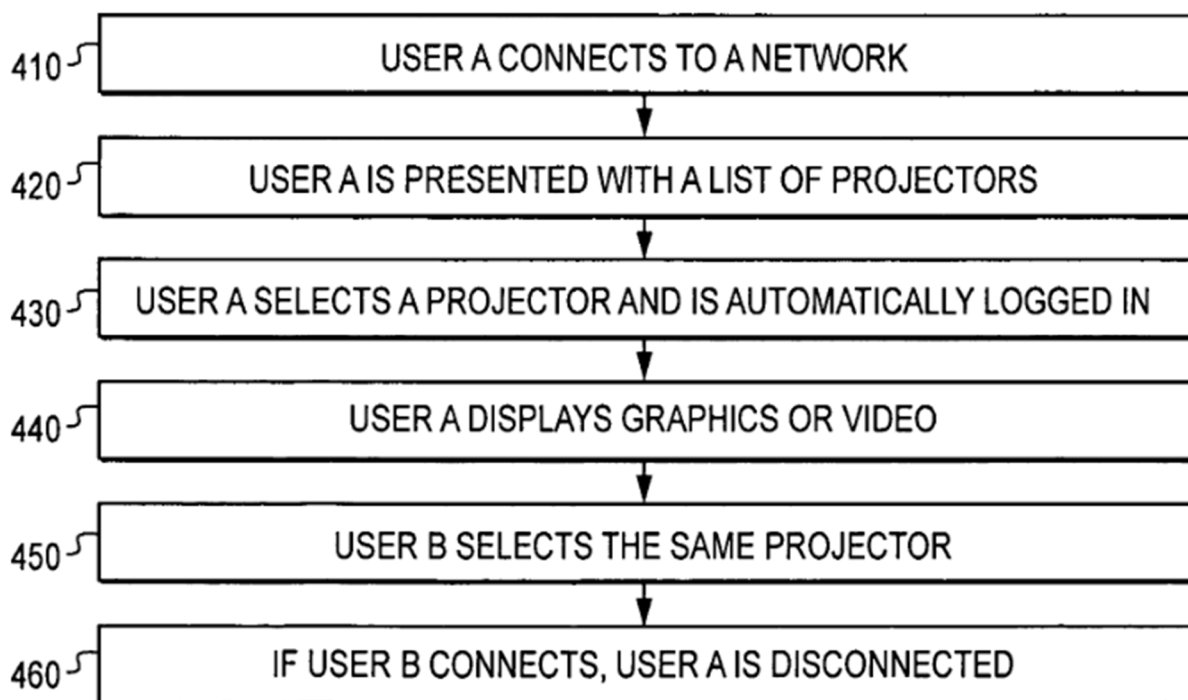


FIG. 4

Acharya’s step 440, user A displays graphics or video correlates to “displaying step” of [2A]. EX1003, ¶121. The remainder of claim limitation [2A], “display a video content from a broadcast station or from a video content delivery source, on a display unit of the video display apparatus” is also disclosed in

Acharya, as explained in § XI.2.a.ii above, which addresses this claim language in the context of claim 1.

Thus, Acharya discloses [2A] or at least renders it obvious. EX1003, ¶120.

- c. **Element [2B]: “first communication step to execute bi-directional wireless communication with a first wireless control device without going via a router; second communication step to execute bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device; and”**

Element [2B] is a rewriting of [1B] as method steps with no meaningful difference. See section VI.A for a side-by-side comparison of the claims. The arguments and analyses regarding [1B] show Acharya discloses [2B] or at least renders it obvious. EX1003, ¶122.

To the extent “first communication step” and “second communication step” of [2B] were not argued in [1B], Acharya discloses in FIG. 4 and ¶¶56-57 a method for multiple users to connect and bi-directionally send and receive data with a display apparatus. Acharya’s step 430, user A selects a projector and is automatically logged in, correlates to a “first communication step” of [2B]. Acharya’s step 450, user B selects the same projector, correlates to a “second communication step” of [2B]. EX1003, ¶122.

The remainder of claim limitation [2B], “bi-directional wireless communication with a first wireless control device without going via a router” and

“bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device” is also disclosed in Acharya, as explained in § XI.2.a.iii above, which addresses this claim language in the context of claim 1.

Thus, Acharya discloses [2B] or at least renders it obvious. EX1003, ¶123.

d. Element [2C]: “infrared ray receiving step to receive infrared rays from a third wireless control device;”

Element [2C] is a rewriting of [1C] with no meaningful difference. See section VI.A for a side-by-side comparison of the claim language. The arguments and analyses regarding [1C] show Acharya discloses [2C] or at least renders it obvious. EX1003, ¶124.

To the extent “infrared ray receiving step” of [2C] was not argued in [1C], Acharya discloses in FIG. 4 and ¶¶56-57 a method for multiple users to connect to a display apparatus. Acharya in ¶57 discloses that “...one of the users may communicate with the projector through a networked link [e.g., user A at step 410] while the other user communicates with the projector through a direct or ad-hoc link [e.g., user B at step 450].” Acharya in ¶¶36, 51, 71 disclosed the ad-hoc link can be infra-red. EX1003, ¶125. Thus, Acharya disclosed “infrared ray receiving step” of [2C] or at least renders it obvious.

The remainder of claim limitation [2C], “receive infrared rays from a third wireless control device” is also disclosed in Acharya, as explained in § XI.2.a.iv above, which addresses this claim language in the context of claim 1.

Thus, Acharya discloses [2C] or at least renders it obvious. EX1003, ¶125.

- e. **Element [2D]:** “wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to a second video content is transmitted from the second wireless control device to the video display apparatus via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content and starts to display the second video content and the video display apparatus sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and”

Element [2D] is substantially the same as [1E]. The arguments and analyses for [1E], as explained in § XI.2.a.vi, apply to [2D]. The difference is that [2D] recites “...is transmitted from the second wireless control device to the video display apparatus ~~communication unit~~ via the router during the first video content is displayed on the display unit...” and “...the video display apparatus ~~communication unit~~ sends first information for informing termination...,” (wherein strike-out language belongs to [1E]). See section VI.A for a further side-by-side comparison of the claims’ language. EX1003, ¶126.

To the extent “video display apparatus” of [2D] was not argued in [1E], Acharya discloses a projector 210 in ¶51 and FIG. 2, which includes a wireless module 216 (correlating to the “communication unit” of [1B] and [1E]. See arguments for [1B]). The projector 210 is capable to communicate with wireless control devices bi-directionally via e.g., IEEE 802.11b, Bluetooth®, infra-red communication protocols. EX1004, ¶¶36, 51, and FIGs. 1-2. The projector 210 of Acharya correlates to “video display apparatus” of [2D]. EX1003, ¶127.

Thus, Acharya discloses [2D] or at least renders it obvious. EX1003, ¶128.

- f. **Element [2E]: “wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the video display apparatus by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content and starts to display another video content and the video display apparatus sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device”**

Element [2E] is substantially the same as [1F]. The arguments and analyses for [1F], as explained in § XI. 2.a.vii apply to [2E]. The difference between [2E] and [1F] is that [2E] recites “...transmitted from the third wireless control device to the video display apparatus ~~infrared receiver unit~~ by infrared rays during the second video content is displayed on the display unit, the display unit terminates

displaying the second video content and starts to display another video content and the video display apparatus ~~communication unit~~...,” (wherein the strike-out language belongs to 1[F]). EX1003, ¶129. See section VI.A for a further side-by-side comparison of the claims’ language.

To the extent “video display apparatus” of [2E] was not argued in [1F], Acharya discloses a projector 210 in ¶51 and FIG. 2, which includes a wireless module 216 (correlating to the “infrared receiver unit” of [1C] and [1F]. See arguments for [1C]). The projector 210 is capable to communicate with wireless control devices bi-directionally via e.g., IEEE 802.11b, Bluetooth®, infra-red communication protocols. EX1004, ¶¶36, 51, and FIGs. 1-2. The projector 210 of Acharya correlates to “video display apparatus” of [2E]. EX1003, ¶130.

Thus, Acharya discloses [2E] or at least renders it obvious. EX1003, ¶¶129–131.

Acharya discloses or renders obvious all elements of the ‘341 Patent’s claim 2. Further, based on the disclosure of Acharya, the POSITA would have been motivated to arrive at the invention claimed in the ‘341 Patent’s claim 2 because Acharya teaches or suggests the same arrangement of elements as the ‘341 Patent’s claim 2. Further, based on Acharya, the POSITA would have had a reasonable expectation that he or she would successfully create a method of the ‘341 Patent’s

claim 2. EX1003, ¶132. Thus, claim 2 should be found unpatentable as obvious under 35 U.S.C. § 103.

4. Independent Claim 3

Independent claim 3 is substantially similar to independent claim 1, and both are apparatus claims. The only difference between the claims is that claim 3 recited changing the video being played, and claim 1 recited starting videos. See section VI.A for a side-by-side comparison of the claims. For much the same reasons as explained above with respect to claim 1, Acharya teaches, or at least renders obvious, the ‘341 Patent’s claim 3.

a. Preamble: “A video display apparatus comprising:”

The preamble “a video display apparatus” of claim 3 is exactly the same as claim 1. Thus, the arguments and analysis in § XI.2.a.1 apply equally to the preamble of claim 3. In short, Acharya discloses the preamble of claim 3 or at least renders it obvious. EX1003, ¶134.

b. Element [3A]: “a display unit that displays a video content from a broadcast station or from a video content delivery source;”

Element [3A] is exactly the same as [1A]. The arguments and analyses regarding [1A] in § XI.2.a.ii show Acharya discloses [3A] or at least renders it obvious. EX1003, ¶135.

- c. **Element [3B]**: “a communication unit that executes two types of bi-directional wireless communication including first bi-directional wireless communication with a first wireless control device without going via a router and second bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device;”

Element [3B] is exactly the same as [1B]. The arguments and analyses regarding [1B] in § XI.2.a.iii show Acharya discloses [1A] or at least renders it obvious. EX1003, ¶136.

- d. **Element [3C]**: “an infrared receiver unit that receives infrared rays from a third wireless control device; and”

Element [3C] is exactly the same as [1C]. The arguments and analyses regarding [1C] in § XI.2.a.iv. show Acharya discloses [3C] or at least renders it obvious. EX1003, ¶137.

- e. **Element [3D]**: “a controller that controls the display unit, the communication unit and the infrared receiver unit,”

Element [3D] is exactly the same as [1D]. The arguments and analyses regarding [1D] in § XI.2.a.v. show Acharya discloses [3D] or at least renders it obvious. EX1003, ¶138.

- f. **Element [3E]**: “wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to another video content is transmitted from the second wireless control device to the communication unit via the router during the first video content is displayed on the display unit, the

display unit terminates displaying the first video content for changing a content to be displayed from the first video content to another video content and the communication unit sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and”

Element [3E] is substantially the same as [1E]. The difference between [3E] and [1E] is that [3E] recites “...the display unit terminates displaying the first video content for changing a content to be displayed from the first video content to another and starts to display the second video content and...,” (wherein the strike-out language belongs to [1E]). The claim language difference is not meaningfully different, nor does the specification of the ‘341 Patent provide any support for the idea that there is any substantial difference between the scope of element [3E] and element [1E]. EX1003, ¶140. Thus, the arguments and analyses regarding [1E] in § XI.2.a.vi. show Acharya discloses [3E], or at least renders it obvious.

To the extent the claim language difference is substantively distinguishable, Acharya discloses in ¶13 that in a self-serve mode, users send video data to the shareable display system, and the shareable display system **updates** the display with the most recently received video data received. EX1003, ¶140. This correlates to “the display unit terminates displaying the first video content for changing a content to be displayed from the first video content to another” of [3E]. EX1003, ¶140. See also ¶90, EX1004 (showing the dialogs in FIGs. 15-18 are under the

self-serve mode.) Acharya discloses [3E], or at least renders it obvious. EX1003, ¶140.

- g. **Element [3F]:** “wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the infrared receiver unit by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content for changing a content to be displayed from the second video content to another video content and the communication unit sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device.”

Element [3F] is substantially the same as [1F]. The difference between [3F] and [1F] is that element [3F] recites “...the display unit terminates displaying the second video content for changing a content to be displayed from the second video content to and ~~starts to display~~ another video content and...,” wherein the strike-out language belongs to [1F]. The difference is not meaningfully discernible, nor does the specification of the ‘341 Patent provide any support for the idea that there is any substantial difference between the scope of element [3E] and element [1E]. Thus, the arguments analyses regarding [1F] in § XI.2.a.vii. show Acharya discloses [3F], or at least renders it obvious. EX1003, ¶141.

To the extent the difference is distinguishable, Acharya discloses in ¶13 that in a self-serve mode, users send video data to the shareable display system, and the

shareable display system **updates** the display with the most recently received video data received. EX1003, ¶142. This correlates to “the display unit terminates displaying the first video content for changing a content to be displayed from the first video content to another” of [3F]. EX1003, ¶142, See also ¶ [0090], EX1004 (showing the dialogs in FIGs. 15-18 are under the self-serve mode). Acharya discloses [3F], or at least renders it obvious. EX1003, ¶143.

Acharya discloses or renders obvious all elements of the ‘341 Patent’s claim 3. Further, based on the disclosure of Acharya, the POSITA would have been motivated to arrive at the invention claimed in the ‘341 Patent’s claim 3 because Acharya teaches or suggests the same arrangement of elements as the ‘341 Patent’s claim 3. Further, based on Acharya, the POSITA would have had a reasonable expectation that he or she would successfully create a system of the ‘341 Patent’s claim 3. EX1003, ¶143. Thus, claim 1 should be found unpatentable as obvious under 35 U.S.C. § 103.

5. Independent Claim 4

Independent claim 4 is substantially the same as independent claim 2, and both are method claims. See section VI.A for a side-by-side comparison of the claims’ language. For much the same reasons as explained above with respect to claim 2, Acharya teaches, or at least renders obvious, the ‘341 Patent’s claim 4.

a. Preamble: “A method for changing a content on a video display apparatus comprising:”

The preamble of claim 4 is exactly the same as claim 2. Thus, the arguments and analysis in § XI.2.b.i apply equally to the preamble of claim 4. In short, Acharya discloses the preamble of claim 4 or at least renders it obvious. EX1003, ¶145.

b. Element [4A]: “displaying step to display a video content from a broadcast station or from a video content delivery source, on a display unit of the video display apparatus;”

Element [4A] is exactly the same as [2A]. Thus, the arguments and analysis in § XI.2.b.ii apply equally to element [4A]. In short, Acharya discloses element [4A] or at least renders it obvious. EX1003, ¶146.

c. Element [4B]: “first communication step to execute bi-directional wireless communication with a first wireless control device without going via a router; second communication step to execute bi-directional wireless communication via a router with a second wireless control device that is different from the first wireless control device; and”

Element [4B] is exactly the same as [2B]. Thus, the arguments and analysis in § XI.2.b.iii apply equally to element [4B]. In short, Acharya discloses element [4B] or at least renders it obvious. EX1003, ¶147.

d. Element [4C]: “infrared ray receiving step to receive infrared rays from a third wireless control device;”

Element [4C] is exactly the same as [2C]. Thus, the arguments and analysis in § XI.2.b.iv apply equally to element [4C]. In short, Acharya discloses element [4C] or at least renders it obvious. EX1003, ¶148.

- e. **Element [4D]:** “wherein, if a first command for changing a video content on the display unit from a first video content selected by the first wireless control device to another video content is transmitted from the second wireless control device to the video display apparatus via the router during the first video content is displayed on the display unit, the video display apparatus terminates displaying the first video content for changing a content to be displayed from the first video content to another video content and the video display apparatus sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router, and”

Element [4D] is substantially the same as [2D]. The difference is that [4D] recites “...the video display apparatus terminates displaying the first video content for changing a content to be displayed from the first video content to another ~~and starts to display the second~~ video content and ...,” wherein the strike-out language belongs to [2D]. The claim language difference is not meaningfully distinguishable, nor does the specification of the ‘341 Patent provide support for the idea that there is any substantial difference between the scope of element [4D] and element [2D]. Thus, the arguments and analyses regarding [2D] in § XI.2.b.v. show Acharya discloses [4D], or at least renders it obvious. EX1003, ¶149.

To the extent the claim language difference is distinguishable, Acharya discloses in ¶13 that in a self-serve mode, users send video data to the shareable display system, and the shareable display system **updates** the display with the most recently received video data received. This correlates to “the video display apparatus terminates displaying the first video content for changing a content to be displayed from the first video content to another video content” of [4D]. EX1003, ¶150. See also ¶90, EX1004 showing the dialogs in FIGs. 15-18 are under the self-serve mode. EX1003, ¶150. Acharya discloses [4D], or at least renders it obvious. EX1003, ¶150.

- f. **Element [4E]:** “wherein, if a second command for changing a video content on the display unit from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device to the video display apparatus by infrared rays during the second video content is displayed on the display unit, the display unit terminates displaying the second video content for changing a content to be displayed from the second video content to another video content and the video display apparatus sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device.”

Element [4E] is substantially the same as [2E]. The difference is that [4E] recites “...the display unit terminates displaying the second video content for changing a content to be displayed from the second video content to ~~and starts to display~~ another video content and ...,” wherein the strike-out language belongs to

[2E]. The claim language difference is not meaningfully distinguishable, nor does the specification of '341 provide any support for the idea that there is any substantial difference between the scope of element [4E] and element [2E]. Thus, the arguments and analyses regarding [2E] in § XI.2.b.vi. show Acharya discloses [4E], or at least renders it obvious. EX1003, ¶151.

To the extent the claim language difference is distinguishable, Acharya discloses in ¶13 that in a self-serve mode, users send video data to the shareable display system, and the shareable display system **updates** the display with the most recently received video data received. This correlates to “the display unit terminates displaying the second video content for changing a content to be displayed from the second video content to another video content” of [4E]. EX1003, ¶152. See also ¶90, EX1004 showing the dialogs in FIGs. 15-18 are under the self-serve mode. Acharya discloses [4E], or at least renders it obvious. EX1003, ¶152.

Acharya discloses or renders obvious all elements of the '341 Patent's claim 4. Further, based on the disclosure of Acharya, the POSITA would have been motivated to arrive at the invention claimed in the '341 Patent's claim 4 because Acharya teaches or suggests the same arrangement of elements as the '341 Patent's claim 4. Further, based on Acharya, the POSITA would have had a reasonable expectation that he or she would successfully create a system of the '341 Patent's

claim 4. EX1003, ¶153. Thus, claim 4 should be found unpatentable as obvious under 35 U.S.C. § 103.

XII. SOTERA STIPULATION

Should the Board grant *inter partes* review of this Petition, Petitioner stipulates that it will not pursue in the parallel district court litigation the same grounds or any grounds that could have reasonably been raised before the PTAB. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18-19 (Dec. 1, 2020) (precedential as to § II.A). In view of Petitioner’s *Sotera* stipulation, and in accordance with Director Vidal’s Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (“Interim Procedure”), the Board should, therefore, not exercise discretion to deny institution in view of the parallel district court proceeding. Interim Procedure at 9 (instructing that the Board will not deny institution under *Fintiv* “where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition”).

XIII. CONCLUSION

Petitioner respectfully requests the Board institute *inter partes* review of the 10,375,341 Patent and cancel each challenged claim.

Petition for *Inter Partes* Review of U.S. Patent No. 10,375,341

Dated: November 4, 2024

Respectfully submitted by:

/Douglas A. Robinson/

Douglas A. Robinson

HARNESS DICKY & PIERCE, P.L.C.

7700 Bonhomme Ave., Suite 400

St. Louis, MO 63105

Telephone: (314) 726-7500

Facsimile: (314) 726-7501

drobinson@harnessip.com

Glenn E. Forbis

HARNESS, DICKY & PIERCE, PLC

5445 Corporate Drive

Troy, MI 48098

gforbis@harnessip.com

Telephone: (248) 641-1600

Facsimile: (248) 641-0270

***Attorneys for TCL Electronics Holdings Ltd.
(f/k/a TCL Multimedia Technology Holdings,
Ltd.)***

CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that this petition complies with the type volume limitations of 37 C.F.R. § 42.24(a)(1)(i). Excluding the portions allowed by 37 C.F.R. § 42.24(a)(1), this petition contains 13,421 words as calculated by the “Word Count” feature of Microsoft Word 2010, the word processing program used to create this.

The undersigned further certifies this petition complies with the typeface requirements of 37 C.F.R. § 42.6(a)(2)(ii) and typestyle requirements of 37 C.F.R. § 42.6(a)(2)(iii). This petition has been prepared in a proportionally spaced typeface using Microsoft Word 2010 in Times New Roman 14-point font.

Dated: November 4, 2024

/Douglas A. Robinson /

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§42.6(e) and 42.105(a), the undersigned certifies that on November 4, 2024, a copy of **Petitioner TCL Electronics Holdings Ltd. (f/k/a TCL Multimedia Technology Holdings, Ltd.)’s Petition for *Inter Partes* Review and Exhibits 1001-1008** were served by Priority Mail Express on the correspondence address of record indicated in the Patent Office’s public PAIR system for U.S. Patent No. 10,375,341:

MCDERMOTT WILL & EMERY LLP
THE MCDERMOTT BUILDING
500 NORTH CAPITOL STREET, N.W.
WASHINGTON, DC 20001

A courtesy copy of the foregoing was also served by FedEx on the following counsel of record for Patent Owner in litigation before the District Court for the Eastern District of Texas Arkana Division:

Geoff Culbertson (Texas Bar No. 24045732)
Kelly Tidwell (Texas Bar No. 20020580)
Patton, Tidwell & Culbertson, LLP
2800 Texas Boulevard (75503)
Post Office Box 5398
Texarkana, TX 75505-5398
Telephone: (903) 792-7080
Facsimile: (903) 792-8233
gpc@texarkanalaw.com
kbt@texarkanalaw.com

Jamie B. Beaber
Kfir B. Levy

Alan M. Grimaldi
James A. Fussell, III
Tiffany A. Miller
Michael L. Lindinger
Alison T. Gelsleichter
Tatsuya Koyama
Young Kyoung (Claire) Kim
MAYER BROWN LLP
1999 K Street, NW
Washington, DC 20006
Telephone: (202) 263-3000
Facsimile: (202) 263-3300
jbeaber@mayerbrown.com
klevy@mayerbrown.com
agrimaldi@mayerbrown.com
jfussell@mayerbrown.com
tmiller@mayerbrown.com
mlindinger@mayerbrown.com
agelsleichter@mayerbrown.com
tatsuya.koyama@mayerbrown.com
clairekim@mayerbrown.com

Amanda S. Bonner
Luiz Miranda
MAYER BROWN LLP
71 S. Wacker Drive
Chicago, IL 60606
(312) 782-0600
asbonner@mayerbrown.com
lmiranda@mayerbrown.com

/Douglas A. Robinson/