

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

YEALINK (USA) NETWORK TECHNOLOGY CO., LTD., and
YEALINK NETWORK TECHNOLOGY CO., LTD.
Petitioners,

v.

BARCO N.V.
Patent Owner

U.S. Patent No. 10,762,002
IPR2024-1436

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 10,762,002**

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TABLE OF EXHIBITS

EXHIBIT	DESCRIPTION
EX-1001	U.S. Patent No. 10,762,002
EX-1002	Declaration of Kevin C. Almeroth, Ph.D.
EX-1003	Curriculum Vitae of Kevin C. Almeroth, Ph.D.
EX-1004	File History of U.S. Patent No. 10,762,002
EX-1005	U.S. Patent Application Publication No. 2005/0210390 (“Ono”)
EX-1006	U.S. Patent Application Publication No. 2008/0074560 (“Ichieda”)
EX-1007	U.S. Patent Application Publication No. 2006/0069840 (“Corbett”)
EX-1008	RESERVED
EX-1009	English Translation of Japanese Patent Application Publication No. 2008-165007 (“Uchida”)
EX-1010	Japanese Patent Application Publication No. 2008-165007
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EX-1012	RESERVED
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EX-1015– EX-1019	RESERVED
EX-1020	U.S. Patent Application Publication No. 2010/0087139 (“Glass”)
EX-1021	U.S. Patent Application Publication No. 2009/0198839 (“Banerjee”)
EX-1022	U.S. Patent Application Publication No. 2011/0115689 (“Sugiyama”)

EX-1023	U.S. Patent Application Publication No. 2009/0187687 (Hulbert”)
EX-1024	U.S. Patent Application Publication No. 2003/0112975 (“Taiwanese”)
EX-1025	RESERVED
EX-1026	U.S. Patent Application Publication No. 2009/0172219 (“Mardiks”)
EX-1027	U.S. Patent Application Publication No. 2010/0295994 (“Kaplan”)
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EX-1030	EP Patent Application Publication No. 2107463 (“Deforche”)
EX-1031	JP Patent Application Publication No. 2007-208606 (“Maeda”)
EX-1033	U.S. Patent Application Publication No. 2002/0196378 (“Slobodin”)
EX-1034	U.S. Patent Application Publication No. 2002/0174254 (“Kita”)
EX-1035– EX-1049	RESERVED
EX-1050	Imation Wireless Projection Link User Guide
EX-1051	EZAir Press Release, “EZAir Wireless PC to TV Solutions Now Available Across Europe,” March 16, 2011
EX-1052	Warpia Product Brief, “Wireless USB PC to TV Audio/Video Display Adapter,” 2009
EX-1053	Q-Waves Product Overview, “Quicklink TV,” November 2010
EX-1054	IOGear Installation Guide, “Wireless USB to VGA Kit,” 2008
EX-1055	JP Patent Application Publication No. 2007-208606
EX-1056	Certification for English Translation of JP Patent Application Publication No. 2007-208606
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EX-1058	U.S. Patent Application Publication No. 2011/0038005 (“Ochai”)
EX-1059	U.S. Patent Application Publication No. 2006/0229100 (“Born”)
EX-1060	U.S. Patent No. 7,207,059 (“Kurian”)
EX-1061	U.S. Patent Application Publication No. 2007/0123251 (“McElvaney”)
EX-1062	U.S. Patent Application Publication No. 2003/0036406 (“Huang”)
EX-1063	U.S. Patent No. 5,913,174 (“Casarez”)
EX-1064	U.S. Patent No. 6,717,801 (“Castell”)
EX-1065	U.S. Patent No. 6,804,541 (“Muramatsu”)

I. INTRODUCTION

Yealink (USA) Network Technology Co., Ltd. and Yealink Network Technology Co., Ltd. (collectively “Petitioners” or “Yealink”) requests *inter partes* review of claims 1-3, 9-11, 19, and 21-22 of U.S. Patent No. 10,762,002 (“the ’002 patent”) (EX-1001) assigned to Barco N.V. (“Patent Owner” or “Barco”). For the reasons below, the Board should find the challenged claims unpatentable.

II. MANDATORY NOTICES

A. Real Parties-in-Interest

The real parties-in-interest are Yealink (USA) Network Technology Co., Ltd. and Yealink Network Technology Co., Ltd.

B. Related Matters

The ’002 patent is at issue in *Barco, Inc. et al v. Yealink (USA) Network Technology Co., Ltd. et al*, 2:2023-cv-521 (EDTX), filed November 14, 2023 (“EDTX case”).

C. Counsel and Service Information

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Petitioners consent to electronic service.

III. PAYMENT OF FEES

The PTO is authorized to charge any fees due during this proceeding to Deposit Account No. 30827.

IV. GROUNDS FOR STANDING

Yealink certifies the '002 patent is available for IPR and Yealink is not barred or estopped from requesting IPR challenging the claims of the '002 patent. Yealink is not the owner of the '002 patent, has not filed civil action challenging the validity of any claim of the '002 patent, and this Petition is filed less than one year after Yealink was served with a complaint alleging infringement of the '002 patent.

V. PRECISE RELIEF REQUESTED

Petitioners respectfully request cancellation of claims 1-3, 9-11, 19, and 21-22 of the '002 patent based on the following grounds:

Ground 1: Claims 1-3, 9-11, 19, and 21-22 are unpatentable under pre-AIA 35 U.S.C. § 103(a) as being obvious over Kaplan, Ahmed, and Deforche.

Ground 2: Claims 1-3, 9-11, 19, and 21-22 are unpatentable under pre-AIA 35 U.S.C. § 103(a) as being obvious over Maeda, Ahmed, and Deforche.

The '002 patent claims the benefit of priority to a provisional application filed on September 14, 2011. (EX-1001, pg. 2, §60 (Related U.S. Application Data)). For purposes of this Petition only, Petitioners treat September 14, 2011, as the priority date for the challenged claims. Each of the asserted references qualify as prior art, as detailed below.

Prior Art Reference	Statutory basis	Publication Date /Filing Date
Kaplan (EX-1027)	102(a) / 102(e)	November 25, 2010 / August 7, 2009
Maeda (EX-1031)	102(b)	August 16, 2007
Ahmed (EX-1014)	102(b)	October 26, 2006
Deforche (EX-1030)	102(b)	October 7, 2009

Kaplan, Maeda, and Ahmed were not considered during prosecution of Application No. 14/344,836 (which led to the '002 patent). (*See generally* EX-1004). Although Deforche was cited during prosecution, this document was among more than 200 cited references and materials and not otherwise mentioned. (*Id.*).

VI. THE '002 PATENT

A. Admissions of Prior Art Techniques

The '002 patent recognizes an “explosion of communication electronic communication tools” and acknowledges the known desirability for tools allowing greater participation in meetings. (EX-1001, 1:19-27, 2:18-35; EX-1002, ¶¶54-55). The '002 patent mentions U.S. 2010/0087139 (EX-1020 (“Glass”)) using a USB dongle to turn an electronic device into an audience-participation device. (EX-1001,

2:18-35; EX-1020, abstract; EX-1002, ¶55). Specifically, Glass discloses linkable response units 12b, coupled by a connector (e.g., a USB plug) to a port in electronic device 24 (e.g., laptops), wirelessly transfer information via a wireless transceiver 30 to a base station 14, which in turn may be displayed on a screen. (*Id.*, ¶¶13, 18, 20, 30; EX-1002, ¶55). Linkable response unit 12b also includes keypad/buttons 46 to trigger this transmission and program 42 stored on the response unit 12b enables communication between the various devices. (EX-1020, ¶¶21, 24-26, 33; EX-1002, ¶55).

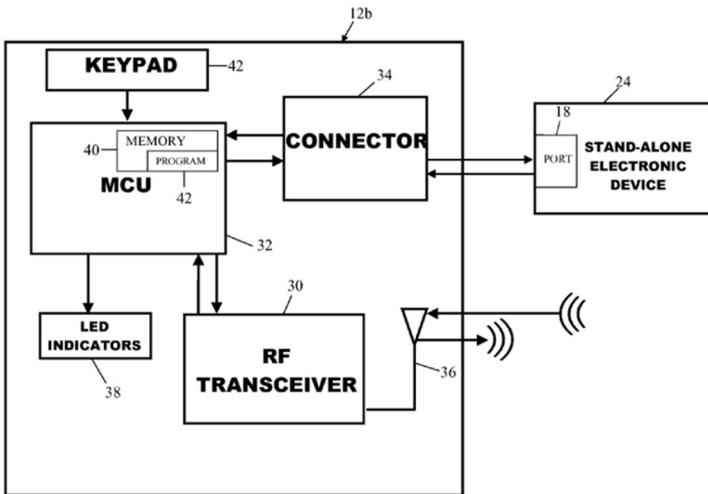


FIG. 2

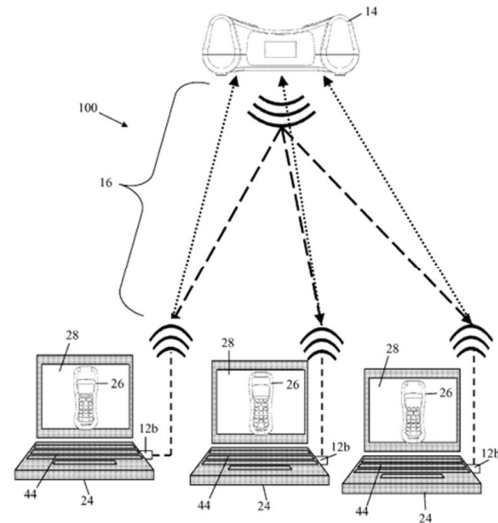


FIG. 3

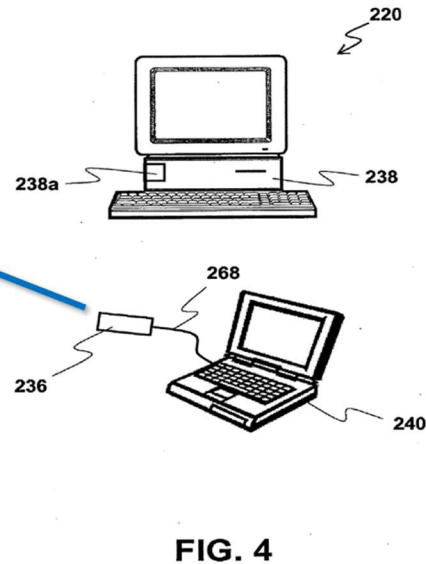
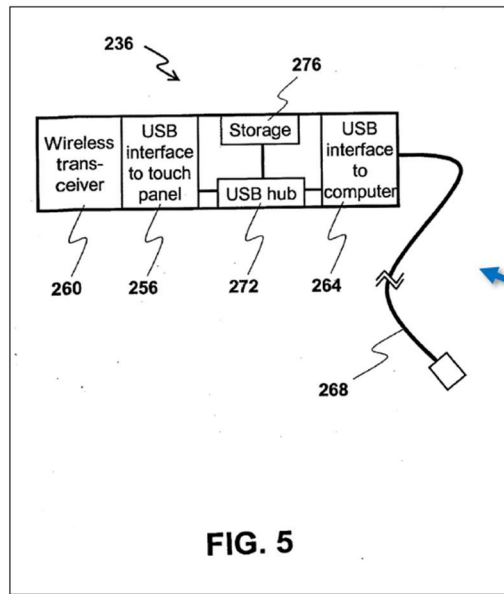
(EX-1020, FIGs. 2-3).¹

The '002 patent recognizes and concedes that transferring content between devices was known and discloses three common techniques for transferring content

¹ All color annotations throughout are added unless noted otherwise.

of a computer to a projector. (EX-1001, 3:3-15; EX-1002, ¶56). “The most common ways are to use a cable that connects the display adapter of the graphics card to the video input of the projector [method 1] or to use a software that captures the display contents and sends it over a wired or wireless network to a remote base unit connected to the projector [method 2].” (*Id.*). A known alternative was “to use a special device connected to the display adapter of the graphics card that captures, encodes and streams the display content over a wired or wireless network [method 3].” (*Id.*).

The '002 patent identifies U.S. 2009/0198839 (EX-1021 (“Banerjee”)) and U.S. 2011/0115689 (EX-1022 (“Sugiyama”)) as known prior art techniques for such transmission. (EX-1001, 3:65-4:5; EX-1002, ¶57). The '002 patent concedes these references describe the use of the “well-known USB interface of the computer for extracting the display content of the computer” and transmitting to a projector. (*Id.*). For example, Banerjee’s disclosed plug-and-play device 236 “captures ... screen display data generated at the remote computer 240 and allows screen sharing between the remote computer 240 and the master computer 238.” (EX-1021, ¶39, 52, 54; EX-1002, ¶¶57-58).



(EX-1021, FIGs. 4-5).

B. The Purported Invention

The '002 patent recognized problems with previous meeting technologies, such as “high demands of technical expertise” and “barriers to the use of complicated technology” and sought to improve these known issues. (EX-1001, 4:40-52; EX-1002 at ¶¶59-61). Yet, the '002 claims a system that simply wirelessly communicates media content between an electronic device and a display via a peripheral device and base node—much like the acknowledged prior art. (*See id.*, 3:65-4:5, 33:41-36:29; EX-1002 at ¶¶59-60; Section VI.A).

Notably, the examiner stated the reason for allowance was that ““routing audio data between the processing device and communication ... to a base node.” (EX-1004, 601-06 (emphasis removed)). However, routing audio data from a processing

device to a wireless transceiver and from the wireless transceiver of the peripheral device to a base node was well known in the art. (EX-1026, ¶¶3, 10; EX-1002, ¶61).

Despite the assertions of the '002 patent and its prosecution history, all features recited in the challenged claims were already known and could have been combined according to their ordinary functions. (EX-1002, ¶¶60-61).

C. Summary of Prosecution History

The examiner initially rejected the claims as anticipated by US 2007/0033289 (“Nuyttens”). (EX-1004, 1423-28; EX-1002, ¶¶62-64).² In response, Patent Owner filed a Request for Reconsideration, arguing that while Nuyttens disclosed a “standard structure in the sense that the video comes in from the network, is decoded, rendered and then displayed, [that was] not the invention recited in the claims.” (EX-1004, 1247-55 (response of 8/30/2017)). Instead, Patent Owner argued, “the skilled person would have understood that [Nuyttens] functional blocks are installed cards that are part of the computer, as opposed to a peripheral device.” (*Id.* (emphasis added)). The examiner maintained its rejection in a Final Office Action. (EX-1004, 1064-76).

² Two dependent claims were rejected as obvious over Nuyttens in further view of US 2013/0060662 (“Carlson”). (*See* EX-1004, 1429–30).

In response, Patent Owner amended the claims to include the additional limitation “coupling [[a]] an external peripheral device physically to a port of [[to]] the processing device” and requiring “using the peripheral device to connect the processing device to a communications network.” (EX-1004, 945-51 (response of 1/22/2018)) (underlining in original). The examiner issued a second non-final rejection, finding the amended claims obvious over Nuyttens in further view of US 2009/0247006 (“Thompson”). (EX-1004, 901-14). The examiner additionally cited US 2004/0125777, US 2007/0065078, and US 2013/0054348 as considered pertinent to applicant’s disclosure. (*See* EX-1004, 913).

Patent Owner amended the independent claims, whereafter the examiner issued a Notice of Allowance, specifically, in regard to Patent Owner’s newly added limitations, in relevant part, of: (1) “routing audio data between the processing device and the communication network via the means for audio communication and the transceiver to a base node”, and (2) “wherein the peripheral device comprises an audio adapter.” (EX-1004, 601-06, 850-54 (response of 7/24/2018) (underline in original)). The examiner stated the reason for allowance was that the ““routing audio data between the processing device and communication... to a base node; ... Wherein the peripheral device comprises an audio output device.” [sic] in combination with the corresponding claimed structure is not taught by the cited prior art on record.” (EX-1004, 601-06 (underline in original)).

Thereafter, Patent Owner filed a supplemental response after allowance to amend the claims and remove the “wherein the peripheral device comprises an audio output adapter” limitation, arguing in support of the amended claims that “the skilled person would have understood that the features recited in the claims are at least directed to ... using an audio interface without the need of special driver installation,” which the Nuyttens/Thompson failed to result in. (EX-1004, 561-66, 571-75 (supplemental response of March 15, 2019)). Patent Owner further amended the structure of the claims but, however, such amendments did not alter the substance of routing audio data from a processing device “to a base node” (Patent Owner, instead, only changed the limitation from the audio data be routed from “between the processing device and the communications network ... to a base node” to audio data be routed “from the processing device to the wireless transceiver ... [and] from the wireless transceiver of the peripheral device to a base node”). (EX-1004, 542-47 (supplemental response of 4/19/2019), 571-75). The examiner maintained its allowance of the amended claims based on this language.³ (EX-1004, 340-41).

³ The examiner issued a rejection prior to the final Notice of Allowance, but which only addressed a minor 35 U.S.C. § 112 issue and which Patent Owner non-substantively amended the claims to overcome. (EX-1004, 476–78).

However, the examiner did not discuss on the record the prior art references asserted in this petition. The prior art discussed on the record, while related to network systems, focuses on different problems in the art, however, and does not discuss, at least, external peripheral devices physically connected to a processing device for connecting, and transferring data between, the processing device to a communications network. (EX-1002, ¶¶62-64).

VII. LEVEL OF ORDINARY SKILL IN THE ART

In the EDTX case, Barco alleges that a person having ordinary skill in the art at the time of the alleged invention (“POSITA”) would have had at least a Master’s Degree in Electrical Engineering and five years of work experience in computer science and embedded systems, or a Master’s Degree in Computer Science and five years of work experience in electrical and computer engineering and embedded systems. Additional educational experience could substitute for some of the work experience. Petitioners adopt Barco’s definition solely for the purposes of this proceeding. (EX-1002, ¶¶36-37).

VIII. CLAIM CONSTRUCTION

For IPR proceedings, the Board applies the claim construction standard according to *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). See 83 Fed. Reg. 51,340-59 (Oct. 11, 2018). Under *Phillips*, claim terms are typically given their ordinary and customary meanings, as would have been understood by a

POSITA at the time of the invention. *Phillips*, 415 F.3d at 1313; *see also id.*, 1312-16. The Board, however, only construes the claims when necessary to resolve the underlying controversy. *Toyota Motor Corp. v. Cellport Systems, Inc.*, IPR2015-633, Paper No. 11 at 16 (Aug. 14, 2015) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). Petitioners have construed terms consistent with definitions provided in the '002 patent. (*See* EX-1002, ¶¶65-83). Otherwise, terms have been given their plain and ordinary meaning.⁴ No terms of the '002 patent have been construed in the EDTX case.

Further, the claim construction process has not yet begun in the EDTX case, and thus Patent Owner has not provided a position on the various “means” recited in the challenged claims. Some of the terms below presumably invoke 35 U.S.C. § 112(f) (“§ 112(f)”), i.e., is a “means-plus-function” limitation, because each “means” limitation does not recite sufficient structure for performing the recited

⁴ Yealink does not waive the right to challenge the '002 patent claims as indefinite or to construe any term in alternate forums. Yealink's attempt to understand the claim terms and apply that to the prior art grounds here is not an admission that the challenged claims have definite scope.

function.⁵ *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015). Per 37 C.F.R. § 42.104(b)(3), Petitioner understands it is obligated to identify the “specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function” for any limitations that invoke § 112(f). *See Consolidated Trial Practice Guide (“CTPG”),* 45 (“Where claim language may be construed according to 35 U.S.C. § 112(f), a petitioner must provide a construction[.]”). Petitioner also recognizes that Patent Owner may contend this limitation does not invoke § 112(f). As set forth below, whether construed as a

⁵ Petitioner also intends to argue in the parallel litigation that the limitation is indefinite because the ’002 patent specification describes insufficient corresponding structure for the full scope of the function recited for the claimed “means” terms. Recognizing that the Board cannot address indefiniteness in an IPR proceeding, Petitioner satisfies its burden by advancing a means-plus-function construction in the IPR based on the limited corresponding structure described in the ’002 Patent. *See DraftKings Inc. v. AG 18, LLC*, IPR2022-01447, Paper 12 at 25 (PTAB Mar. 14, 2023) (instituting review and accepting as procedurally proper a § 112(f) construction advanced in an IPR where the petitioner argued in the parallel litigation that the claim was indefinite for failing to disclose sufficient corresponding structure).

means-plus function limitation or not, the limitations requiring “means for,” or similar language invoking means plus, captures at least the expressly described structure associated with the claimed function and equivalents. But even if these limitations were found to not evoke § 112(f), the claimed “means” must be construed broadly enough to capture the specifically disclosed examples and equivalents. Thus, the Petition’s analysis herein also applies to any term regardless of the analysis under § 112(f).

A. “couple” / “coupling” (claims 1, 11, 21)

The term “‘coupled’, also used in the description or claims, should not be interpreted as being restricted to direct connections only.” (EX-1001, 15:44-52; *See* EX-1002, ¶70).

B. “wireless” (claims 1, 11)

The term “‘wireless’ can be any network that does not use cable links between nodes, e.g. ... WLAN ... or any other wireless communication network known to the [POSITA].” (*Id.*, 14:14-20; *See* EX-1002, ¶71).

C. “pre-installed generic driver” (claims 1-3, 11, 21)

The term “‘pre-installed generic driver’ is intended to mean a driver which is installed on a processing device such as a computer as a standard driver, e.g. is installed with the installation of the operating system.” (*Id.*, 14:32-46; *See* EX-1002, ¶72).

D. “*pre-installed generic audio driver*” (claims 1, 11)

This limitation is similar to the “*pre-installed generic driver*”; however, this limitation is specific to audio hardware as opposed to other hardware, such as human-interface devices. (*See id.*, 14:32-46, 30:38-43; *See* EX-1002, ¶73).

E. “*means of a first pre-installed generic audio driver of the operating system*” (claims 1, 11)

This limitation is similar to the “*pre-installed generic driver.*” The structure of the limitation is the software used to allow software to communicate with audio hardware. (*See id.*, 14:32-46, 30:38-43; *See* EX-1002, ¶74).

F. “*means of a second pre-installed generic driver of the operating system*” (claims 1, 11)

This limitation is similar to the “*pre-installed generic driver.*” The structure of the limitation is the software used to allow software to communicate with hardware. (*See id.*, 14:32-46; *See* EX-1002, ¶75).

G. “*means for coupling*” (claim 11)

The term “*means for coupling*” presumably invokes means-plus-function language. The “means for coupling” appears to relate to the following passages in the specification:

an external peripheral device compris[es] a connector adapted to couple to a port of a user processing device 31. (EX-1001, 18:6-7; *see also id.*, Abstract, 6:6-8).

The coupling can be by a plug and play interface such as a USB interface that has generic drivers installed on the processing device. For example the peripheral device 32 can be physically inserted into a USB port on the processing device 31. (EX-1001, 31:45-50).

Thus, the structure for this term is at least a connector of the external peripheral device that physically connects to a port of the processing device. (See EX-1002, ¶76).

H. “*means for audio communication between the peripheral device and the processing device*” (claims 1, 11, 21)

“*a means for data communication between the peripheral device and the processing device*” (claims 1, 11)

The term “*means for audio communication*” and “*means for data communication*” presumably invokes means-plus-function language and refers to the structure of an interface using the “*generic communications protocol*” of claim 1, 11, and 21. The “means for audio communication” and “means for data communication” appears to relate to the following passages in the specification:

[O]ne of the pre-installed generic drivers of the operating system on the relevant computer 31, 36 is exploited for setting up communication from the computer device 31, 36 to the network 50 via the connection unit 47 (optionally 49)...the connection unit 47, (optionally 49) operated as a peripheral device communicates with the relevant processing device 31, 36 by using a generic communication protocol provided by the pre-installed generic driver.

(EX-1001, 19:50-20:12). Thus, the structure for both the audio and data communication encompasses an interface using the communication protocol of the specification. (See EX-1002, ¶77).

I. “means for setting up... a means for audio communication between the peripheral device and the processing device and ... a means for data communication between the peripheral device and the processing device” (claim 11)

“a first software code portion for setting up ... a means for audio communication between the peripheral device and the processing device” (claim 21)

The phrase, “means for setting up,” presumably invokes means-plus-function language. However, claim 11 includes the structure for preforming the “*setting up*”, *i.e.*, “means for setting up, by means of a first pre-installed generic audio driver of the operating system” and “by means of a second pre-installed generic driver of the operating system.” Thus, no further structure is required. (See EX-1002, ¶78). “Even if a claim uses the term ‘means,’ ‘where a claim recites a function, but then goes on to elaborate sufficient structure, material, or acts within the claim itself to perform

entirely the recited function, the claim is not in means-plus-function format.”
Cochlear Bone Anchored Sols. AB v. Oticon Med. AB, 958 F.3d 1348, 1360 (Fed. Cir. 2020) (quoting *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1427–28 (Fed. Cir. 1997)).

The phrase “*a first software code portion for setting up*” recites a nonce word followed by a function. However, similar to the phrase, “*means for setting up*” of claim 11, claim 21 also recites structure to perform that function, *i.e.*, “*means of a first pre-installed generic driver.*” Thus, no further structure is required. (See EX-1002, ¶79).

J. “*means for routing*” (claim 11)

“a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication and for routing the audio data from the peripheral device to the base node over the communications network, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device” (claim 21)

The term “*means for routing*” presumably invokes means-plus-function language and, to the extent any structure can be identified as corresponding to the routing function, appears to refer to at least one channel of the “communications network” of claim 11. (See EX-1002, ¶80). The “*means for routing*” appears to relate to the following passages in the specification:

Having been routed over a communications network to the base unit 33, the incoming stream is read from the communications interface (EX-1001, 32:50-52; *see also id.*, 29:30-55 (“there is at least one channel from the peripheral device to the base node”)).

Thus, to the extent any structure can be identified as corresponding to this function, appears to refer to at least one channel of the “communications network” of claim 11 and 21. (*See* EX-1002, ¶80).

Although the phrase, “*third software code portion for routing*,” does not use the term “means,” it nevertheless could constitute means-plus-function language. “Software code” is simply a generic description for software that performs a specified function and tantamount to using the word “means” because it “typically do not connote sufficiently definite structure.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (*en banc*). However, claim 21 also recites structure to perform that function, *i.e.*, “*wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device.*” Thus, no further structure is required. Therefore, for purposes of this petition, the structure for this term is software for performing the *routing* function. (*See* EX-1002, ¶81).

K. “a second software code portion for connecting the processing device to a communications network via a transceiver of the peripheral device” (claim 21)

Although the phrase, “*second software code portion for connecting*,” does not use the term “means,” it nevertheless constitutes means-plus-function language. However, for purposes of this petition, the structure for this term is software for performing the *connecting* function. (See EX-1002, ¶82; see also “*means for data communication*,” above; and EX-1001, 19:50-20:12).

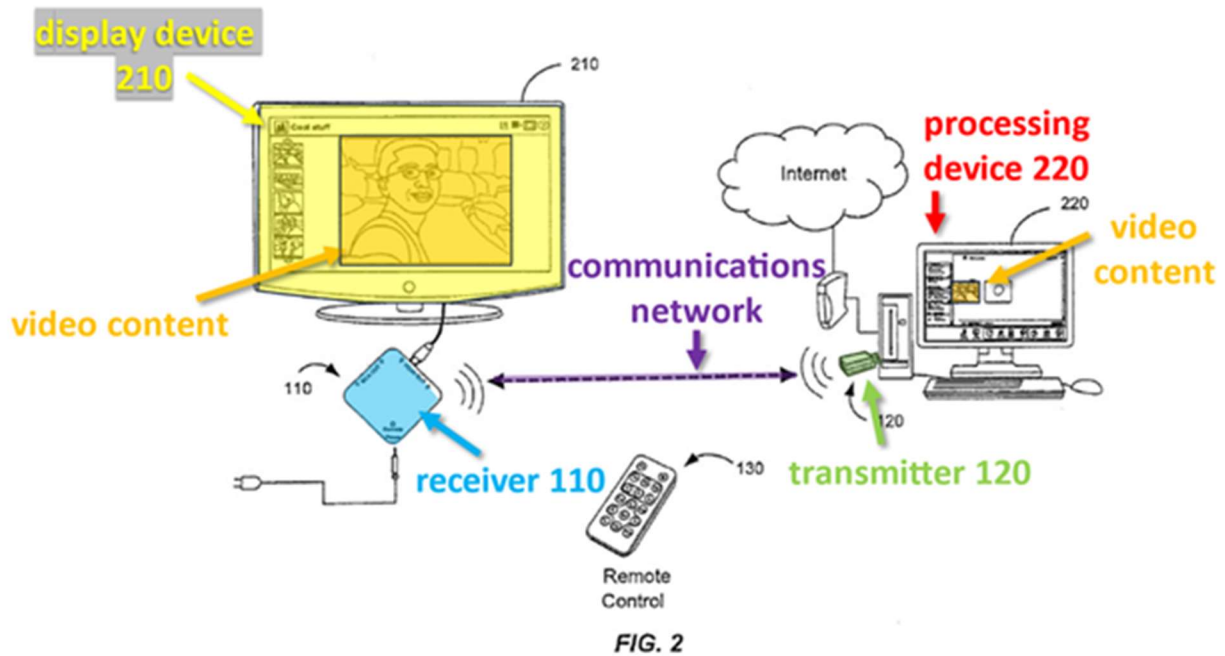
IX. OVERVIEW OF THE PRIOR ART

At the time of the alleged invention, media sharing between electronic devices was well established and used to share media data between devices in a variety of methods and settings. The technology allegedly invented was available well before the alleged invention, including a wide array of electronic tools to facilitate meetings and share content among individuals, particularly in business and educational settings. (See generally, EX-1002, ¶¶38-53).

A. Kaplan (EX-1027)

Like the '002 patent, Kaplan discusses transmitting video content between a computing device and display device that provided numerous benefits over alternative systems. (EX-1027, abstract; EX-1002, ¶¶84-86). Kaplan's communications system 100 describes that a computer 220 is wirelessly connected to a display device 210 via a USB transmitter 120. (See, e.g., EX-1027, ¶¶16-18 and

FIG. 2, reproduced below; EX-1002, ¶85). The transmitter 120 and a receiver 110 come pre-paired, with the receiver 110 further being connected to the display device 210—therefore, the process avoids requiring an end-user to configure the wireless connection. (EX-1027, ¶18; EX-1002, ¶85). In Kaplan’s disclosed system, “the user may select a video to be played and the selected video footage may be transmitted from the computer 220 through the transmitter 120 to the receiver 110 and then displayed on the display device 210.” (EX-1027, ¶28; EX-1002, ¶85).

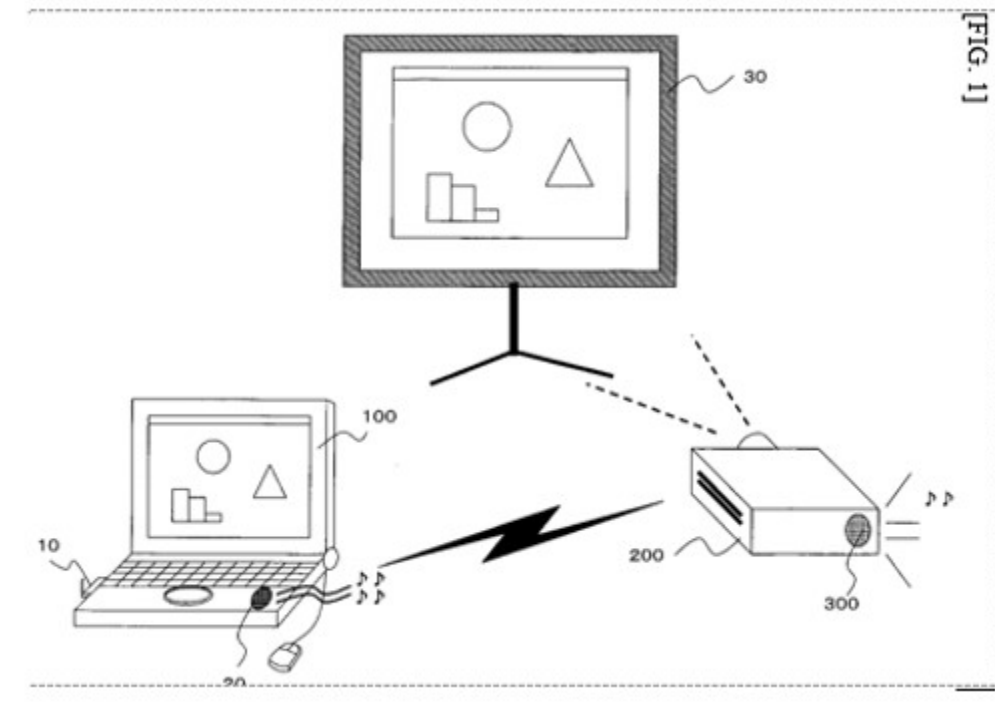


(EX-1027, FIG. 1).

B. Maeda (EX-1031⁶)

Like the '002 patent, Maeda recognized common issues with alternative systems and, thus, discloses a separate system using a personal computer (PC) to generate images and audio and which transmits such data to a projector using a wireless local area network (LAN). (EX-1031, ¶3, 15; EX-1002, ¶¶87-88). In operation, the “screen displayed on the display of PC 100 is transmitted from PC 100 to projector 200 and the screen received by projector 200 is projected onto a screen 30. A wireless LAN card 10 containing a wireless LAN chip is attached to PC 100, thereby transmitting image signals and audio signals to projector 200 via the wireless LAN.” (EX-1031, ¶17; EX-1002, ¶88).

⁶ This is the English Translation (EX-1031) to JP Patent Application Publication No. 2008-165007 (EX-1055). All citations are to the English Translation (EX-1031). EX-1056 is the corresponding certificate of certified translation.



(EX-1031, FIG. 1).

C. Ahmed (EX-1014)

Like the '002 patent, Ahmed is directed to wireless, real-time transmission of data from a source to a monitor and the automatic configuration of a wireless device. (EX-1014, abstract; EX-1002, ¶¶89-90). Ahmed's computing device 101 (such as a PC) communicates, via wireless network 102, with remote monitor 103 (such as a TV) using a "processing system on a chip capable of wirelessly transmitting and receiving graphics, [and] audio" and which may be "incorporated into a standalone device that is in wired communication with the remote monitor 103 or computing device 101." (EX-1014, 7:6-22; EX-1002, ¶89).

Further, software module 301 is capable of capturing media in real time while it is playing on the computing device and temporarily stores the captured media in the buffer before compressing it and preparing it for transmission. (EX-1014, 8:18-22; EX-1002, ¶90). Thereafter, a receiver 400, comprising a transceiver 401, a display device 403 for rendering the video media and an audio device 404 for rendering the audio data, receives the transmitted video and audio media. (EX-1014, 8:24-29; EX-1002, ¶90). Ahmed further discloses that it preferably uses a hybrid TCP/UDP transmission protocol to transmit the video and audio data in separate streams. (EX-1014, 19:16-19; EX-1002, ¶90).

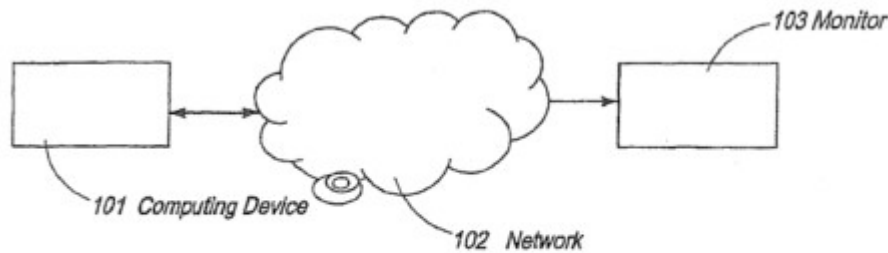


FIG. 1

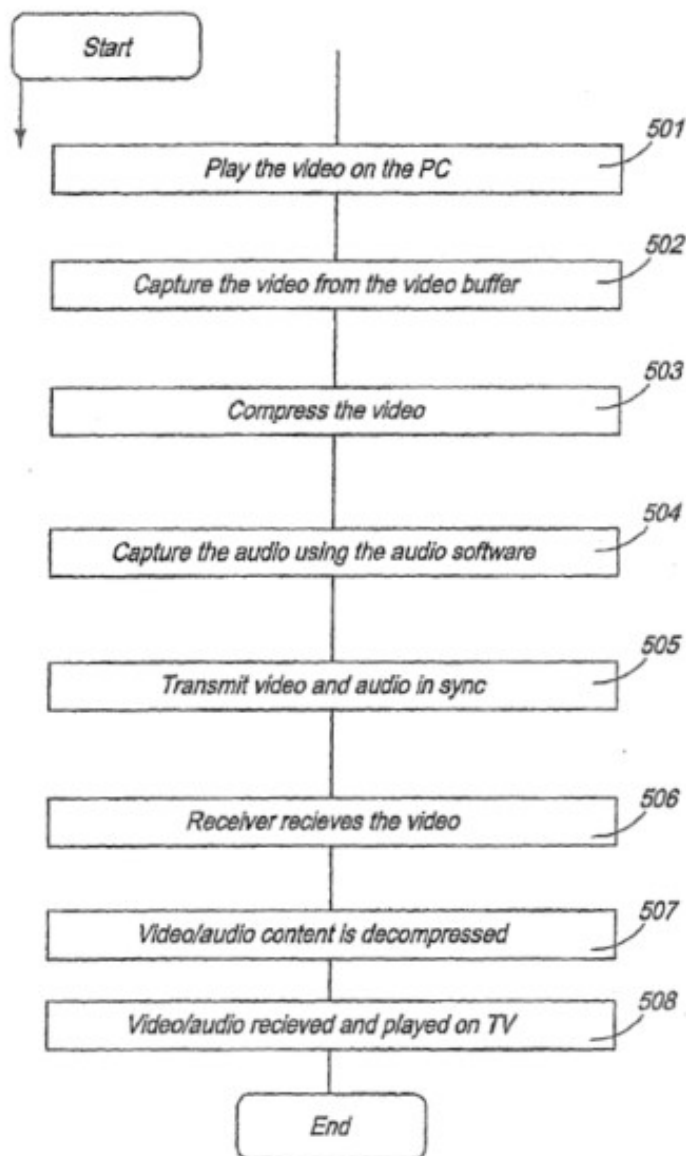


FIG. 5

(EX-1014, FIGs. 1, 5)

D. Deforche (EX-1030)

Similar to the '002 patent, Deforche connects a host computer to a wireless communication network via “at least one pre-installed generic driver providing a generic communications protocol (7) for communication between the host computer

device and a standard class of computer peripheral devices.” (EX-1030, abstract; EX-1002, ¶¶91-92). Deforche defined a “pre-installed generic driver” as “a driver which is installed on the computer device along with the installation of the operating system, *i.e.* a driver which is standard for the operating system and which is capable of driving a standard class of computer peripheral devices connected to the computer device without requiring installation of a specific driver....[such as] a human interface device (HID)....[or] a mass storage device (MSD) driver.” (EX-1030, ¶10; EX-1002, ¶91). Notably, Deforche notes how “HID and MSD drivers [were] known per se in the art.” (EX-1030, ¶10; EX-1002, ¶91).

In operation, the “[d]ata traffic from the computer device towards the wireless communication network and vice versa is routed over this modem/host communication interface and uses the generic communication protocol provided by the pre-installed generic driver.” (EX-1030, ¶9; EX-1002, ¶92). According to Deforche, its disclosed method provided additional benefits over alternative systems, specifically, in that users avoided the “need for a specific driver for the communication between the wireless modem device and the computer device” to be downloaded/installed, increasingly important for users with restricted user rights, *i.e.*, user rights do not allow for installation of the necessary driver to the device, and that the method leaves “zero footprint, *i.e.* the wireless modem device “leaves no trace ... on the computer device.” (EX-1030, ¶¶9, 16; EX-1002, ¶92).

X. DETAILED GROUNDS OF UNPATENTABILITY

A. Ground I - Kaplan in Combination with Ahmed, Deforche, and the Knowledge of the Person of Ordinary Skill Renders Obvious Claims 1-3, 9-11, 19, and 21-22

The combination of Kaplan, Ahmed, and Deforche renders obvious claims 1-3, 9-11, 19, and 21-22. (*See* EX-1002, ¶¶93-147).

1. Rationale to Combine

Kaplan, Ahmed, and Deforche are all related to wireless transmission of data/multimedia through a wireless network. (*See* EX-1027, ¶21, FIG. 2; EX-1014, 7:6-25; EX-1030, abstract; EX-1002, ¶93). Kaplan, like the '002 patent, discloses a system and method for remotely displaying video content with audio via a physically attached peripheral wireless device. (EX-1027, ¶¶6-8, 21; *See* Section IX.A; EX-1002, ¶93). Kaplan, however, does not disclose driver-level specifics of how it would achieve the disclosed transmission of audio/visual content between a computer and its USB wireless transmitter.

Ahmed discloses using two separate drivers—a “mirror display driver” and a “audio driver”—for accomplishing audio/visual data transmission using an integrated transceiver 203. (EX-1014, 18:26-19:21, *see also* 17:13-16; *See* Section IX.C; EX-1002, ¶94). Ahmed teaches that using two separate drivers is “preferred” to allow syncing of the audio/video data streams. (EX-1014, 18:26-19:21, *see also* 27:1-27; EX-1002, ¶94). It would have been a simple application of a known

technique to apply Ahmed’s driver-level implementation of separate drivers to set up communication between Kaplan’s host computer and USB transmitter to achieve Kaplan’s transmission of audio/video data. (EX-1002, ¶¶94). The modification would achieve the predictable result of Kaplan’s audio/visual transmission using two separate data streams. (EX-1002, ¶¶94).

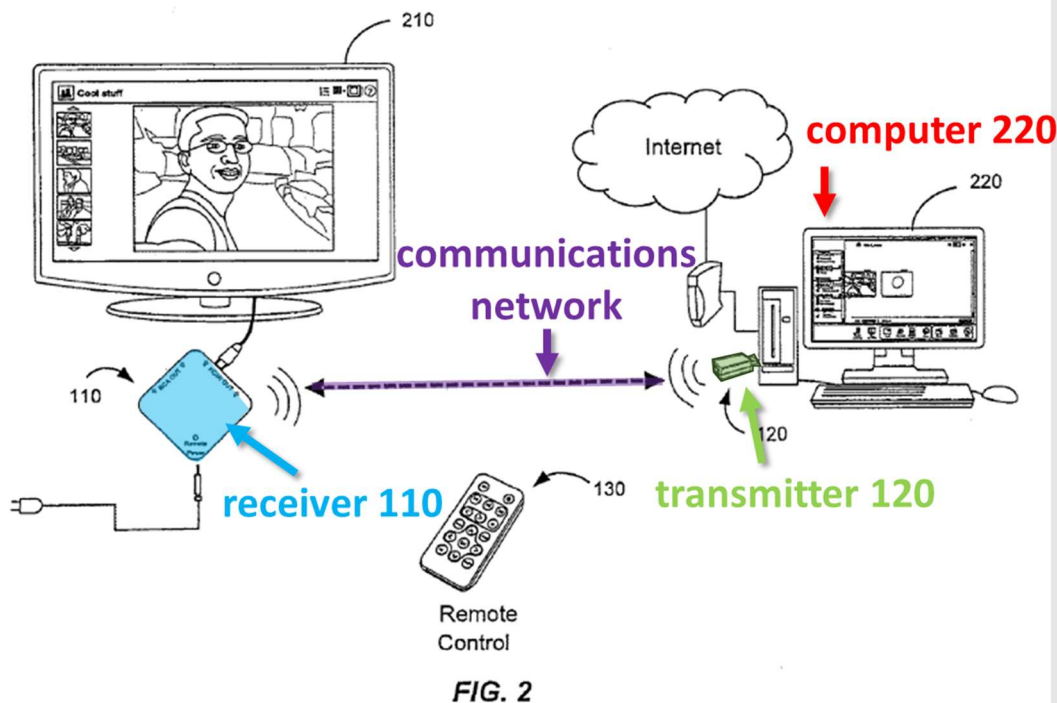
Deforche teaches similar wireless transmission of data. (EX-1030, abstract, ¶¶9-11; *See* Section IX.D; EX-1002, ¶¶95). Like the ’002 patent, Deforche discloses a method for connecting a host computer to a wireless communication network including “setting up, by means of a pre-installed generic driver of an operating system on the computer device, a modem/host communication interface [] for communication between the wireless modem device and the computer device.” (EX-1030, abstract, ¶¶9-11; EX-1002, ¶¶95). Therefore, while neither Kaplan nor Ahmed specifically refer to drivers as “pre-installed generic drivers,” Deforche teaches that using such drivers “has the advantage that the need for a specific driver for the communication between the wireless modem device and the computer device can be avoided.” (EX-1030, abstract, ¶¶9; EX-1002, ¶¶95). It would thus have been obvious to modify Ahmed to use Deforche’s “*pre-installed generic audio driver*” because it is a known technique to improve a similar device in the same way. (EX-1002, ¶¶95). The combination of Kaplan, Ahmed, and Deforche would yield the predictable result a system for wirelessly transmitting audio/video data streams using two separate,

pre-installed generic drivers to set up the communication between a host computer and peripheral wireless device. (EX-1002, ¶95).

2. Claims 1 and 11

- a. ***A method for connecting a processing device to a communications network, the processing device having a memory, a display and an operating system with pre-installed generic drivers providing a communications protocol for communication between the processing device and a class of peripheral devices, the method comprising***

To the extent limiting, Kaplan discloses *a method for connecting a processing device (e.g., “computer 220”) to a communications network* via a transmitter 120. (See, e.g., EX-1027, ¶¶5-9, 16-18, 23, 31-32, 57-61, FIGs. 2 (reproduced below) and 6; EX-1002, ¶¶96-98, 131-32, *see additionally*, 100). According to Kaplan, setting up and operating 802.11 wireless networks “is a challenging endeavor for many users.” (Ex 1027, ¶3; EX-1002, ¶98). This is at least in part due to the need for the user to “set the Service Set Identifier (SSID), password, and/or parameters that enable the various networks elements to communicate.” (EX-1027, ¶18; EX-1002, ¶98). Kaplan’s system, therefore, provides a transmitter and receiver that have such settings pre-set. (*Id.*; EX-1002, ¶98). Kaplan’s system, therefore, provides a user with a fully functioning communication system when the user first installs the equipment without the need for configuration details. (*Id.*; EX-1002, ¶98).



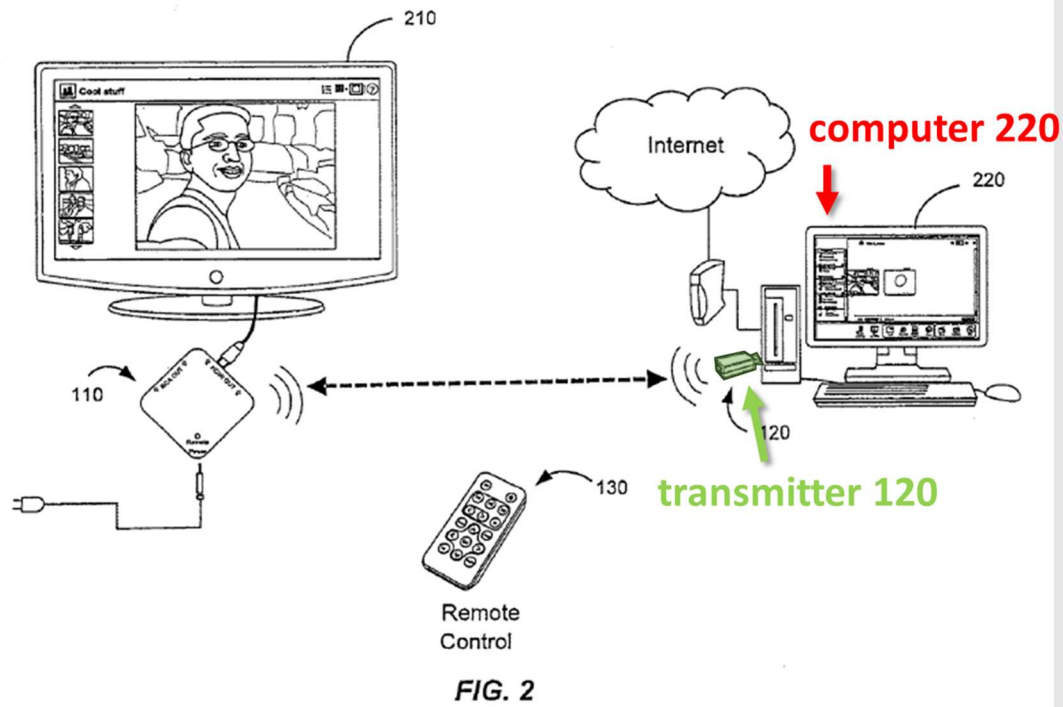
(EX-1027, FIG. 2)

Kaplan also discloses computer 220 including *a memory* (“non-volatile memory 420”), *a display* (illustrated in Figure 2 above) and *an operating system* (such as Windows®). (See, e.g., EX-1027, ¶¶47-49, 59, FIG. 2; EX-1002, ¶99). It was common knowledge, and a POSITA at the time of invention, would have understood that an operating systems of a computing device (such as Windows®) would include *pre-installed generic drivers* that provide a communications protocol for communication between the computer and a class of peripheral devices (such as peripheral mass storage devices), as was well known in the art. (See, e.g., EX-1027, ¶¶45 (explaining that USB is a ubiquitous set of communication standards and protocols), 50-52; see also EX-1021, ¶¶3-4; EX-1026, ¶1 (“Universal Serial Bus

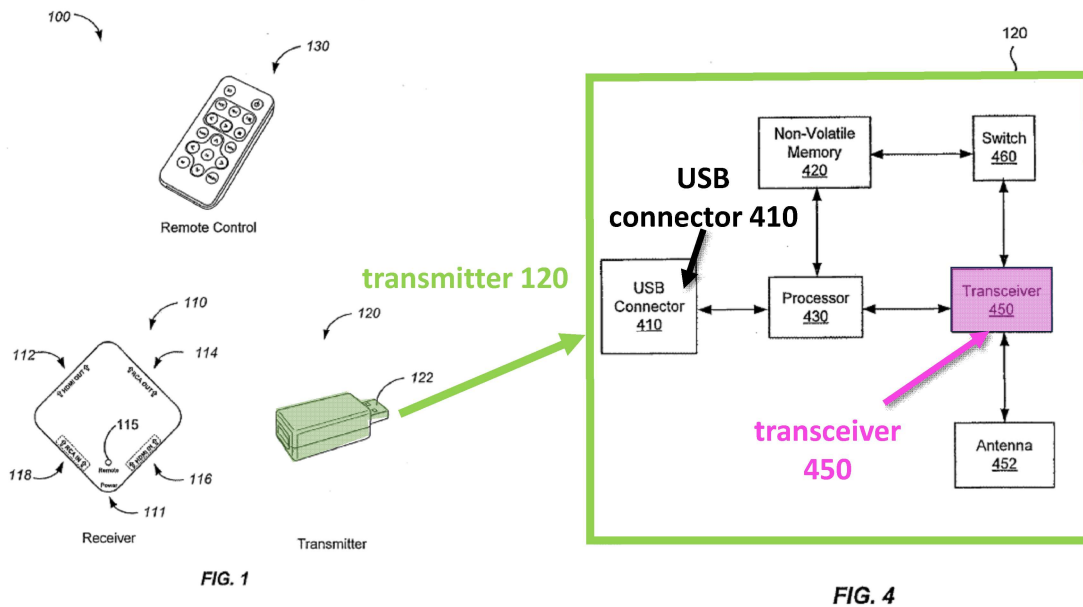
(USB) standard provides communication protocols for interfacing between a host and its peripheral devices. For example, a personal computer implementing the Microsoft Windows® operating system may use the USB standard for communicating with a key board, a compact disc (CD) player, or a USB flash drive.”); EX-1030, ¶10; EX-1002, ¶99). Notably, the ’002 patent concedes that “such a driver is standard for the operating system and can drive a standard class of peripheral devices coupled to or connected to the processing devices.” (EX-1001, 14:35-38; *see also* 5:58-60; EX-1002, ¶99).

- b. *a) coupling an external peripheral device physically to a port of the processing device, wherein the peripheral device comprises a wireless transceiver and a connector, said connector configured to couple to the port of the processing device***

Kaplan discloses *coupling an external peripheral device* (e.g., a “transmitter 120”) *physically to a port of the processing device* (e.g., USB port of computer 220). (See, e.g., EX-1027, ¶¶21, 45, FIG. 2 (reproduced below); EX-1002, ¶¶101, 133). Kaplan also discloses that the peripheral device (e.g., the “transmitter 120”) *comprises a wireless transceiver* (450) *and a connector* (122 and USB connector 450) *configured to couple to the port of the processing device*. (See, e.g., EX-1027, ¶¶19, 16-17, 45, FIGs. 1 and 4 (reproduced below); EX-1002, ¶¶102, 133).



(EX-1027, FIG. 2).



(EX-1027, FIGs. 1 and 4).

- c. *b) setting up, by means of a first pre-installed generic audio driver of the operating system, a means for audio communication between the peripheral device and the processing device and*

Kaplan discloses “*setting up ... a means for audio communication between the peripheral device and the processing device*” (to transmit audio data, e.g., “video footage may be transmitted from the computer 220 through the transmitter 120”). (EX-1027, ¶28, FIG. 6; *see also id.*, ¶¶8, 17 (“[D]ata may include video **and audio data** for display on the display device.”), 22, 26, 47-52, 58; EX-1002, ¶¶103, 134). This audio connection extends through USB interface 410 based on the particular USB driver of computer 220 that recognizes the transmitter, thereby providing *a means for audio communication*. (EX-1002, ¶103).

Kaplan discloses using “the USB standard” to establish an initial connection using standard drivers and transmit audio and video data. (EX-1027, ¶¶45-52, *see also* ¶¶21, 40, 58-60; EX-1002, ¶¶104, 134). As Kaplan puts it, “the user just plugs-in the devices and [they] operate as intended.” (EX-1027, ¶21). Kaplan uses the plug-and-play feature to install software to so that the transmitter 120 may begin to operate as a “wireless transmitter” to send, for example, “video footage.” (*Id.*, ¶¶50-51; EX-1002, ¶¶104-107, 134). However, Kaplan does not specifically disclose using a “*first pre-installed generic audio driver*.”

Ahmed discloses sending the audio portion of an audio stream using “*a first ... audio driver*”:

a virtual audio driver, referred to as a virtual audio cable (VAC), is installed as a normal audio driver that can be selected as a default playback and/or recording device. A feature of VAC is that, by default, it routes all the audio going to its audio output pin to its input pin (EX-1014, 18:26-19:15 (emphasis added)).

Ahmed discloses another embodiment where “audio is captured using Microsoft Windows Multimedia API,” (*id.*, 17:10-12), which a POSITA would have understood to be implemented by an audio driver. (EX-1002, ¶¶108-109). “A Microsoft Windows Multimedia Library provides an interface to the applications to play audio data on an audio device using waveOut calls.” (*Id.*, 17:13-16 (emphasis added); *see also* EX-1002, ¶109). Thus, a POSITA would have understood Ahmed discloses a setting up and interface and thus communication by means of an audio driver as an example of “*a first pre-installed generic audio driver of the operating system ... for audio communication.*” (EX-1014, 27:4-27; *see also id.*, FIG. 12; EX-1002, ¶109).

To the extent PO contends that Ahmed does not disclose that its audio driver is a “*pre-installed generic audio driver of the operating system,*” Deforche discloses using “*a pre-installed generic audio driver*” to wirelessly exchange any IP data. (EX-1030, abstract, ¶¶9-11; EX-1002, ¶110). The ’002 patent concedes that this limitation was “well-known” in the art (EX-1001, 3:65-4:9 (citing US 2011/0115689 (*see* EX-1022, ¶39 (“[T]he OS searches its own files for the driver

software.”)); EX-1002, ¶110). It would have been obvious to modify Kaplan to use “*a pre-installed generic audio driver*” because “[t]his has the advantage that the need for a specific driver for the communication between the wireless modem device and the computer device can be avoided.” (EX-1030, ¶9; EX-1002, ¶110; *See additionally* Section X.A.1). Therefore, Kaplan in combination with Ahmed and Deforche discloses this claim limitation. (*See* EX-1002, ¶110-111).

d. *c) setting up ... by means of a second pre-installed generic driver of the operating system, a means for data communication between the peripheral device and the processing device*

Similar to the analysis in the previous section, Kaplan discloses “*setting up ... a means for data communication between the peripheral device and the processing device*” (to transmit data, *e.g.*, “video footage may be transmitted from the computer 220 through the transmitter 120”) between the transmitter 120 and computer 220. (EX-1027, ¶31, FIG. 6; *see also id.*, ¶¶8, 17 (“[D]ata may include **video** and audio **data** for display on the display device.”), 22, 31, 47-52, 58; EX-1002, ¶¶112, 135). However, Kaplan does not explain whether it uses “*a second pre-installed generic driver of the operating system*” for non-audio data.

Ahmed discloses using “*a second ... driver*” as a “*a means for data communication between the peripheral device and the processing device*” (*e.g.*, “while the various media streams may be multiplexed and transmitted in a single stream, it is preferred to transmit the media data streams separately in a synchronized

manner.”) (EX-1014, 27:1-4; EX-1002, ¶¶113, 135; *see additionally*, EX-1002, ¶¶114-118). Ahmed also sets up “*data communication*” using “*a second preinstalled generic driver of the operating system*” by using a “mirror display driver” and a “first socket 1202 for transmitting video.” (See, e.g., EX-1014, Abstract and 27:4-27, *see also id.*, FIG. 12, 8:7-22, 9:12-13, 9:24-31, 10:9-13, 16:7-14, 4:3-5; EX-1002, ¶113). Therefore, Ahmed discloses the use of a video driver for capturing video data and, thus, in combination with the discussion above for audio driver, using separate drivers for audio and video. (EX-1014, 3:26-28; EX-1002, ¶¶113-118).

As described with respect to limitation 1(b), Deforche additionally suggests that Ahmed’s drivers can be “*second pre-installed generic driver[s] of the operating system.*” See Section X.A.2(c) (citing EX-1030, abstract, ¶¶9-11; Ex. 1002, ¶114). Ahmed further suggests the use of two such drivers—one audio (“normal audio driver”) and one for video (“mirror display driver”)—in setting up communication between the wireless device and the computer. (EX-1014, abstract, 18:26-19:15; EX-1002, ¶114).

e. *d) using the peripheral device to connect the processing device to a communications network via the wireless transceiver*

Kaplan discloses *using the peripheral device* (e.g., “transmitter 120”) to *connect the processing device to a communications network via the wireless transceiver*. (See, e.g., EX-1027, ¶¶6, 9, 18, 23 (“It should be noted that various

methods for identifying the receiver 110 as a network element may be used.”), 25, 31, 45, FIG. 2 (reproduced below); EX-1002, ¶¶119-121, 136).

Kaplan’s transmitter 120 is pre-paired with the receiver 110 to form the communications network to which the computer 220 is connected.

[T]he receiver 110 and the transmitter 120 are pre-paired during the manufacturing process. Thus, when a user first sets up the communications systems, there is no need for the user to pair or define settings associated with the communication that occurs between the receiver 110 and the transmitter 120. This embodiment contrasts with conventional wireless networking equipment, for which a user typically needs to manually pair the various devices prior to use. As an example, in a conventional 802.11-based network, a user needs to set the Service Set Identifier (SSID), password, and/or other parameters that enable the various network elements to communicate. In the embodiments described herein, such settings are pre-set at the time of manufacturing as part of the manufacturing process or at other time prior to delivery to the user. Thus, when the user first installs the equipment, the parameters necessary for two-way communications between the receiver 110 and the transmitter 120 are already set. As a result, the user is provided with a fully functioning communications system straight “out-of-the-box.”

(EX-1027, ¶¶18; *see also* 53, 54; *see also* Section IX.A and X.A.2.a; EX-1002, ¶120).

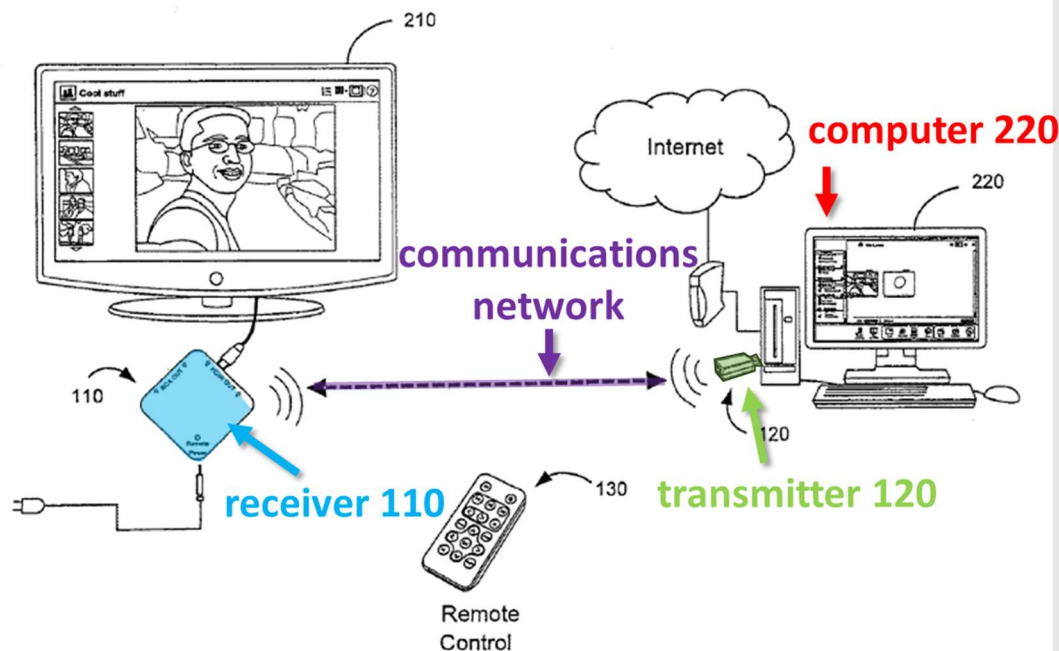
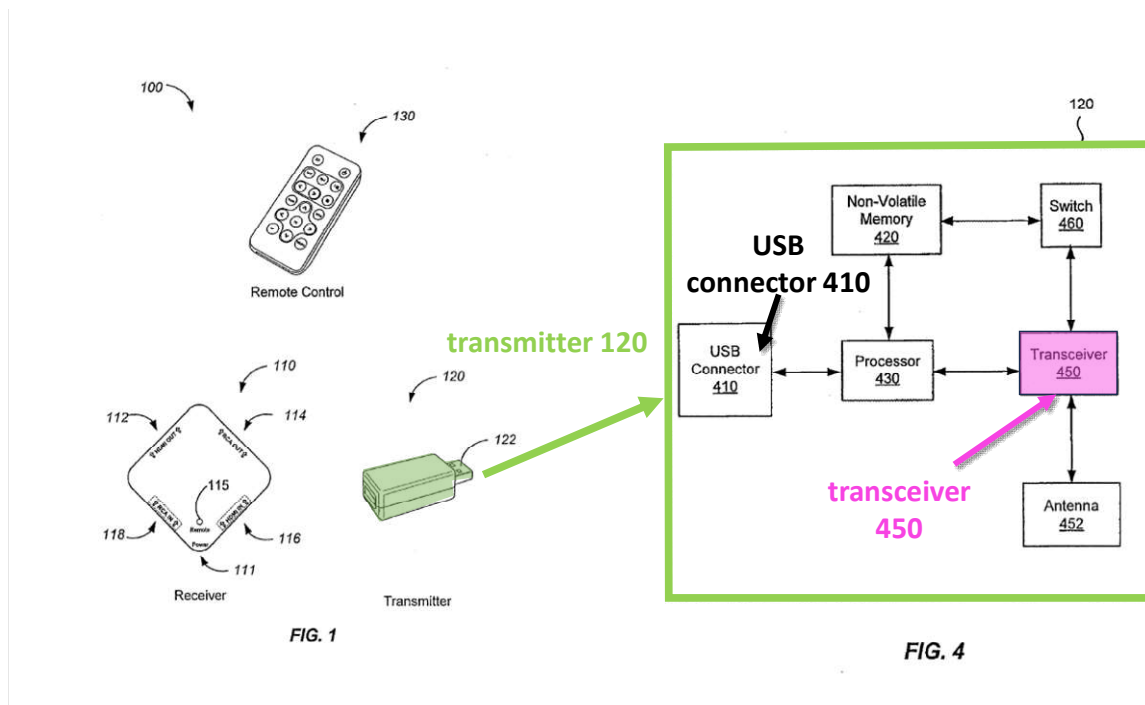


FIG. 2

(EX-1027, FIG. 2). Note that Kaplan discloses that its system works “without ... a wireless network” already set up. (*Id.*, ¶23). Kaplan’s system, then simplifies the setup so that the receiver and transmitter “provide a user with the ability to conveniently view video footage stored on a computer or a web server on a television without having to perform any wireless network setup procedures.” (*Id.*, ¶¶9, 21, 40, 54-55; EX-1002, ¶121). Therefore, Kaplan’s system uses a “*communications network*” but avoids the user having to explicitly connect the receiver and transmitter to a pre-existing wireless network themselves. (EX-1002, ¶121)

- f. *e) routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication and*

Kaplan discloses “routing audio data from processing device” (e.g., “computer 220”) “to the peripheral device” (e.g., “transmitter 120”) “via the connector” (410) “and the means for audio communication” as explained for limitation 1(b). (See, e.g., EX-1027, ¶¶17 (“[T]he transmitter 120 includes a wireless transceiver 450 that is operable to transmit data from the computer to the receiver 110. For example, the data may include video and audio data for display on the display device.”), 28, 45, 58 (“The method 600 also includes establishing a connection between a transmitter and a computer (612).”), FIGs. 4, 6; EX-1002, ¶¶122-123, 137).

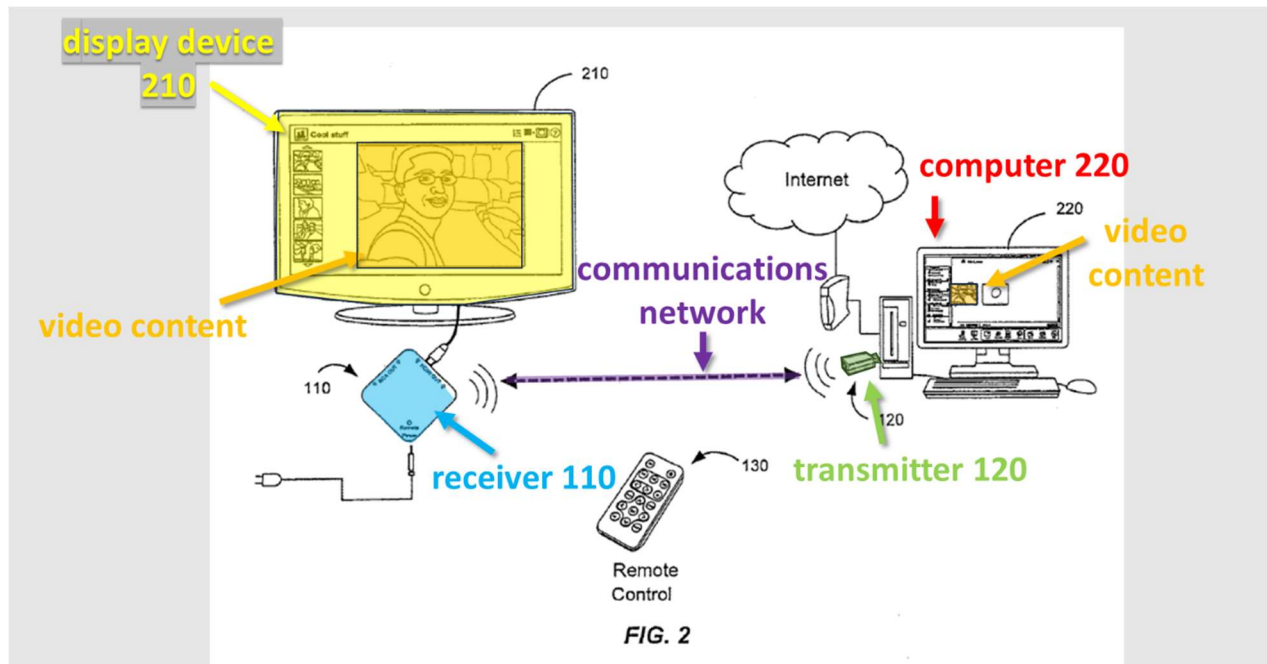


(EX-1027, FIGs. 1 and 4).

It was known at the time of the invention and a POSITA would have understood from Kaplan that all data (both video and audio) is routed from the computer 220 through the USB port and USB connector 450 to the transceiver 450 of transmitter 120 via a communications channel, over a wireless communication channel to paired transceiver 350 of receiver 110. (See, e.g., EX-1027, ¶¶5, 8, 17-18, 42-44, 57-61, FIG. 2-4, 6; EX-1002, ¶123).

g. *f) routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network*

Kaplan discloses “*routing the audio data from the wireless transceiver of the peripheral device to a base station*” (e.g., “receiver 110”) “*over the communications network.*” (See, e.g., EX-1027, Abstract, ¶¶2-6, 16-17 (“[T]he transmitter 120 includes a wireless transceiver 450 that is operable to transmit data from the computer to the receiver 110. For example, the data may include video and audio data for display on the display device.”), 18, 28 (“[V]ideo footage may be transmitted from the computer 220 through the transmitter 120 to the receiver 110 and then displayed on the display device 210), 44, FIG. 2 (reproduced below); EX-1002, ¶¶124, 138).



(EX-1027, FIG. 2).

Again, it was known in the art at the time of the invention and a POSITA would have understood from Kaplan that all data (both video and audio) is routed from the computer 220 through the USB port and USB connector 450 to the transceiver 450 of transmitter 120, over a wireless communication channel to paired transceiver 350 of receiver 110, and finally out the receiver 110's video and audio outputs to a display/television. (See, e.g., EX-1027, ¶¶5, 8, 17-18, 42-44, 57-61, FIG. 2-4, 6; EX-1002, ¶125).

- h. g) wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device.**

See limitation 1(b), supra. (Section X.A.2.c; EX-1002, ¶¶126, 139).

3. **Claim 2:** *The method of claim 1 wherein Step b) comprises presenting the peripheral device to the processing device as a human interface device and wherein the pre-installed generic driver is a human interface device driver.*

Deforche discloses presenting a wireless modem peripheral device (e.g., a “peripheral device”) to a computer’s operating system as a human interface device (HID), such that the pre-installed mass storage device driver of the computer can communicate with the peripheral device without the need to install special device drivers. (See, e.g., EX-1030, ¶¶33 (“The USB device can thus expose its USB interface in different ways: (1) A composite device with USB HID and Mass Storage Unit (UMS) device with UMS and HID USB ID; (2) UMS device with 3G USB ID”), 34 (“The USBGo uses USB-HID as a lower layer to avoid having to install a specific driver for the modem.”); EX-1023, ¶¶39, 45-47, 50; EX-1002, ¶127).

4. **Claim 3:** *The method of claim 1 wherein Step b) comprises presenting the peripheral device to the processing device as a mass storage device and wherein the pre-installed generic driver is a mass storage device driver.*

Kaplan discloses presenting the transmitter 120 (e.g., “peripheral device”) to the computer 220 (e.g., “processing device”) as a mass storage device, such that a pre-installed mass storage device driver can be used to communicate with the transmitter 120. (See, e.g., EX-1027, ¶¶46 (“[T]he transmitter may identify itself to the computer 220 as a mass storage device.”), 50-52, 59-60; see also EX-1030, ¶¶31, 33; EX-1002, ¶128).

5. Claims 9 and 19: *The method of claim 1 further comprising time-stamping synchronously the audio with the data stream.*

Ahmed discloses synchronously time-stamping audio data and video data:

Referring to Figure 14, another embodiment of the audio and video synchronization circuit is depicted. The synchronization circuit 1400 at the transmitter end 1401 comprises buffer 1402 having media data, multiplexer 1403 for combining the media data signals, such as graphics, text, audio, and video signals, and a clock 1404 for providing the timestamps to the media content for synchronization. At the receiver end 1405 the demultiplexer 1406 using clock 1407 devolves the data stream into the individual media data streams. The timestamps provided by the clocks help synchronize the audio and video at the receiver end. The clock is set at the same frequency as that of receiver. The audio and video, which is demultiplexed, is routed to the speakers 1408 and display device 1409 for rendering. (EX-1014, 29:6-18, *see also* FIG. 14; EX-1002, ¶129).

A POSITA therefore would have found it obvious to implement this, or another well-known synchronization technique, such that the user in a system like that of Kaplan is able to view video footage with synchronized audio output. (EX-1002, ¶¶129, 140; *see additionally*, Section X.A.1). Such techniques were well-known and well established by the time of the purported inventions and, thus, a POSITA would have had a reasonable expectation success in implementing such conventional techniques. (EX-1002, ¶129, 140; *see additionally*, Section X.A.1).

6. Claim 10: *The method of claim 9 further comprising encoding, optionally encrypting the audio data.*

Ahmed discloses encoding audio data. (*See, e.g.*, EX-1014, 7:11-15 (“Preferably, the computing device 101 and remote monitor 103 further comprise a processing system on a chip capable of wirelessly transmitting and receiving graphics, audio, text, and video encoded under a plurality of standards”), 22:9-12 (“The block that corresponds to the best checking point is the block of the reference frame, which matches best with the block of the current frame that is to be encoded”), 27:30-32 (“Initially, the receiver receives 1301 a stream of encoded video data and encoded audio data wirelessly”), FIG. 13; EX-1002, ¶130). Deforche also discloses using the standard IPSEC protocol for encrypting network traffic. (EX-1030, ¶54). Thus, a POSITA would have found it obvious to implement such standard encoding and/or encrypting techniques for a variety of reasons, such as to make use of standard wireless protocols and components that utilize such standards. (EX-1002, ¶130; *see additionally*, Section X.A.1). Further a POSITA would have a reasonable expectation of success in achieving the claimed invention because it would only have involved the predictable use of known techniques. (EX-1002, ¶130; *see additionally*, Section X.A.1).

7. Claim 21

Kaplan in combination with Ahmed and Deforche discloses the limitations of claim 21 for similar reasons to those described for claims 1 and 11. (*See, e.g.*,

Sections X.A.2; EX-1002, ¶141).

- a. *A peripheral device for providing communication connectivity to a processing device which is provided with memory, a display and an operating system with at least one pre-installed generic driver providing a generic communication protocol for communication between the processing device and a class of peripheral devices, the peripheral device comprising a connection configured to be physically coupled to a port of the processing device and a memory in which executable software code is stored for execution on the processing device*

To the extent limiting, Kaplan in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(pre)-(a) and 11(pre)-(a). (*See, e.g.*, Sections X.A.2.a-b; EX-1002, ¶142).

- b. *a) said executable software code comprising: a first software code portion for setting up, by means of the pre-installed generic driver of the operating system, a means for audio communication between the peripheral device and the processing device*

Kaplan in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(b) and 11(b). (*See, e.g.*, Sections X.A.2.c; EX-1002, ¶143).

- c. *(b) a second software code portion for connecting the processing device to a communications network via a transceiver of the peripheral device*

Kaplan in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(b)-(d) and 11(b)-(d). (*See, e.g.*, Sections X.A.2.c-e; EX-1002, ¶144).

- d. *(c) a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication and for routing the audio data from the peripheral device to the base node over the communications network*

Kaplan in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(e)-(f) and 11(e)-(f). (*See, e.g.*, Sections X.A.2.f-g; EX-1002, ¶145).

- e. *(d) wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device*

Kaplan in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(g) and 11(g). (*See, e.g.*, Sections X.A.2.h; EX-1002, ¶146).

8. Claim 22

Kaplan in combination with Ahmed and Deforche discloses the limitations of claim 22 for similar reasons to those described for claims 1 and 11, which already recites a “*generic audio driver.*” (*See, e.g.*, Sections X.A.2; EX-1002, ¶147).

B. Ground II - Maeda in Combination with Ahmed, Deforche, and the Knowledge of the Person of Ordinary Skill Renders Obvious Claims 1-2, 9-11, 19, and 21-22

The combination of Maeda, Ahmed, and Deforche renders obvious claims 1-2, 9-11, 19, and 21-22. (*See* EX-1002, ¶¶129-207).

1. Rationale to Combine

Maeda, Ahmed, and Deforche are all related to connecting wireless peripherals to PCs. (See EX-1031, ¶17, FIG. 2; EX-1014, 7:6-25; EX-1030, abstract; EX-1002, ¶¶148-150). Maeda, like the '002 patent, teaches a system and method for remotely displaying video content with audio. (EX-1031, ¶17; EX-1002, ¶148). However, it does not disclose driver-level specifics of how it would achieve the disclosed transmission of audio/visual content.

Ahmed discloses using two separate drivers for accomplishing audio/visual data transmission using an integrated transceiver 203, a “mirror display driver,” and a “normal audio driver.” (EX-1014, 18:26-19:21, *see also* 17:13-16; EX-1002, ¶149). Ahmed teaches that using two separate drivers is “preferred” to allow syncing of the audio/video data streams. (EX-1014, 18:26-19:21, *see also* 27:1-27; EX-1002, ¶149). It would have been a simple substitution to include Ahmed’s driver-level implementation to achieve Maeda’s remote transmission of audio/video data streams ready for improvement. The modification would achieve the predictable result of Maeda's audio/visual transmission using two separate drivers. (EX-1002, ¶149).

Deforche teaches similar wireless transmission of data. (EX-1030, abstract, ¶¶9-11; EX-1002, ¶150). Deforche discloses using “a pre-installed generic driver of an operating system” to wirelessly exchange any IP data. (EX-1030, abstract; EX-1002, ¶150). Therefore, while neither Maeda nor Ahmed discloses whether the

drivers they are using are pre-installed generic drivers, Deforche teaches that using such drivers “has the advantage that the need for a specific driver for the communication between the wireless modem device and the computer device can be avoided.” (EX-1030, ¶9; EX-1002, ¶150). It would thus have been obvious to modify Ahmed to use Deforche’s “*pre-installed generic audio driver*” because it is a known technique to improve a similar device in the same way. (EX-1002, ¶150). The combination of Maeda, Ahmed, and Deforche would yield the predictable result of a system for wirelessly transmitting audio/video data streams using two pre-installed generic drivers. (EX-1002, ¶150).

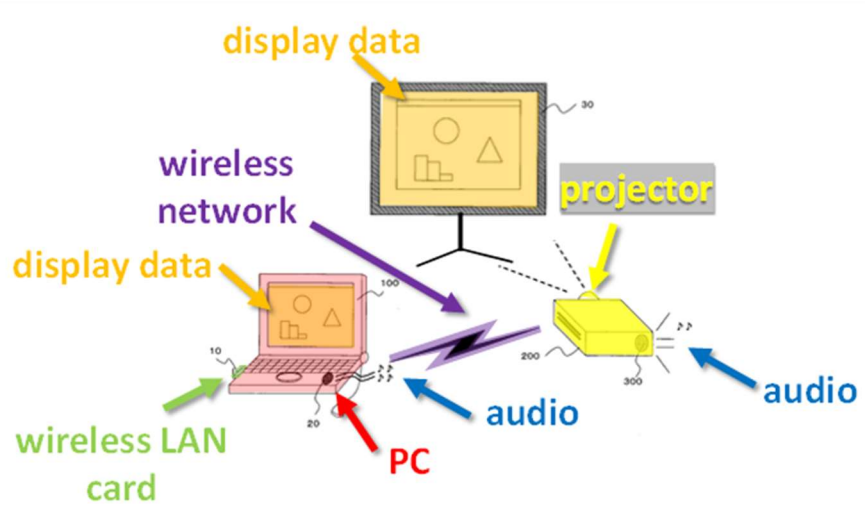
2. Claims 1 and 11

- a. ***A method for connecting a processing device to a communications network, the processing device having a memory, a display and an operating system with pre-installed generic drivers providing a communications protocol for communication between the processing device and a class of peripheral devices, the method comprising:***

Maeda discloses “*a method for connecting a processing device*” (e.g., a “PC 100”) “*to a communications network.*” (See, e.g., EX-1031, ¶¶15 (“[A] PC is used as an image generation device that generates images and audio, and the images and audio are transmitted to a projector, which is an image projection device, using a wireless LAN.”)),

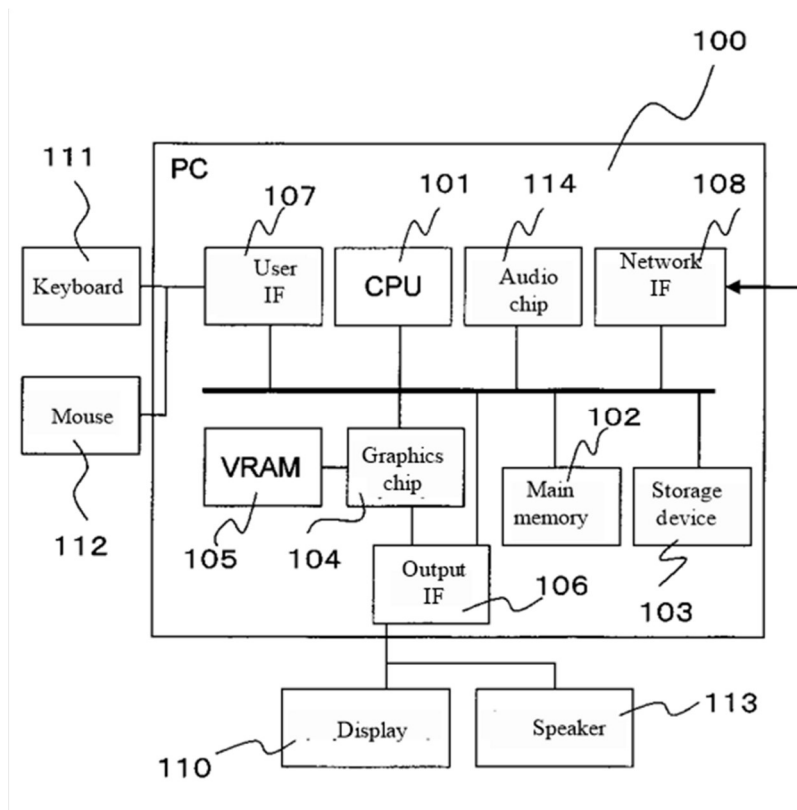
This transmission system is a system in which a screen displayed on the display of PC 100 is transmitted from PC 100 to projector 200 and the

screen received by projector 200 is projected onto a screen 30. A wireless LAN card 10 containing a wireless LAN chip is attached to PC 100, thereby transmitting image signals and audio signals to projector 200 via the wireless LAN. (*Id.*, ¶17, *see also* ¶¶19, 76, FIG. 1; EX-1002, ¶¶151-153, 191-192).



(EX-1031, FIG. 1).

Maeda also discloses that the PC 100 has “a memory, a display and an operating system”: a main memory 102 and storage device 103 and a display 110. (*See, e.g.*, EX-1031, ¶19, FIG. 2 (reproduced below); EX-1002, ¶154).



(EX-1031, FIG. 2 (excerpted).)

A POSITA would have recognized and understood that PC 100 would include an operating system as a piece of fundamental software to manage components of the PC. (See, e.g., EX-1058, ¶125; EX-1002, ¶155). Maeda's system also discloses numerous components included of the PC (graphics chip 104, a VRAM 105, an audio chip 114, an output IF 106 that outputs to a display 110 and a speaker 113, a user IF 107 for acquiring instruction signals based on user operations from input devices such as a keyboard 111 and a mouse 112, and a network IF 108 which is an interface for communicating with projector 200, and so on). (See, e.g., EX-1031, ¶¶17-19; EX-1002, ¶155). A POSITA would have recognized and understood that

such components would have been managed by the operating system of the PC (Windows®, Macintosh OS, Linux, etc). (*see, e.g.*, EX-1030 FIGs. 5, 9, 11 (illustrating a windowed operating system)), which would additionally include communication with a class of devices such as human interface devices, as was known in the art. (*See, e.g.*, EX-1030, ¶¶9-12; EX-1027, ¶47; EX-1026, ¶¶1-3; EX-1002, ¶155). The '002 patent also admits that “such a driver is standard for the operating system and can drive a standard class of peripheral devices coupled to or connected to the processing devices.” (EX-1001, 14:35-38; *see also* 5:58-60).

Further, as discussed in further detail below, Ahmed and Deforche disclose “*pre-installed generic drivers providing a communications protocol for communication between the processing device and a class of peripheral devices.*” (EX-1002, ¶¶156-157). Ahmed discloses sending the audio portion of a video stream using an “audio driver”:

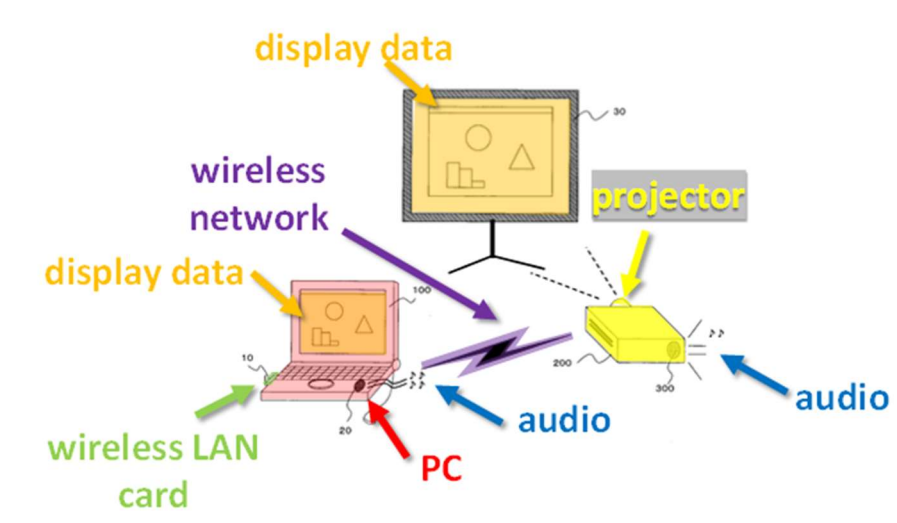
a virtual audio driver, referred to as a virtual audio cable (VAC), is installed as a normal audio driver that can be selected as a default playback and/or recording device. A feature of VAC is that, by default, it routes all the audio going to its audio output pin to its input pin (EX-1014, 18:26-19:15 (emphasis added); (EX-1002, ¶156).

Ahmed discloses that “[a] Microsoft Windows Multimedia Library provides an interface to the applications to play audio data on an audio device using waveOut calls.” (*Id.*, 17:13-16 (emphasis added); *see also* EX-1002, ¶157). Ahmed discloses

a “second socket 1203 for transmitting audio” is an example of “*pre-installed generic driver*.” (EX-1014, 27:4-27; *see also id.*, FIG. 12; EX-1002, ¶157). To the extent that Ahmed does not disclose that its audio driver is a “*pre-installed generic*,” Deforche discloses using “*pre-installed generic driver*” to wirelessly exchange any IP data. (EX-1030, abstract, ¶¶9-11; EX-1002, ¶157).

- b. *a) coupling an external peripheral device physically to a port of the processing device, wherein the peripheral device comprises a wireless transceiver and a connector, said connector configured to couple to the port of the processing device;***

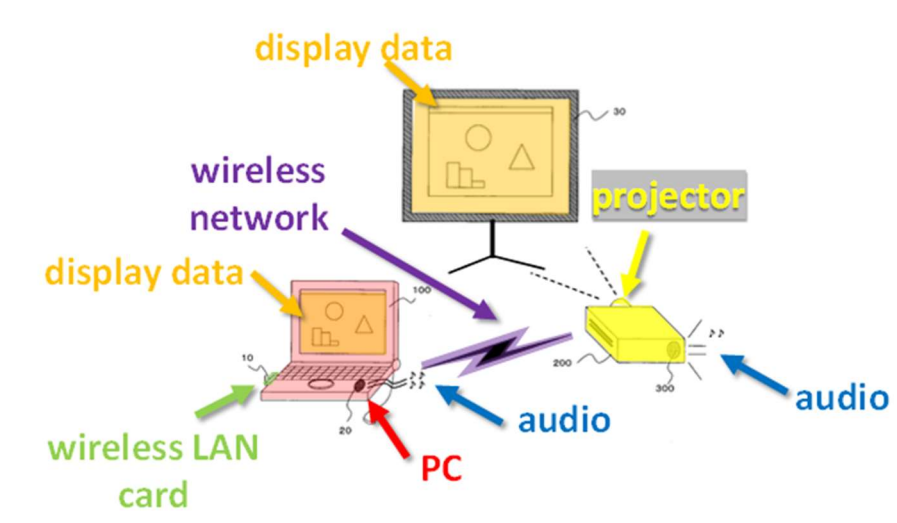
Maeda discloses “*coupling an external peripheral device physically to a port of the processing device, wherein the peripheral device comprises a wireless transceiver and a connector, said connector configured to couple to the port of the processing device.*” (See, e.g., EX-1031, ¶17 (“A wireless LAN card 10 containing a wireless LAN chip is attached to PC 100”), FIG. 1 (reproduced below); EX-1002, ¶158; *see additionally*, EX-1002, ¶¶159-161, 193). For this network connection, PC 100 includes a network interface, network IF 18 (e.g., a “port”). (See EX-1031, ¶19; EX-1002, ¶158).



(EX-1031, FIG. 1).

- c. *b) setting up, by means of a first pre-installed generic audio driver of the operating system, a means for audio communication between the peripheral device and the processing device and***

Maeda discloses “*setting up ... a means for audio communication between the peripheral device and the processing device.*” (See, e.g., EX-1031, ¶¶15, 17 (“A wireless LAN card 10 containing a wireless LAN chip is attached to PC 100, thereby transmitting image signals and audio signals to projector 200 via the wireless LAN”), 19 (“[A] network IF 108 which is an interface for communicating with projector 200 via a LAN or the like”), FIG. 1 (reproduced below); EX-1002, ¶¶162-165, 194).



(EX-1031, FIG. 1).

A POSITA would have understood that Maeda used a standard connection such as USB to transmit audio data. (EX-1031, ¶76; *see also* EX-1002, ¶163). At the time of the alleged invention, the USB standard had become widely adopted as a way to connect a peripheral device to a computer. (*See* Section X.A.1(b); EX-1002, ¶¶163; *see additionally*, EX-1002, ¶¶38-53). One known feature of the USB standard is its support for plug-and-play capability, which offered the opportunity to insert the peripheral device and quickly be able to use the functionality of the device without having to install a special driver for the peripheral device. (*See* Section X.A.1(b); EX-1002, ¶163). The operating system recognizes the device and establishes communication with the device seamlessly just by simply plugging in a mouse or keyboard, and the user could almost immediately begin using its functionality. (EX-1002, ¶163). However, Maeda does not specifically disclose using a “*pre-installed generic audio driver.*”

Ahmed discloses sending the audio portion of a video stream using “*a first ... audio driver*”:

a virtual audio driver, referred to as a virtual audio cable (VAC), is installed as a normal audio driver that can be selected as a default playback and/or recording device. A feature of VAC is that, by default, it routes all the audio going to its audio output pin to its input pin (EX-1014, 18:26-19:15 (emphasis added); (EX-1002, ¶166)).

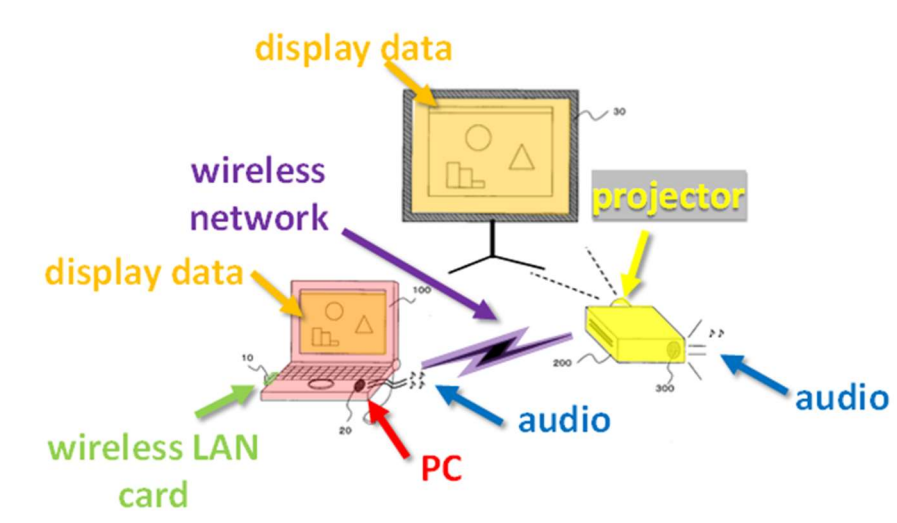
Ahmed discloses that “[a] Microsoft Windows Multimedia Library provides an interface to the applications to play audio data on an audio device using waveOut calls.” (*Id.*, 17:13-16 (emphasis added); *see also* EX-1002, ¶167). Ahmed discloses a “second socket 1203 for transmitting audio” is an example of “*a first pre-installed generic audio driver of the operating system ... for audio communication.*” (EX-1014, 27:4-27; *see also id.*, FIG. 12; EX-1002, ¶167).

To the extent that Ahmed does not disclose that its audio driver is a “*pre-installed generic audio driver of the operating system,*” Deforche discloses using “*pre-installed generic driver*” to wirelessly exchange any IP data. (EX-1030, abstract, ¶¶9-11; EX-1002, ¶168). The ’002 patent also explains that this limitation was “well-known.” (EX-1001, 3:65-4:9 (citing US 2011/0115689 (*see* EX-1022, ¶39 (“the OS searches its own files for the driver software.”)))); EX-1002, ¶168). It would thus have been obvious to modify Ahmed to use “*a pre-installed generic audio driver*” because “[t]his has the advantage that the need for a specific driver for

the communication between the wireless modem device and the computer device can be avoided.” (EX-1030, ¶9; EX-1002, ¶168). Therefore, Maeda in combination with Ahmed and Deforche discloses this claim limitation. (EX-1002, ¶162-170).

d. *c) setting up ... by means of a second pre-installed generic driver of the operating system, a means for data communication between the peripheral device and the processing device*

Maeda discloses “*setting up ... a means for data communication between the peripheral device and the processing device*” (See, e.g., EX-1031, ¶¶15 (“[A] PC is used as an image generation device that generates images and audio, and the images and audio are transmitted to a projector, which is an image projection device, using a wireless LAN”), 17 (“A wireless LAN card 10 containing a wireless LAN chip is attached to PC 100, thereby transmitting image signals and audio signals to projector 200 via the wireless LAN”), 19 (“[A] network IF 108 which is an interface for communicating with projector 200 via a LAN or the like”), FIG. 1 (reproduced below); EX-1002, ¶¶171-172, 195; *see additionally*, Section X.B.2.c). However, Maeda does not explain whether it uses “*a second pre-installed generic driver of the operating system.*”



(EX-1031, FIG. 1).

Ahmed discloses using “a second ... driver” as a “a means for data communication between the peripheral device and the processing device” (*e.g.*, “while the various media streams may be multiplexed and transmitted in a single stream, it is preferred to transmit the media data streams separately in a synchronized manner.”) (EX-1014, 27:1-4; EX-1002, ¶173). Ahmed also sets up “data communication” using “a second preinstalled generic driver of the operating system” by using a “mirror display driver” and a “first socket 1202 for transmitting video.” (*See, e.g.*, EX-1014, Abstract and 27:4-27, *see also id.*, FIG. 12, 8:7-22, 9:12-13, 9:24-31, 10:9-13, 16:7-14, 4:3-5; EX-1002, ¶173). Therefore, Ahmed discloses the use of a video driver for capturing video data and, thus, uses separate drivers for audio and video. (EX-1014, 3:26-28; EX-1002, ¶173).

As described with respect to limitation 1(b), Deforche suggests that Ahmed’s drivers can be “*second pre-installed generic driver[s] of the operating system.*” *See*

Section X.B.2.c (citing EX-1030, abstract, ¶¶9-11; EX-1002, ¶174). Ahmed further suggests the use of two such drivers—one audio (“normal audio driver”) and one for video (“mirror display driver”)—in setting up communication between the wireless device and the computer. (EX-1014, abstract, 18:26-19:15; EX-1002, ¶174-179).

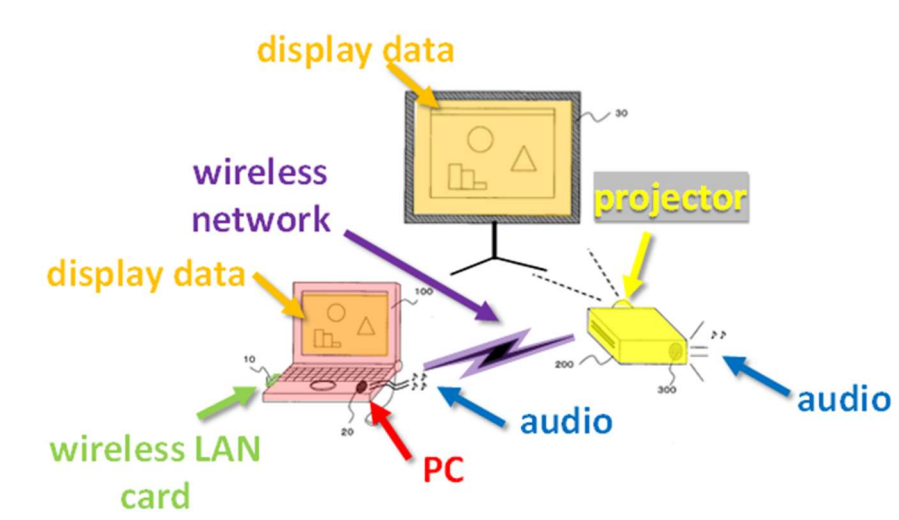
e. *d) using the peripheral device to connect the processing device to a communications network via the wireless transceiver;*

Maeda discloses “*using the peripheral device to connect the processing device to a communications network via the wireless transceiver.*” (See, e.g., EX-1031, ¶17 (“A wireless LAN card 10 containing a wireless LAN chip is attached to PC 100, thereby transmitting image signals and audio signals to projector 200 via the wireless LAN.”); EX-1002, ¶¶180, 196). As described above (*see* limitation 1(a)), this connection may be achieved through the wireless LAN card’s transceiver chip, or other transceiver that enables two-way communication as known in the art. (See Section X.B.2.b (regarding why a POSITA would have understood Maeda to disclose a transceiver and also why a POSITA would have been motivated to include such a conventional component); EX-1002, ¶180).

f. *e) routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication and*

Maeda discloses “*routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for*

audio communication.” (See, e.g., EX-1031, ¶¶15, 17 (“A wireless LAN card 10 containing a wireless LAN chip is attached to PC 100, thereby transmitting image signals and audio signals to projector 200 via the wireless LAN”), 19 (“[A] network IF 108 which is an interface for communicating with projector 200 via a LAN or the like”), FIG. 1 (reproduced below); EX-1002, ¶¶181, 197). As described above, the wireless LAN card/wireless modem device may be presented as a human interface device or other class of peripheral device (e.g., as suggested by Deforche), such that the audio data is routed using audio communication provided by and set up using a pre-installed generic audio driver (see limitation 1(b) above and 1(g) below). (See, e.g., EX-1030, ¶¶32-39, 52; EX-1002, ¶181).



(EX-1031, FIG. 1).

This connection may be achieved through the wireless LAN card’s transceiver chip, or other transceiver that enables two-way communication as known in the art. A POSITA would have understood Maeda to disclose a transceiver and would have

found it obvious to include such a conventional component. (See Section X.B.2.b; EX-1002, ¶182).

g. *f) routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network*

Maeda discloses “*routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network.*”

This transmission system is a system in which a screen displayed on the display of PC 100 is transmitted from PC 100 to projector 200 and the screen received by projector 200 is projected onto a screen 30. A wireless LAN card 10 containing a wireless LAN chip is attached to PC 100, thereby transmitting image signals and audio signals to projector 200 via the wireless LAN. The PC 100 also has a built-in speaker 20 that can play audio generated by the PC 100. The projector 200 is also equipped with a speaker 300, which can play audio when an audio signal is received from the PC 100. (EX-1031, ¶17; *see also* EX-1002, ¶¶183, 198).

As described above (*see* limitation 1(a)), this connection may be achieved through the wireless LAN card’s transceiver chip, or other transceiver that enables two-way communication as known in the art. A POSITA would have understood Maeda to disclose a transceiver and would have found it obvious to include such a conventional component. (See Section X.B.2.b; EX-1002, ¶198).

- h. *g) wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device.***

See limitation 1(b), *supra*. (Section X.B.2.c; EX-1002, ¶¶184, 199).

- 3. *Claim 2: The method of claim 1 wherein Step b) comprises presenting the peripheral device to the processing device as a human interface device and wherein the pre-installed generic driver is a human interface device driver.***

Deforche teaches presenting a wireless modem peripheral device (e.g., a “peripheral device”) to a computer’s operating system as a human interface device (HID), such that the pre-installed mass storage device driver of the computer can communicate with the peripheral device without the need to install special device drivers. (See, e.g., EX-1030, ¶¶33 (“The USB device can thus expose its USB interface in different ways: (1) A composite device with USB HID and USM Mass Storage Unit (UMS) device with UMS and HID USB ID; (2) UMS device with 3G USB ID”), 34 (“The USBGo uses USB-HID as a lower layer to avoid having to install a specific driver for the modem.”); EX-1002, ¶186).

- 4. *Claim 3: The method of claim 1 wherein Step b) comprises presenting the peripheral device to the processing device as a mass storage device and wherein the pre-installed generic driver is a mass storage device driver.***

Deforche discloses presenting a wireless LAN card 10 to a computer’s operating system as a mass storage device, such that the pre-installed mass storage device driver of the computer can communicate with the peripheral device without

the need to install special device drivers. (*See, e.g.*, EX-1030, ¶¶33 (“The USB device can thus expose its USB interface in different ways: (1) A composite device with USB HID and USM Mass Storage Unit (UMS) device with UMS and HID USB ID; (2) UMS device with 3G USB ID”), 34 (“The USBGo uses USB-HID as a lower layer to avoid having to install a specific driver for the modem.”); EX-1002, ¶187).

5. Claims 9 and 19: *The method of claim 1 further comprising time-stamping synchronously the audio with the data stream.*

At the time of the alleged invention, a POSITA would have recognized and known that the processing time for audio tends to be shorter than for video data. (EX-1002, ¶¶188-189, 200). Therefore, an independent way to synchronize the audio and video data so that they reflect the original audiovisual content was a known solution. (EX-1002, ¶¶188-189). For example, Maeda discloses that “[g]enerally, audio has a smaller capacity than images and can therefore be transmitted faster,” which may be addressed by a delay in the audio buffer. (EX-1031, ¶57; EX-1002, ¶188). Ahmed discloses synchronously time-stamping audio data and video data. (*See, e.g.*, EX-1014, 29:6-18 (“Referring to Figure 14, another embodiment of the audio and video synchronization circuit is depicted. The synchronization circuit 1400 at the transmitter end 1401 comprises buffer 1402 having media data, multiplexer 1403 for combining the media data signals, such as graphics, text, audio, and video signals, and a clock 1404 for providing the timestamps to the media content for synchronization. At the receiver end L405 the

demultiplexer 1406 using clock 1407 devolves the data stream into the individual media data streams. The timestamps provided by the clocks help synchronize the audio and video at the receiver end. The clock is set at the same frequency as that of receiver. The audio and video, which is demultiplexed, is routed to the speakers 1408 and display device 1409 for rendering.”), FIG. 14; EX-1002, ¶188).

A POSITA therefore would have found it obvious to implement this or another well-known synchronization technique as was common and known in the art such that the user in a system like that of Kaplan is able to synchronize its video and audio output streams (EX-1002, ¶189). A POSITA would have had a reasonable expectation of success in implementing such techniques because the technology was well known in the art to apply synchronous time stamping. (EX-1002, ¶189).

6. Claim 10: *The method of claim 9 further comprising encoding, optionally encrypting the audio data.*

At the time of the alleged invention, a POSITA would have recognized and known that wirelessly sent data was conventionally encoded and encrypted for transmission. (EX-1002, ¶190). For example, Ahmed discloses encoding audio data. (*See, e.g.*, EX-1014, 7:11-15 (“Preferably, the computing device 101 and remote monitor 103 further comprise a processing system on a chip capable of wirelessly transmitting and receiving graphics, audio, text, and video encoded under a plurality of standards”, 22:9-12 (“The block that corresponds to the best checking point is the block of the reference frame, which matches best with the block of the current frame

that is to be encoded”), 27:30-32 (“Initially, the receiver receives 1301 a stream of encoded video data and encoded audio data wirelessly”), FIG. 13; EX-1002, ¶190). Thus, a POSITA would have found it obvious to implement such standard encoding and/or encrypting techniques for a variety of reasons, such as to make use of standard wireless protocols and components that utilize such standards. (EX-1002, ¶190). Further a POSITA would have a reasonable expectation of success in achieving the claimed invention because it would only have involved the predictable use of known techniques. (EX-1002, ¶190).

7. Claim 21

Maeda in combination with Ahmed and Deforche discloses the limitations of claim 21 for similar reasons to those described for claims 1 and 11. (*See, e.g.*, Sections X.B.2; EX-1002, ¶¶191-199, 201-206).

- a. *A peripheral device for providing communication connectivity to a processing device which is provided with memory, a display and an operating system with at least one pre-installed generic driver providing a generic communication protocol for communication between the processing device and a class of peripheral devices, the peripheral device comprising a connection configured to be physically coupled to a port of the processing device and a memory in which executable software code is stored for execution on the processing device*

To the extent limiting, Maeda in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(pre)-(a)

and 11(pre)-(a). (*See, e.g.*, Sections X.B.2.a-b; EX-1002, ¶¶192-193, 202).

- b. *a) said executable software code comprising: a first software code portion for setting up, by means of the pre-installed generic driver of the operating system, a means for audio communication between the peripheral device and the processing device***

Maeda in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(b) and 11(b). (*See, e.g.*, Sections X.B.2.c.; EX-1002, ¶¶194-195, 203).

- c. *(b) a second software code portion for connecting the processing device to a communications network via a transceiver of the peripheral device***

Maeda in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(b)-(d) and 11(b)-(d). (*See, e.g.*, Sections X.B.2.c-e; EX-1002, ¶¶196, 204).

- d. *(c) a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication and for routing the audio data from the peripheral device to the base node over the communications network***

Maeda in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(e)-(f) and 11(e)-(f). (*See, e.g.*, Sections X.B.2.f-g; EX-1002, ¶¶197-198, 205).

- e. *(d) wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device*

Maeda in combination with Ahmed and Deforche disclose this limitation for similar reasons to those described for claims 1(g) and 11(g). (*See, e.g.*, Sections X.B.2.h; EX-1002, ¶¶199, 206).

8. Claim 22

Maeda-Ahmed-Deforche discloses and/or suggests the limitations of claim 22 for similar reasons to those described for claims 1 and 11, which already recites a “*generic audio driver*.” (*See, e.g.*, Sections X.B.2; EX-1002, ¶207).

XI. SECONDARY CONSIDERATIONS

Patent Owner bears the burden of proof in establishing objective indicia of nonobviousness but has not come forward with any such evidence. (*See* EX-1002, ¶¶208-209). To the extent Patent Owner offers any purported evidence of nonobviousness in this proceeding, consideration should be delayed until Petitioners have had an opportunity to respond to it.

XII. THE BOARD SHOULD NOT EXERCISE ITS DISCRETION TO DENY INSTITUTION 35 U.S.C. § 314 (A)

Petitioners stipulate that they will not pursue in the parallel district court proceeding the same grounds as in the Petition or any grounds that could have reasonably been raised in the Petition. Accordingly, discretionary denial is inapplicable. Memorandum, Interim Procedure for Discretionary Denials in AIA

Post-Grant Proceedings with Parallel District Court Litigation, at 7 (June 21, 2022) (“[T]he PTAB will not discretionarily deny institution of an IPR or PGR in view of parallel district court litigation 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.”); *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-1019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A).

XIII. THE PROPOSED GROUNDS ARE NOT SUBSTANTIALLY THE SAME AS PREVIOUSLY CONSIDERED ART OR ARGUMENTS

- A. Factors (a), (b) and (d): “(a) the similarities and material differences between the Asserted Art and the prior art involved during examination; (b) the cumulative nature of the Asserted Art and the prior art evaluated during examination; (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art.”**

Patent Owner cited Deforche in an IDS, but the examiner and the Patent Owner never discussed Deforche on the record. (*See generally* EX-1004). There is also no overlap between the art considered on the record and Deforche. To the extent that factor 1 is met, the examiner erred in a material manner by failing to reject the claims based on Deforche, as discussed further below.

B. Factors (c), (e), and (f): “(c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection; (e) whether petitioner has pointed out sufficiently how the examiner erred in its evaluation of the asserted prior art; (f) the extent to which additional evidence and facts presented in this petition warrant reconsideration of the prior art or arguments.”

The examiner gave general reasons for allowance, stating that the prior art did not teach all the claimed limitations. (EX-1004, p.605). Patent Owner argued that the prior art combination did not teach, in relevant part, “routing audio data between the processing device and the communication network via the means for audio communication and the transceiver to a base node.” (EX-1004, p.856 (7/24/2018 response, 9)).⁷

⁷ The examiner issued an initial Notice of Allowance based on Patent Owner’s addition of this limitation. (See EX-1004, p.605). Patent Owner, thereafter, amended the claims to, essentially, re-word the limitation, which led to the issued limitation “routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication and routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network.” (EX-1001, Claim 1). The Examiner, ultimately, issued a second Notice of Allowance based on this limitation. (See EX-1004, p.340).

Deforche undeniably teaches such a method for data routing. *See* § IX.D and X.A.2.c above. Therefore, Deforche is different from the prior art the examiner discussed on the record and demonstrates that the examiner materially erred in failing to address Deforche's teachings of what was allegedly missing from the prior art discussed. Accordingly, Petitioner asks the Board to institute review because Section 325(d) does not apply given these facts. *Keysight Technologies, Inc. v. Centripetal Networks, Inc.*, IPR2022-1421, Paper 14, 8 (PTAB Aug. 24, 2023) (Director reversing denial of institution when examiner erred by not addressing art cited in an IDS); *see also Oticon Medical AB v. Cochlear Limited*, IPR2019-975, Paper 15, 19-20 (October 16, 2019) (most references were of record during prosecution but not considered) (precedential); and *Parse Biosciences, Inc. v. 10x Genomics, Inc.*, IPR2023-876, Paper 7, 16 (PTAB Oct. 13, 2023) (instituting review because the examiner did not consider the relevant teachings, despite prior art having been discussed on the record). Furthermore, neither the examiner nor Patent Owner addressed Deforche on the record. Therefore, the examiner made an error in failing to consider Deforche.

Finally, the examiner never expressly considered the references nor the grounds presented in this petition present. Therefore, Petitioner asks the Board to find that the Deforche-based grounds, as well as the other grounds herein, present a reasonable likelihood of prevailing because they teach the limitation requiring

routing data between the processing device and the communication network via the means for audio communication and the transceiver to a base node.

XIV. CONCLUSION

For the foregoing reasons, Petitioner respectfully requests review and cancelation of claims 1-3, 9-11, 19, and 21-22 of the '002 patent.

Dated: September 13, 2024

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petition for Inter Partes Review totals 12,526 as counted by Word Count feature of Microsoft Word, which is less than 14,000 allowed under 37 C.F.R. § 42.24(a)(1)(i), excluding the parts of the paper exempted by 37 C.F.R. §42.24(a).

Dated: September 13, 2024

By: /Stephen Yang/
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Attorney for Petitioner

CERTIFICATE OF SERVICE

I hereby certify that on September 12, 2024, I caused a true and correct copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 11,762,002 and supporting exhibits to be served via Federal Express mail on the Patent Owner at the following correspondence address of record as listed on PAIR:

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