

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. 11,403,237
IPR2024-1437

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 11,403,237**

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TABLE OF EXHIBITS

EXHIBIT	DESCRIPTION
Ex-1001	U.S. Patent No. 11,403,237
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. 11,403,237
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
Ex-1011	Certification for English Translation of Japanese Patent Application Publication No. 2008-165007
Ex-1012– 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”)

EXHIBIT	DESCRIPTION
Ex-1027	U.S. Patent Application Publication No. 2010/0295994 (“Kaplan”)
Ex-1028– Ex-1029	RESERVED
Ex-1030	EP Patent Application Publication No. 2107463 (“Deforche”)
Ex-1031	English Translation of Japanese Patent Application Publication No. 2007-208606 (“Maeda”)
Ex-1032	RESERVED
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
Ex-1057	RESERVED
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”)

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, 18, and 19 of U.S. Patent No. 11,403,237 (“the ’237 patent”) (Ex-1001) assigned to Barco NV (“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 ’237 is at issue in Barco, Inc. et al v. Yealink (USA) Network Technology Co., Ltd., 2:2023-cv-00521 (EDTX), filed November 14, 2023 (“EDTX case”).

C. Counsel and Service Information

Lead counsel: Stephen Yang (Reg. No. 70,589); email: stephen.yang@dentons.com; Backup Counsel: (1) Kevin Greenleaf (Reg. No. 64,062); email: kevin.greenleaf@dentons.com; (2) Timothy C. Bickham (Reg. No. 41,618); email: timothy.bickham@dentons.com; (3) Mark Consilvio (Reg. No. 72,065); mark.consilvio@dentons.com; (4) Forrest Gothia (Reg. No. 80,399); email: forrest.gothia@dentons.com. Mailing address for all attorneys:

Dentons US LLP
233 South Wacker Drive, Suite 5800
Chicago, IL 60606
Tel: 212.398.4890; Fax: 212.768.6800; email: ipt.docketchi@dentons.com.

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 '237 patent is available for IPR and Yealink is not barred or estopped from requesting IPR challenging the claims of the '237 patent. Yealink is not the owner of the '237 patent, has not filed civil action challenging the validity of any claim of the '237 patent, and this Petition is filed less than one year after Yealink was served with a complaint alleging infringement of the '237 patent.

V. PRECISE RELIEF REQUESTED

Petitioners respectfully request cancellation of claims 1, 3, 9, 18, and 19 of the '237 patent based on the following grounds:

Ground 1: Claims 1, 3, 9, 18, and 19 are unpatentable under pre-AIA 35 U.S.C. § 103(a) as being obvious over Kaplan and Mardiks.

Ground 2: Claims 1, 3, 9, 18, and 19 are unpatentable under pre-AIA 35 U.S.C. § 103(a) as being obvious over Maeda and Deforche.

The '237 patent claims the benefit of priority to a provisional application filed on September 14, 2011. (Ex-1001, 1:4-14). 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
Mardiks (Ex-1026)	102(b)	July 2, 2009
Deforche (Ex-1030)	102(b)	October 7, 2009

Kaplan, Maeda, and Mardiks were not considered during prosecution of Application No. 16/852,790 (which led to the '237 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 '237 PATENT

A. Admissions of Prior Art Techniques

The '237 patent recognizes an “explosion of communication electronic communication tools” and acknowledges the known desirability for tools allowing greater participation in meetings (Ex-1001, 1:28-36, 2:26-44; Ex-1002, ¶¶54-55). One prior system uses a USB dongle to effectively turn an electronic device into an audience-participation device. (Ex-1020, abstract; Ex-1002, ¶55). Specifically, 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. (Ex-1020, ¶¶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, ¶¶20, 24-26, 33; Ex-1002, ¶55).

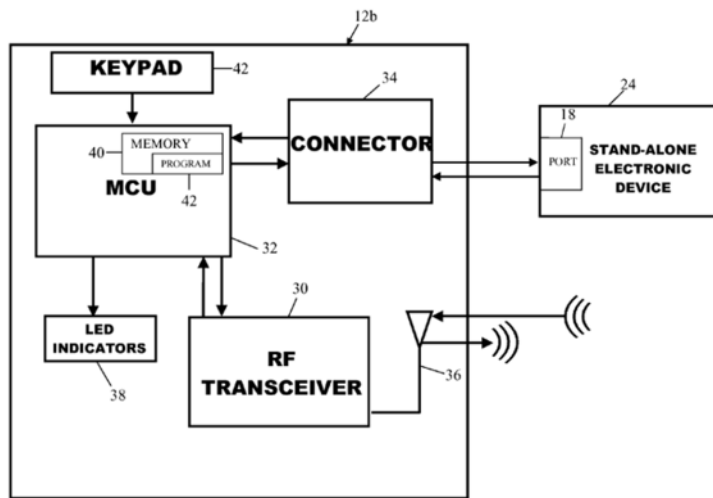


FIG. 2

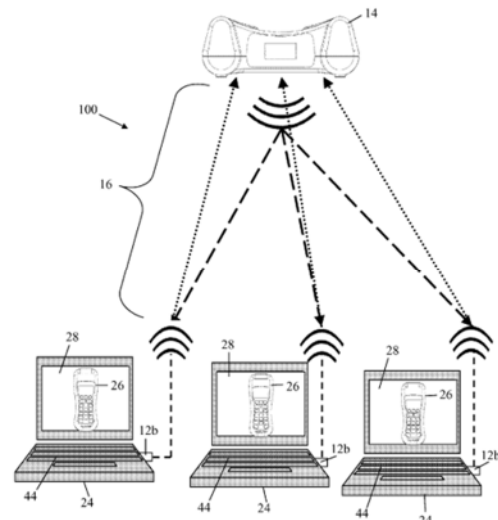


FIG. 3

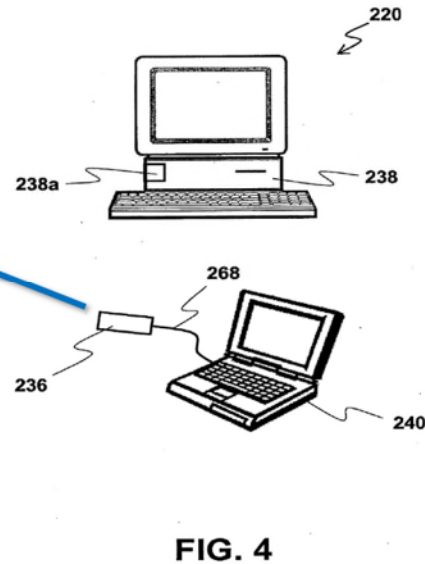
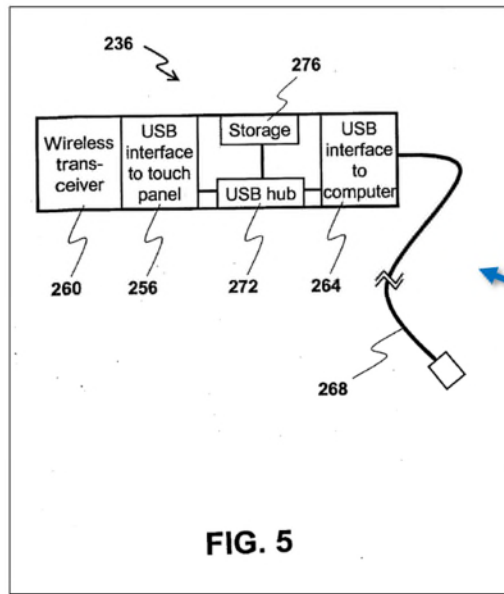
(Ex-1020, FIGs. 2-3).¹

The '237 patent recognizes and concedes that transferring content between devices was known and discloses three common techniques for transferring content of a computer to a projector. (Ex-1001, 3:12-24; 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

¹ All color annotations throughout are added unless noted otherwise.

contents and sends it over a wired or wireless network to a remote base unit connected to the projector [method 2].” (*Id.*). The ’237 patent concedes that 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 ’237 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, 4:7-14; Ex-1002, ¶57). The ’237 patent concedes these references describe the use of “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 '237 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, 4:49-61; Ex-1002, ¶¶59-61). Yet, the '237 patent 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.*, 4:7-18, 18:10-13, 20:31-46, 33:60-36:42; Ex-1002, ¶59-60; Section VI.A).

Notably, the examiner stated the “primary reason for allowance of the claims is the recitation of ‘presenting the external device to the processing device as a human interface device’ in combination with the rest of the claims is not taught by the prior art on record.” (Ex-1004, 390-95). However, presenting external peripheral

devices as human interface devices (HID) was very well known in the art. (*See, e.g.*, Ex-1030, ¶¶10, 33, FIG. 1 (“HID and MSD [mass storage device] drivers [were] known per se in the art”); Ex-1026, ¶¶3, 10; Ex-1023, ¶¶39, 45-47, 50; Ex-1002, ¶61).

Despite the assertions of the ’237 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; *see generally* Ex-1026, Ex-1027, Ex-1030, and Ex-1031).

C. Summary of Prosecution History

The examiner initially rejected the claims as obvious over US 2007/0033289 (“Nuyttens”) in view of US 2009/0247006 (“Thompson”).² (Ex-1004, 854-65; Ex-1002, ¶¶62-63). In response, the Patent Owner made minimal amendments and, in relevant part, amended the claims to add the additional limitation of “presenting the external peripheral device to the processing device as a human interface device.” (Ex-1004, 669-73 (response of 7/13/2021)). Further, Patent Owner argued for “connecting a processing device like a laptop to a LAN, one having ordinary skill would have selected the appropriate driver to package the data for transmission, e.g.,

² Two dependent claims were rejected as obvious over the prior stated combination in further view of US 2013/0060662. (Ex-1004, 863-64).

will use a modem. HID drivers are designed to work with a modem.” (Ex-1004, 676). Patent Owner stated “only in the present application is one having ordinary skill taught of the peripheral device where it is particularly advantageous and non-obvious to select the HID driver. By doing so it is possible to avoid the network interfaces of the processing device.” (Ex-1004, 676). Based on this amendment and Patent Owner’s arguments, the examiner issued a Notice of Allowance, stating that the prior art did not teach this additional limitation recited above. (Ex-1004, 388-95). The examiner additionally cited US 2004/0012669 (and its later issued patent US 7,450,149) as indicative of the state of the art. (*Id*).

Patent Owner’s statements were incorrect, however. As an example, EP 2107463 (“Deforche,” discussed below) discloses “a pre-installed generic driver of an operating system installed on the computer device is used for setting up a modem/host communication interface by means of which the wireless modem device and the computer device can communicate with each other.” (Ex-1030, ¶9). Importantly, Deforche discloses that an “example of such a generic driver is a human interface driver (HID).” (Ex-1030, ¶10). The examiner did not discuss Deforche on the record or the other prior art references asserted in this petition. The prior art discussed on the record and used in the examiner’s rejections, while related to network systems, focuses on different problems in the art and, specifically, does not discuss external peripheral devices physically connected to a processing device for

connecting, and transferring data between, the processing device to a communications network through an HID. (Ex-1002, ¶¶62-63).

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. *Phillips*, 415 F.3d at 1313; *see also id.*, 1312-16. The Board only construes the claims when necessary to resolve the underlying controversy. *Toyota Motor Corp. v. Cellport Systems, Inc.*, IPR2015-00633, 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)). Where provided, Petitioners have construed terms consistent with definitions provided in the '237 patent. (See Ex-1002, ¶¶64-75). Otherwise, terms have been given their plain and ordinary meaning.³ No terms of the '237 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 function.⁴ *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015).

³ Yealink does not waive the right to challenge the '237 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.

⁴ Petitioner also intends to argue in the parallel litigation that the limitation is indefinite because the '237 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

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 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 IPR based on the limited corresponding structure described in the ’237 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).

the Petition’s analysis herein also applies to any term regardless of the analysis under § 112(f).

A. “coupled” (claims 1, 9, 18, 19)

The term “‘coupled’, also used in the description or claims, should not be interpreted as being restricted to direct connections only.” (Ex-1001, 15:55-63; *See* Ex-1002, ¶69).

B. “wireless” (claim 19)

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.*, 14:25-30; *See* Ex-1002, ¶70).

C. “means for coupling an external peripheral device physically to a port of the processing device” (claim 9)

The term “means for coupling” presumably invokes means-plus-function language and refers to the connector of the external peripheral device that physically connects to a port of the processing device. 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.

(*Id.*, 18:16-17; *See also id.*, Abstract, 6:15-17; *See* Ex-1002, ¶71).

D. “means for presenting the external peripheral device” (claim 9)

The term “means for presenting the external peripheral device” presumably invokes means-plus-function language and refers to a portion of software code. The “means for presenting the external peripheral device” appears to relate to the following passages in the specification:

The first software code portion can be adapted to present the peripheral device to the processing device as a human interface device.

(*Id.*, 9:6-8; *see also id.*, 9:8-16, 10:5-15; *See* Ex-1002, ¶72).

E. “means for ... display data communication and audio communication” (claim 9)

The term “means for ... display data communication and audio data communication” presumably invokes means-plus-function language and refers to an interface using the generic communications protocol described in the specification. The “means for ... display data communication and audio 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 device 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.

(*Id.*, 19:61-20:22; *See* Ex-1002, ¶73).

F. “means for routing” (claim 9)

The term “means for routing” presumably invokes means-plus-function language and, to the extent any structure can be identified as corresponding to this function, appears to refer to a channel of the “communications network” of claim. 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.

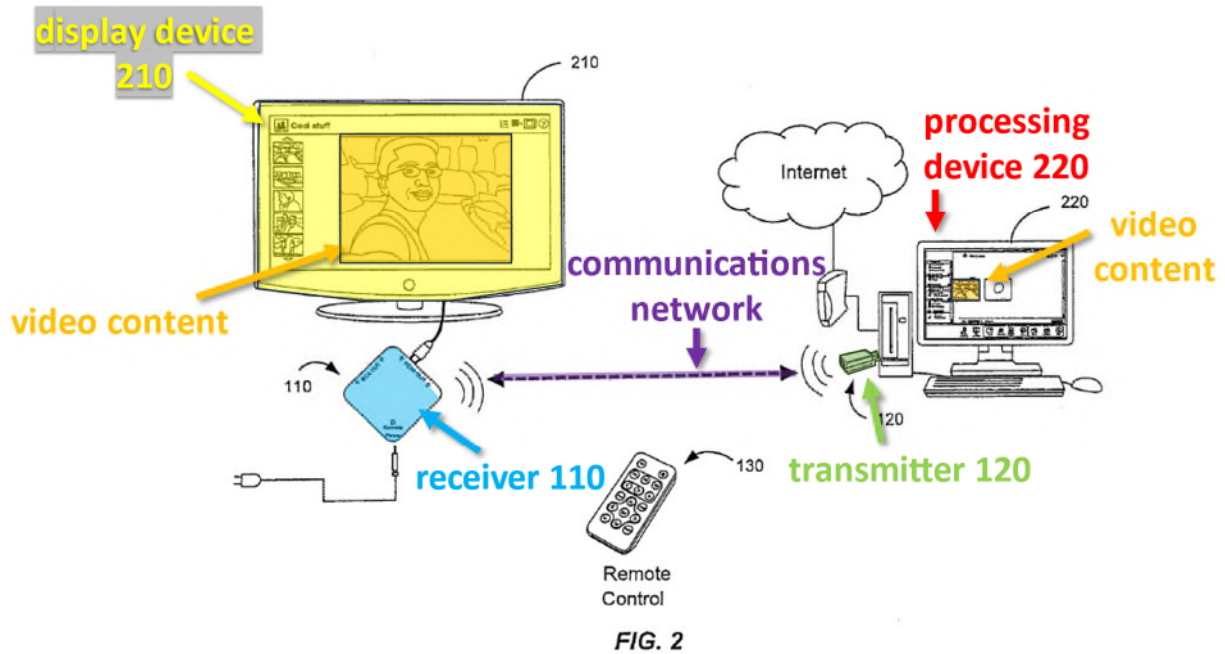
(*Id.*, 33:3-5; *see also id.*, 29:50-30:8 (“there is at least one channel from the peripheral device to the base node”), claim 19; *See* Ex-1002, ¶74).

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 '237 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, ¶¶76-78). In particular, Kaplan discloses a communications system 100 in which 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, ¶77). 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, ¶77). 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, ¶77).



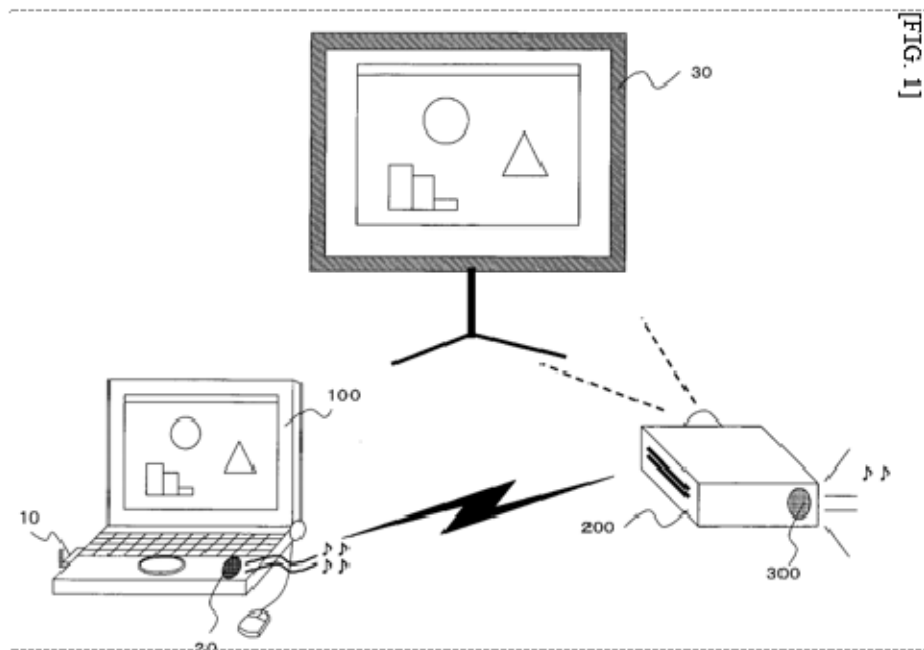
(Ex-1027, FIG. 1).

B. Maeda (EX-1031⁵)

Like the '237 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, ¶15; Ex-1002, ¶¶79-80). In Maeda's

⁵ 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.

discloses system, 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, ¶80).



(Ex-1031, FIG. 1)

C. Mardiks (Ex-1026)

Like the '237 patent, Mardiks discloses a USB peripheral device that can automatically launch an application residing in its memory after it is connected to a host. (Ex-1026, abstract; Ex-1002, ¶¶81-83). As discussed by Mardiks, the Universal Serial Bus (USB) standard allows interfacing between the host and the peripheral device through a provided communications protocol, where the peripheral devices

may be keyboards, compact disc (CD) players, USB flash drives, or other similar devices. (Ex-1026, ¶1; Ex-1002, ¶81). Mardiks recognized that the USB standard did not provide for automatic launching of programs in its standard protocol; therefore, Mardiks sought and disclosed a method to “configure a USB flash drive so that, upon connection to a host supporting the USB standard ... the USB flash drive would automatically launch an application residing in its memory.” (Ex-1026, ¶¶4-5; Ex-1002, ¶81). The advantage in such a system was that the user would not have to manually input additional commands to execute and launch the application. (Ex-1026, ¶4; Ex-1002, ¶81).

Mardiks, therefore, uses a USB peripheral device 10 that included a USB interface 14, a controller 16, and a non-volatile memory 18 therein. (Ex-1026, ¶19; Ex-1002, ¶82). An “application may reside on the non-volatile memory 18. Accordingly, the startup script may be written to cause the host 12 to execute the application.” (Ex-1026, ¶24). Alternatively, Mardiks disclosed that the startup script could be written to either cause the host to automatically execute an application on a network or that resided within the host itself. (Ex-1026, ¶26; Ex-1002, ¶82).

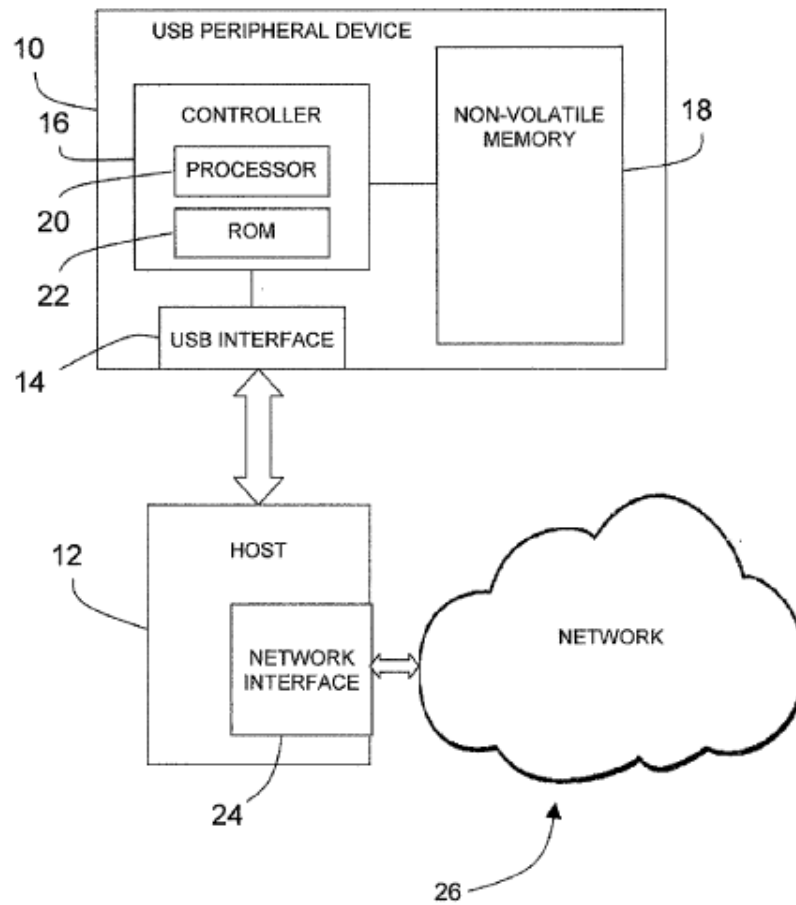


Fig. 1A

(Ex-1026, FIG. 1A)

Mardiks demonstrates that it was common knowledge in the art regarding the ability to have an application automatically execute once it was connected to a host computing device, including whether the application was stored on the USB peripheral device itself, or on a network or the host computing device. (Ex-1002, ¶83).

D. Deforche (Ex-1030)

Like the '237 patent, Deforche uses a “pre-installed generic driver providing a generic communications protocol (7) for communication between [a] host computer device and a standard class of computer peripheral devices” where the peripheral device connects the host computer to a wireless communication network. (Ex-1030, abstract; Ex-1002, ¶¶84-85). In its disclosure, 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.” (*Id.*, ¶10). These “HID and MSD drivers [were] known *per se* in the art.” (*Id.*).

Deforche’s disclosure discusses that 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.” (*Id.*, ¶9). According to Deforche, this method was advantageous to users because it avoided the “need for a specific driver for the communication between the wireless modem device and the computer device” to be downloaded/installed, which was additionally important for

users with restricted user rights, *i.e.*, user rights do not allow for installation of the necessary driver to the device. (*Id.*; Ex-1002, ¶85). Additionally, Deforche noted that the method was further advantageous because the method leaves “zero footprint, *i.e.* the wireless modem device “leaves no trace ... on the computer device.” (Ex-1030, ¶16; Ex-1002, ¶85).

X. DETAILED GROUNDS OF UNPATENTABILITY

A. Ground I – Kaplan and Mardiks render claims 1, 3, 9, 18, and 19 obvious

The combination of Kaplan and Mardiks (“Kaplan-Mardiks”) renders obvious claims 1, 3, 9, 18, and 19. (*See* Ex-1002, ¶¶88-128).

1. Rationale to Combine

Kaplan relates to wireless transmission of data/multimedia through a wireless network by using a peripheral device which is physically attached, through a USB port, to a computing device. (Ex-1027, ¶21, FIG. 2; Ex-1002, ¶86). Kaplan’s system and method can remotely display video content, including its respective audio, through the use/method of physically attaching a separate, wireless peripheral device to a port of the computing device. (Ex-1027, ¶¶6-8, 21; Ex-1002, ¶86). Kaplan’s disclosure, however, does not disclose the peripheral device being presented to the computing device as a “human interface device.”

Mardiks relates to a method of how to present a USB peripheral device to a computing device upon the peripheral device’s connection. (Ex-1026, ¶¶ 6, 8; Ex-

1002, ¶86). Mardiks discloses that a peripheral device presents itself as a human interface device (HID) and is capable of, through its presentation to the computing device as a human interface device (HID), launching an application residing in its memory upon connection to a host computing device automatically without a user's input or direction. (Ex-1026, ¶¶6, 8, 27-30; Ex-1002, ¶87). It would have, thus, been obvious to combine Kaplan with the teachings of Mardiks because it was a simple application of known techniques to apply Mardiks' presenting the peripheral device as a human interface device to achieve Kaplan's method and system of transmission of audio/video data to a wireless network. (Ex-1002, ¶87). Additionally, the modification would achieve the predictable result to automatically launch a stored application on the peripheral device to launch Kaplan's remote audio/visual data transmission to the wireless network. (Ex-1002, ¶87).

2. Claim 1

- a. **1(pre): *A method for connecting a processing device to a communications network, the processing device having a memory, a display, an operating system and communication between processing device and a class of peripheral devices, the method comprising***

Kaplan discloses a method for connecting processing device (e.g., “a computer 220”) to communications network (e.g., network via a transmitter 120). (See, e.g., Ex 1027, ¶¶5-9, 16-18, 23, 57-61, FIGs. 2 (reproduced below), 6; Ex-

1002, ¶¶89-90; *see also* Ex-1005, ¶¶36-41; Ex-1006, ¶¶72-80, 81; Ex-1009⁶, ¶¶39-42; Ex-1033, ¶¶63-70; Ex-1034, ¶¶14-17). Kaplan's system provides communication between the processing device and a class of peripheral devices, which could include devices such as mass storage devices. (*See, e.g.*, Ex 1027, ¶¶50-52 (“[D]uring an initial connection, the transmitter 120 may identify itself to the computer 220 as a mass storage device”); Ex-1002, ¶90). Kaplan recognized the issue in the prior art where setting up and operating 802.11 wireless networks “is a challenging endeavor for many users.” (Ex-1027, ¶3; EX-1002, ¶90). Configuration by the user was difficult in part because the user was required to “set the Service Set Identifier (SSID), password, and/or parameters that enable the various networks elements to communicate.” (EX-1027, ¶18; EX-1002, ¶90). To address this, Kaplan's transmitter and receiver are pre-paired so that the settings for connection are pre-set. (*Id.*; Ex-1002, ¶90). Accordingly, the user is provided with a fully functioning communication system when the user first installs the equipment. (*Id.*; Ex-1002, ¶90).

⁶ This is the English Translation (Ex-1009) to JP Patent Application Publication No. 2008-165007 (Ex-1010). All citations are to the English Translation (Ex-1009). Ex-1011 is the corresponding certificate of certified translation.

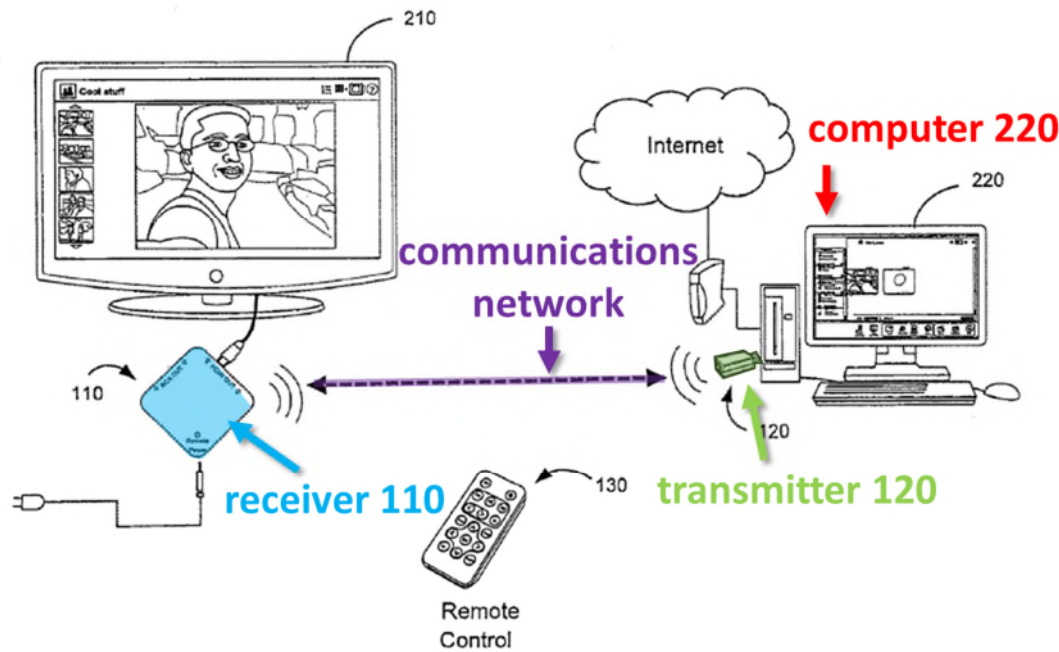


FIG. 2

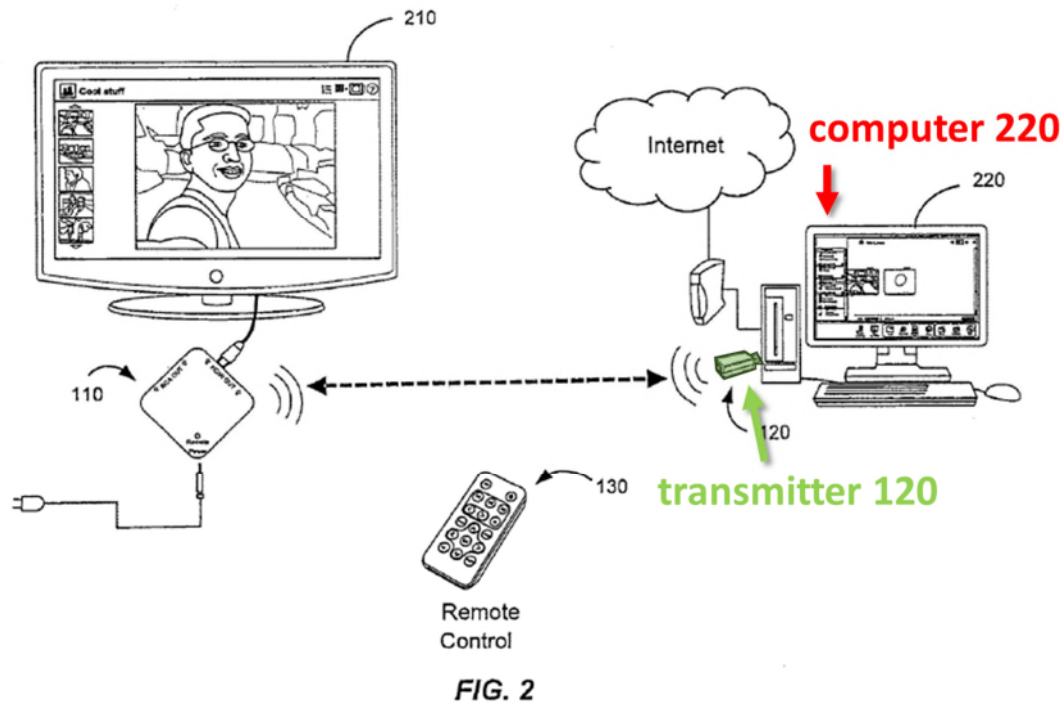
(Ex-1027, FIG. 2).

Kaplan's computer 220 includes a display (illustrated in Figure 2 above), a memory, and an operating system, such as Windows®. (See, e.g., Ex-1027, ¶¶47-49, 59, FIG. 2; Ex-1002, ¶91).

- b. **1(a): coupling an external peripheral device physically to a port of the processing device, the external peripheral device having a transceiver and a connector configured to couple to the port of the processing device**

Kaplan discloses *coupling an external peripheral device* (e.g., “transmitter 120”) *physically to a port of the processing device*. (See, e.g., Ex-1027, ¶21 (“[T]ransmitter 120 is inserted into the USB port of a computer.”), FIG. 2

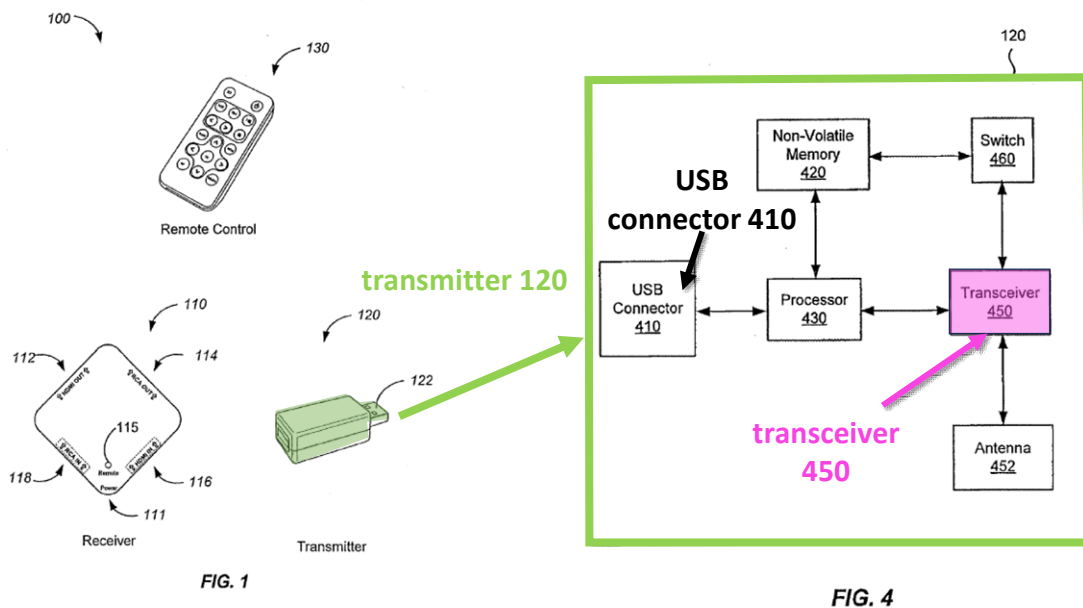
(reproduced below); Ex-1002, ¶92; *see also* Ex-1005, ¶¶54, 55, 62; Ex-1006, ¶137; Ex-1009, ¶¶39, 47-48, 66, Ex-1033, ¶70, Ex-1034, ¶¶14-17).



(Ex-1027, FIG. 2).

Kaplan additionally discloses *the external peripheral device having a transceiver and a connector configured to couple to the port of the processing device*. (See, e.g., Ex-1027, ¶¶19 (“[T]he transmitter 120 includes a wireless transceiver 450 that is operable to transmit data from the computer to the receiver 110”), 16-17 (“In a particular embodiment, the transmitter 120 is a dongle including a connector 122 compliant with the Universal Serial Bus (USB) standard and operable to be inserted into a USB port of a computer, for example, a personal computer. As described in greater detail in FIG. 4, the transmitter 120 includes a

wireless transceiver 450 that is operable to transmit data from the computer to the receiver 110”), 45, FIGs. 1, 4; Ex-1002, ¶93). Further, the transmitter 120 “may includ[e] software that is configured to access video footage stored on a computer....and may be uploaded to and installed to the computer.... [wherein] the user is able to access video footage or other media stored on the computer, transmit the media to the receiver 110, and view and/or listen to the media on the display device 210.” (Ex-1027, ¶22).



(Ex-1027, FIGs. 1, 4).

c. 1(b): presenting the external peripheral device to the processing device as a human interface device

Kaplan uses a transmitter 120 (*e.g.*, a USB dongle) which is physically connected to a USB port of the computer, wherein the transmitter 120 (*e.g.*, the

“external peripheral device”) initially presents itself to the computing device’s operating system as a device from a standard class of peripheral devices (other than a wireless device), namely a removable disk drive. (Ex-1027, ¶¶46-52, 58-60; Ex-1002, ¶94). Upon the computing device detecting the transmitter, the operating system can check the contents of non-volatile memory 420 for an “autoplay.inf” file which may be stored on the peripheral device. (Ex-1027, ¶47; Ex-1002, ¶94). When detected, Kaplan discloses that the “autoplay.inf” file directs the operating system of the computing device to a stored software application which executes the stored application to further install software for use with media transmission. (Ex-1027, ¶¶47-48; Ex-1002, ¶94). However, Kaplan does not explicitly disclose presenting the transmitter 120 as a human interface device (HID).

Similar to Kaplan and the ’237 patent, Mardiks relates to presenting a standard USB peripheral device to a computer and, in particular, presents the device as a HID device which allows for the automatic launch of software residing on the peripheral device. (Ex-1002, ¶¶87, 95-98). By presenting the peripheral device as a HID, the peripheral device’s functionality works simply by plugging it in and avoids the need for user installation of a special driver. (Ex-1026, ¶¶3-6; Ex-1001, 25:7-23, 23:7-38; Ex-1002, ¶¶87, 95-98).

For example, Mardiks’ external peripheral device initially presents to the host computing device as a human interface device, namely, a keyboard, to enable the

launch of a stored application residing on the USB peripheral device. (*See, e.g.*, Ex-1026, ¶¶5-7, 18-20, 27-30; Ex-1002, ¶96). Mardiks explains that the “USB standard does not provide the option of automatically launching a program residing on a USB flash drive after the USB flash drive is simply connected to the host. Instead, the host must receive an additional command, which is an added step for the user if he or she must provide the command.” (Ex-1026, ¶4).

By presenting itself as a keyboard (HID), the USB peripheral device can provide commands to launch a file in a mass storage peripheral device, where “the host uses its USB keyboard driver for communications with the USB peripheral device.” (Ex-1026, ¶28; Ex-1002, ¶97). A keyboard is a type of human interface device (HID) class. (Ex-1026, ¶3; Ex-1002, ¶97).

Mardiks explains that “a stream of emulated keystrokes is sent from the USB peripheral device to the host [and causing] to generate and execute a startup script, as if a user were to manually type the corresponding keystroke on a keyboard.” (Ex-1026, ¶30; *see also id.*, ¶¶18-20, 27-30, FIGS. 1A, 2A (both reproduced below)).

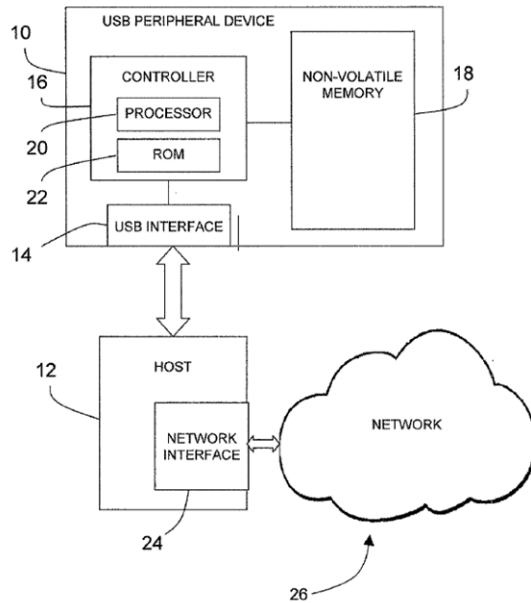


Fig. 1A

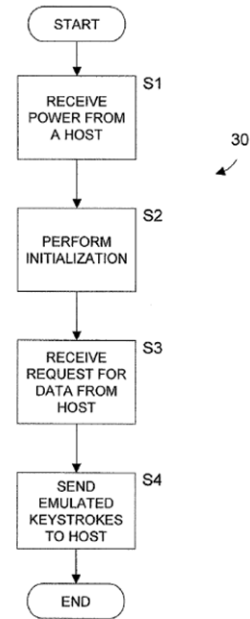


Fig. 2A

(Ex-1026, FIGs. 1A, 2A).

Thus, very similar to Kaplan, Mardiks describes presenting the peripheral device to a host computer from a standard class of devices (mass storage in the case of Kaplan and human interface device in the case of Mardiks). (Ex-1002, ¶99). Both use a similar technique to enable the peripheral device to be a plug-and-play device, whereby the peripheral device's functionality works simply by plugging the device to the host computing device, and the peripheral device can launch an application stored on the peripheral device. (Ex-1002, ¶99). Therefore, a POSITA would have recognized that the approach in Kaplan could have been substituted for that of Mardiks or utilized in addition to the approach in Kaplan. (Ex-1002, ¶¶87, 99). A POSITA would have had a reasonable expectation of success in implementing

software to present a peripheral device as a human interface device given that such identification was well within the ordinary abilities of a POSITA. (Ex-1002, ¶¶87, 100).

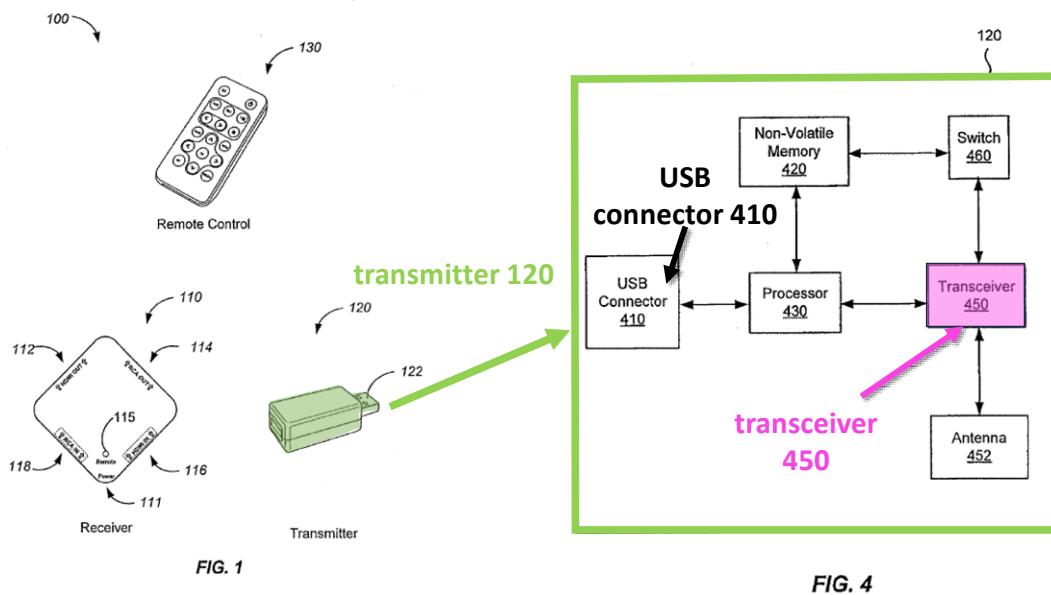
d. 1(c): *communicating at least one of audio data and display data from the processing device to the external peripheral device via the human interface device*

Kaplan discloses *communicating at least one of audio data and display data from the processing device* to the “external peripheral device (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 (“[T]he 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-1002, ¶101; *see also* Ex-1034, ¶¶90, 93).

As discussed above (*see* limitation 1(b)), the combined teachings of Kaplan and Mardiks discloses that the audio data and display data may be communicated to the transmitter 120 through the peripheral device, which is presented to the computing device as a human interface device and, thus, is sent *via the human interface device*. (Ex-1002, ¶102).

e. 1(d): reading the audio data from the port

Kaplan's transmitter 120 is connected to a USB port and data (which may include audio data) is “transmitted from the computer 220 through the transmitter 120.” (Ex-1027, ¶20; Ex-1002, ¶103). A POSITA would have understood the transmitter 120 must read audio data from the USB port of the computer 220 (which then may be processed) before it can be transmitted by the transceiver 450. (See, e.g., Ex-1027, ¶17 (“[T]he data may include video and audio data”), 0027 (explaining the transmitter may perform at least part of the processing of the data), 28 (“[T]he 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”), FIGs. 1, 4; Ex-1002, ¶103).



(Ex-1027, FIGs. 1, 4).

f. 1(e): *connecting the processing device to a communications network via the transceiver*

Kaplan connects the computer 220 (*e.g.*, the “processing device”) to a two-way communications network via the transceiver 450 of the transmitter 120. (*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, ¶104). Kaplan discloses that its transmitter 120 is pre-paired with the receiver 110 to form the communications network to which the computer 220 is connected. (*See, e.g.*, Ex-1027, ¶¶18 (“[T]he receiver 110 and the transmitter 120 are pre-paired during the manufacturing process.... 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”), 53, 54; Ex-1002, ¶104; *see also* Ex-1005, ¶¶35, 39-42, 50-57, 61-62; Ex-1009, ¶¶40-41, 65, 68, 90, 165-167; Ex-1033 ¶70; Ex-1034 ¶¶14-15).

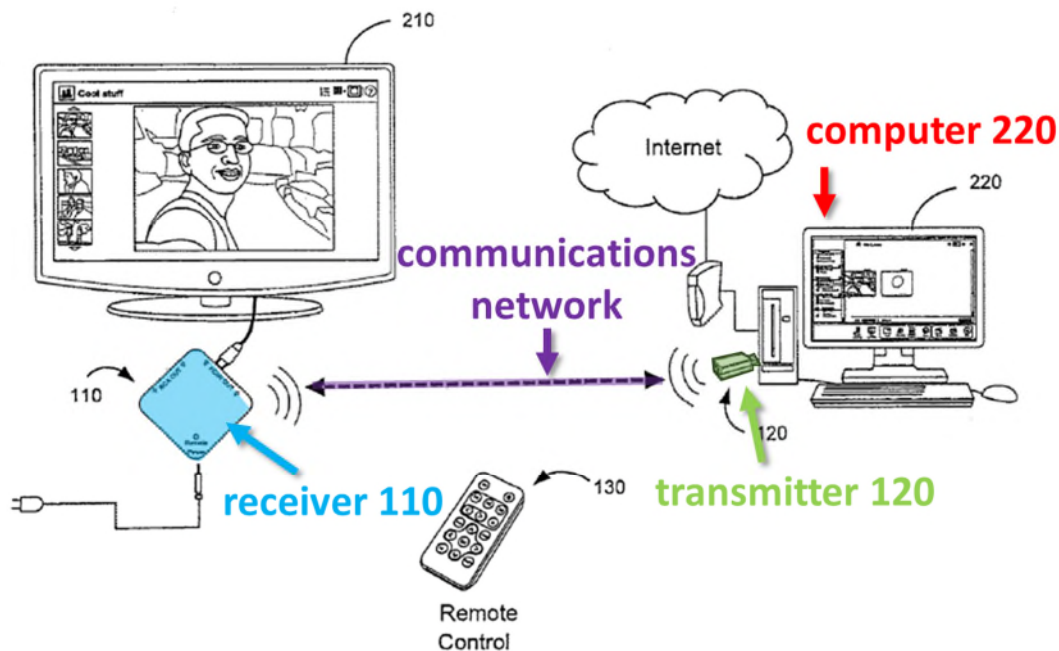


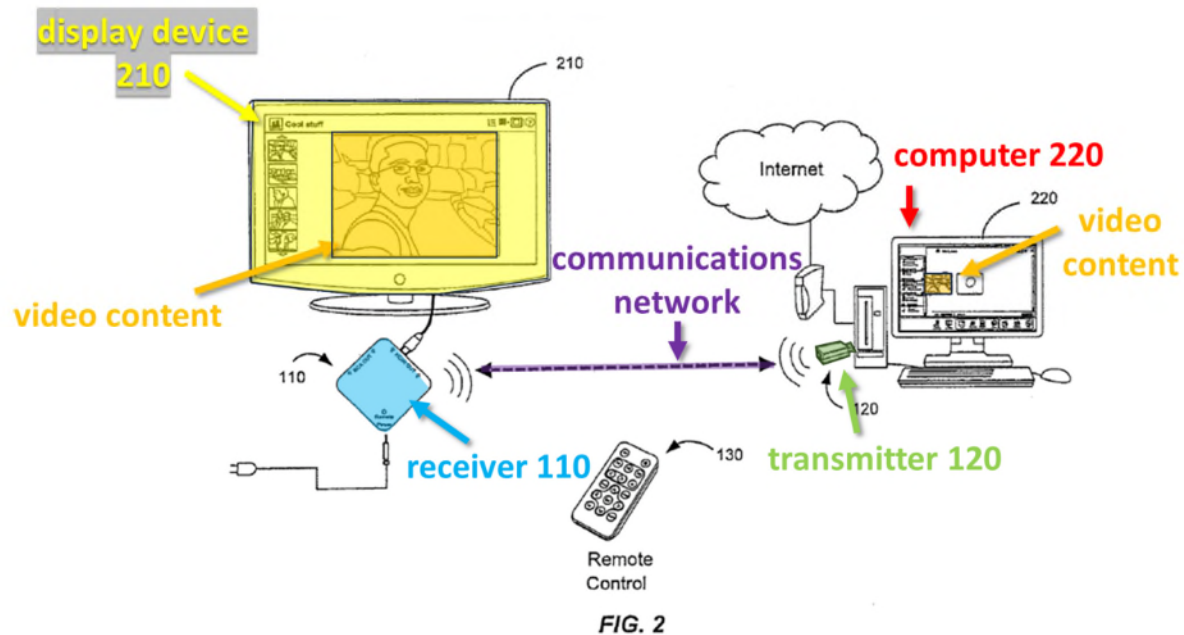
FIG. 2

(Ex-1027, FIG. 2).

- g. **1(f): display data and audio data being routed between the processing device and the communication network via the transceiver and further to a base node.**

Kaplan routes display and audio data between the computer 220 and the communications network via transceiver 450 of the transmitter 120 and further to receiver 110 (e.g., a “base node”). Kaplan then routes the display and audio data to the receiver 110 where, thereafter, the display and video data is presented as video content on the display device 210. (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, ¶105).



(Ex-1027, FIG. 2).

3. ***Claim 3: The method of claim 1, further comprising presenting the external peripheral device to the processing device as any of the following: a mass storage device; and a composite device***

The combination of Kaplan and Mardiks discloses the limitations of claim 3. (See, e.g., Ex-1002, ¶106). Kaplan presents the transmitter 120 to the computer 220 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, ¶106).

4. Claim 9

- a. **9(pre):** *A system for connecting a processing device to a communications network, the processing device having a memory, a display and an operating system and communication between processing device and a class of peripheral devices, the system comprising*

To the extent limiting, Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(pre). (*See, e.g.*, Section X.A.2.a; Ex-1002, ¶¶107-108).

- b. **9(a):** *means for coupling an external peripheral device physically to a port of the processing device, the external peripheral device having a transceiver and a connector configured to couple to the port of the processing device*

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(a). (*See, e.g.*, Section X.A.2.b; Ex-1002, ¶109).

- c. **9(b):** *means for presenting the external peripheral device to the processing device as a human interface device*

Kaplan-Mardiks discloses and/or suggests this limitation for similar reasons to those described for limitation 1(b). (*See, e.g.*, Section X.A.2.c; Ex-1002, ¶110).

- d. **9(c): means for at least one of display data communication and audio communication between the external peripheral device and the processing device via the human interface device**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(b)-(c). (See, e.g., Section X.A.2.c-d; Ex-1002, ¶111).

- e. **9(d): wherein the external peripheral device is configured to connect the processing device to a communications network via the transceiver**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(e). (See, e.g., Section X.A.2.f; Ex-1002, ¶112).

- f. **9(e): means for routing display data and audio data between the processing device and the communication network via the means for display data and audio data communication and the transceiver to a base node**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(c), 1(f). (See, e.g., Section X.A.2.d & g; Ex-1002, ¶113).

5. **Claim 18**

- a. **18(pre): A peripheral device for providing communication connectivity to a processing device which is provided with memory, a display and an operating system and for communication between the processing device and a class of peripheral device, the peripheral device comprising a connection configured to be physically coupled to a port of the processing device and the peripheral device being adapted to work with executable software code, said executable software code comprising:**

To the extent limiting, Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(pre)-(a). (See, e.g., Section X.A.2.a-b; Ex-1002, ¶¶114-115).

- b. **18(a): a fourth software code for presenting the external peripheral device to the processing device as a human interface device**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(b). (See, e.g., Section X.A.2.c; Ex-1002, ¶116).

- c. **18(b): a first software code portion for setting up, a means for at least one of display data communication and audio data communication between the peripheral device and the processing device via the human interface device**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(c). (See, e.g., Section X.A.2.d; Ex-1002, ¶117).

- d. 18(c): *a second software code portion for connecting the processing device to a communications network via a transceiver of the external peripheral device***

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(e). (See, e.g., Section X.A.2.f; Ex-1002, ¶118).

- e. 18(d): *a third software code portion for routing the display data and the audio data between the processing device and the communication network via the transceiver to a base node.***

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitations 1(c)-(d), 1(f). (See, e.g., Section X.A.2.d-e & g; Ex-1002, ¶119).

6. Claim 19

- a. 19(pre): *A method for connecting a processing device to a communications network, the processing device having a memory, a display and an operating system, the method comprising***

To the extent limiting, Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(pre). (See, e.g., Section X.A.2.a; Ex-1002, ¶¶120-21).

- b. 19(a): *coupling an external peripheral device physically to a port of the processing device***

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(a). (See, e.g., Section X.A.2.b; Ex-1002, ¶122).

- c. **19(b): wherein the peripheral device comprises a wireless transceiver and a connector, said connector configured to couple to the port of the processing device**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(a). (See, *e.g.*, Section X.A.2.b; Ex-1002, ¶123).

- d. **19(c): presenting the external peripheral device to the processing device as a human interface device**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(b). (See, *e.g.*, Section X.A.2.c; Ex-1002, ¶124).

- e. **19(d): setting up one of an audio communication between the peripheral device and the processing device and a display data communication between the peripheral device and the processing device via the human interface device**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitations 1(b)-(c). (See, *e.g.*, Section X.A.2.c-d; Ex-1002, ¶125). Kaplan sets up one of an audio communication between transmitter 120 (*e.g.*, the “peripheral device”) and computer 220 (*e.g.*, the “processing device”) and a display data communication between transmitter 120 and computer 220 via the “human interface device” (as suggested by Mardiks). (See, *e.g.*, Ex-1027, ¶¶8, 17, 22, 58 (“The method 600 also includes establishing a connection between a transmitter and a computer (612)”), 47-52, FIG. 6; Ex-1002, ¶125).

- f. 19(e): the peripheral device being configured to connect the processing device to a communications network via the wireless transceiver**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(e). (See, e.g., Section X.A.2.f; Ex-1002, ¶126).

- g. 19(f): routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the audio communication and routing display data from the processing device to the wireless transceiver via the connector of the peripheral device and the display data communication**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitations 1(c), 1(f). (See, e.g., Section X.A.2.d & g; Ex-1002, ¶127). Kaplan discloses routing data “may include video and audio data for display on the display device.” (See, e.g., Ex-1027, ¶17, 22, 28, 45; Ex-1002, ¶127).

- h. 19(g): routing the display data and the audio data from the wireless transceiver of the peripheral device to a base node over the communications network via at least one channel created between the external peripheral device to the base node**

Kaplan-Mardiks discloses this limitation for similar reasons to those described for limitation 1(f). (See, e.g., Section X.A.2.g; Ex-1002, ¶128). Kaplan’s “communications channel between the transmitter 120 and the receiver 110 is provided in accordance with commercially available wireless communications standards.” (Ex-1027, ¶¶31; see also *id.*, 54 (“Typically, the pairing signal includes

an encrypted code that enables a secure communications channel between the paired devices”), 61; Ex-1002, ¶128).

B. Ground II – Maeda and Deforche render claims 1, 3, 9, 18, and 19 obvious

The combination of Maeda and Deforche (Maeda-Deforche) renders obvious claims 1, 3, 9, 18, and 19. (*See* Ex-1002, ¶¶129-174).

1. Rationale to Combine

Maeda and Deforche each relate to the wireless transmission of data/multimedia through a wireless network. (Ex-1031, ¶17; Ex-1030, abstract; Ex-1002, ¶129). Maeda’s system and method can remotely display video and audio content from a personal computing device (PC) onto a separate projector and screen. (Ex-1031, ¶17; Ex-1002, ¶129). To do so, the system uses the PC as an image generation device which, thereafter, transmits the video and audio data to the projector via a LAN card physically attached to the PC and which connects to a wireless local area network (LAN). (Ex-1031, ¶¶15, 17; Ex-1002, ¶129). Maeda’s disclosure, however, does not discuss presenting a peripheral device to the processing device as a “human interface device.”

Deforche uses a peripheral device and presents it to a processing device as a human interface device (HID). (Ex-1030, ¶¶9-11, 34, FIG. 1; Ex-1002, ¶130). From Deforche’s recognition of problems in the art, Deforche discloses a method of

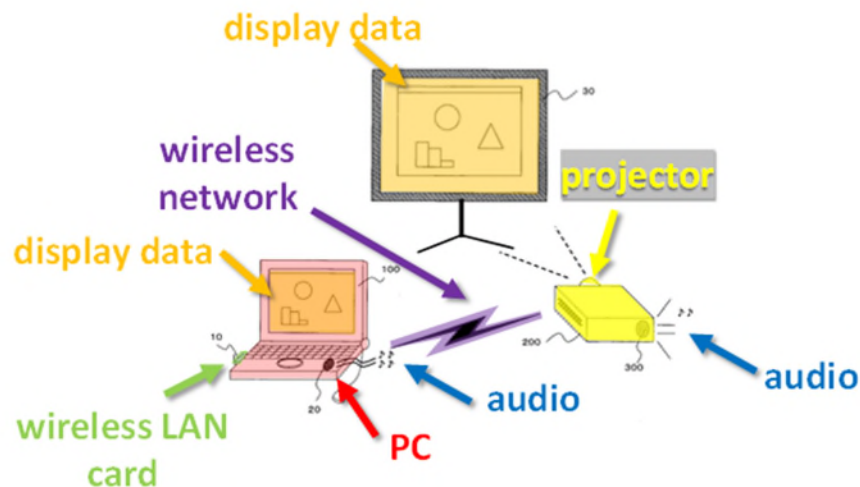
connecting a host computing device to a wireless communication network in a way that avoids the additional steps of installation of separate drivers or applications, for example, by “setting up, by means of a pre-installed generic driver of an operating system on the computer device, a modem/host communication interface [] for communication between the wireless modem device and the computer device.” (Ex-1031, ¶¶2-6, 28-30, abstract; Ex-1002, ¶130). It would have, thus, been obvious to combine Deforche with the teachings of Maeda because it was a simple application of known techniques to apply Deforche’s presenting the peripheral device as a human interface device to achieve Maeda’s method and system of transmission of audio/video data. (Ex-1002, ¶130). Additionally, the modification of Maeda with Deforche would achieve the predictable result of transmitting audio/visual data through a peripheral device attached to the computing device and presented as a human interface device, and on to a wireless network, without user installation or configuration of a separate driver or settings. (Ex-1002, ¶130).

2. Claim 1

- a. **1(pre): A method for connecting a processing device to a communications network, the processing device having a memory, a display, an operating system and communication between processing device and a class of peripheral devices, the method comprising:**

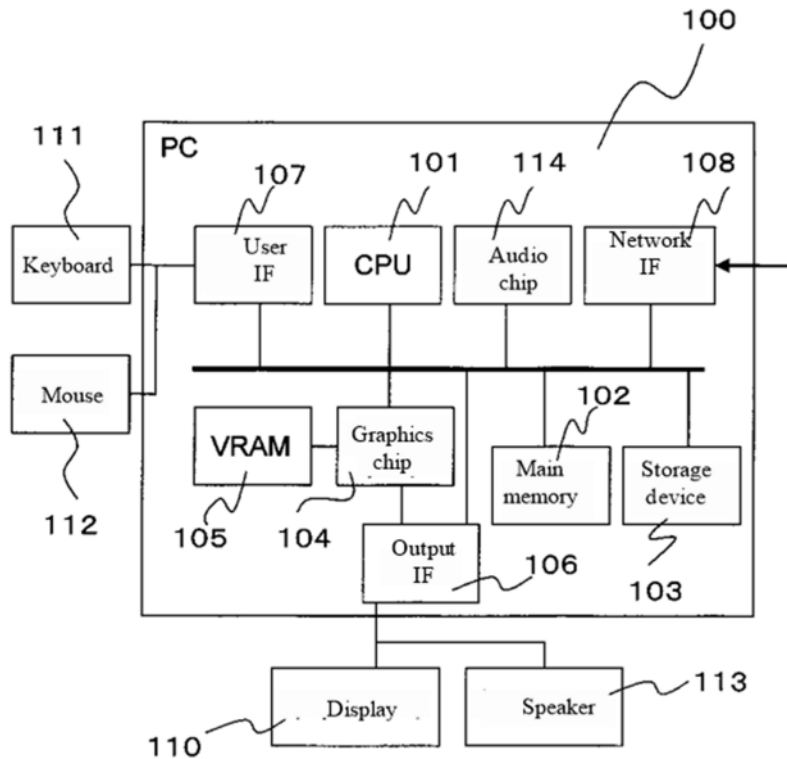
To the extent limiting, Maeda-Deforche discloses this limitation. (See, e.g., Ex-1002, ¶¶131-32). For instance, Maeda discloses a method for connecting a

personal computer (PC 100) (*e.g.*, a “processing device”) 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”), 17 (“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 LA.”), 19, 76; *see also id.*, FIG. 1; Ex-1002, ¶133; *see also* Ex-1005, ¶¶36-41; Ex-1006, ¶¶72-80, 81; Ex-1009, ¶¶39-42; Ex-1033, ¶¶63, 70; Ex-1034, ¶¶14-17).



(Ex-1031, FIG. 1).

Maeda's PC 100 has a main memory 102 and storage device 103 and a display 110. (See, *e.g.*, Ex-1031, ¶19, FIG. 2 (reproduced below); Ex-1002, ¶134).



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

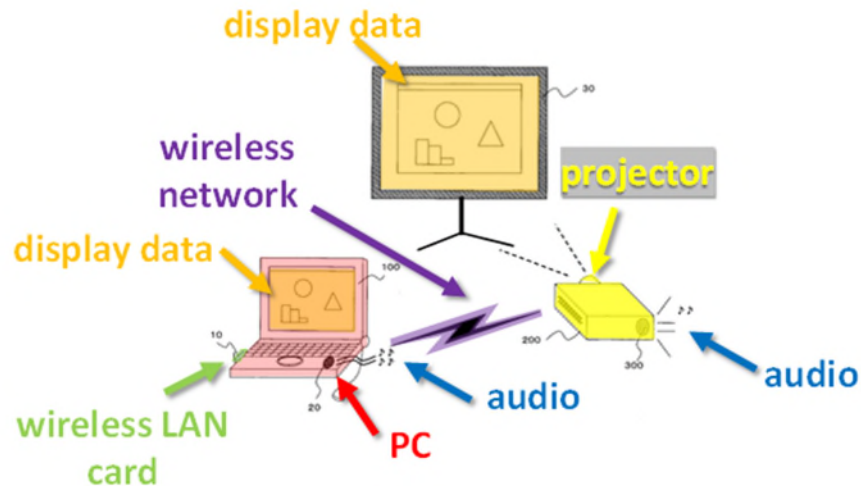
A POSITA would recognize that Maeda's PC 100 includes an operating system because it was fundamental software to manage components of the PC. (See, e.g., Ex-1058, ¶125; Ex-1002, ¶135). Maeda's system also discloses numerous components included of the PC (graphics chip 104, a VRAM 105, an audio chip 114, 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, ¶135). A POSITA would have recognized that the operating system of Maeda

was used to manage such components (Windows®, Macintosh OS, Linux, etc),, including 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, ¶135).

Moreover, Deforche discloses that a computer has “at least one pre-installed generic driver providing a generic communication protocol (7) for communication between the host computer device and a standard class of computer peripheral devices.” (Ex-1030, abstract; Ex-1002, ¶136).

b. 1(a): *coupling an external peripheral device physically to a port of the processing device, the external peripheral device having a transceiver and a connector configured to couple to the port of the processing device*

Maeda-Deforche discloses this limitation. (See, *e.g.*, Ex-1002, ¶137). Maeda couples a wireless LAN (Local Area Network) card 10 by physically attaching the LAN card 10 to PC 100. (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”), FIG. 1 (reproduced below); Ex-1002, ¶137; see also Ex-1005, ¶¶54, 55, 62; Ex-1006, ¶137; Ex-1009, ¶¶39, 47-48, 66, Ex-1033, ¶70, Ex-1034, ¶¶14-17). Further, PC 100 includes a network interface, network IF 18 for its network connection. (See Ex-1031, ¶19; Ex-1002, ¶137).



(Ex-1031, FIG. 1).

A POSITA would recognize that Maeda's LAN card 10 would contain a wireless LAN chip (*e.g.*, a wireless transceiver) for its ability to send and receive the video and audio data to and from PC 100. (*See, e.g.*, Ex-1031, ¶¶17, 53-54; Ex-1059, ¶¶5-6 (explaining that wireless LAN cards (which were also referred to as wireless PC card and wireless network adapters) contain transceivers for wireless communication); Ex-1022, FIG. 2 (illustrating WLAN adapter 5 with a WLAN interface 55, indicative of a transceiver); Ex-1024, ¶16 ("transmission-reception device 3 connected to the input-output port 10 of a unit of electronic equipment 1 is comprised of a control circuit 30, an encryption-decryption module 31, a wireless transceiver module 32, and a communications plug 33"), FIG. 3; Ex-1007, ¶¶18-21, 30 ("The receiver 124 may include a receiver of the same type as the transmitter, and may be integrated as a transceiver."), FIG. 1 (illustrating USB flash drive 100 with transmitter 122 and receiver 124, indicative of a transceiver), 47; Ex-1060,

1:64-2:3 (“The wireless communication system includes a dongle and a transceiver. The dongle has an electrical connector and an antenna. The transceiver is electrically coupled to a central processor and the dongle.”), 3:42-64, FIG. 1; Ex-1027, ¶¶17, 45; Ex-1002, ¶138).

Deforche’s wireless modem device is “a computer peripheral device which has an electronic interface for connection to a complementary electronic interface of a computer device (host) and which comprises electronic components for establishing communication between said computer device to which it is connected and a remote device over a wireless communication network.” (Ex-1030, ¶6) Deforche’s wireless modem device communicates through a wireless LAN (WLAN). (Ex-1030, ¶8; Ex-1002, ¶139). Deforche discloses that its electronic interface of the wireless modem device can be a USB interface that couples via a standard connector to a port of the host computer. (*See, e.g.*, Ex-1030, ¶7; Ex-1002, ¶139). As illustrated in Figure 2, the USB modem includes a radio interface (IF), which is indicative of a transceiver. (*See* Ex-1030, Abstract, ¶¶6-8, 34 (describing transmitting and receiving data from the network); Ex-1002, ¶139). Further, Deforche discloses that “software code portions are stored on the wireless modem device...which are configured for performing one or more of the above-mentioned steps, *i.e.*, the use of a pre-installed generic driver.” (Ex-1030, ¶17; *see also*, Claim 9; Ex-1002, ¶139).

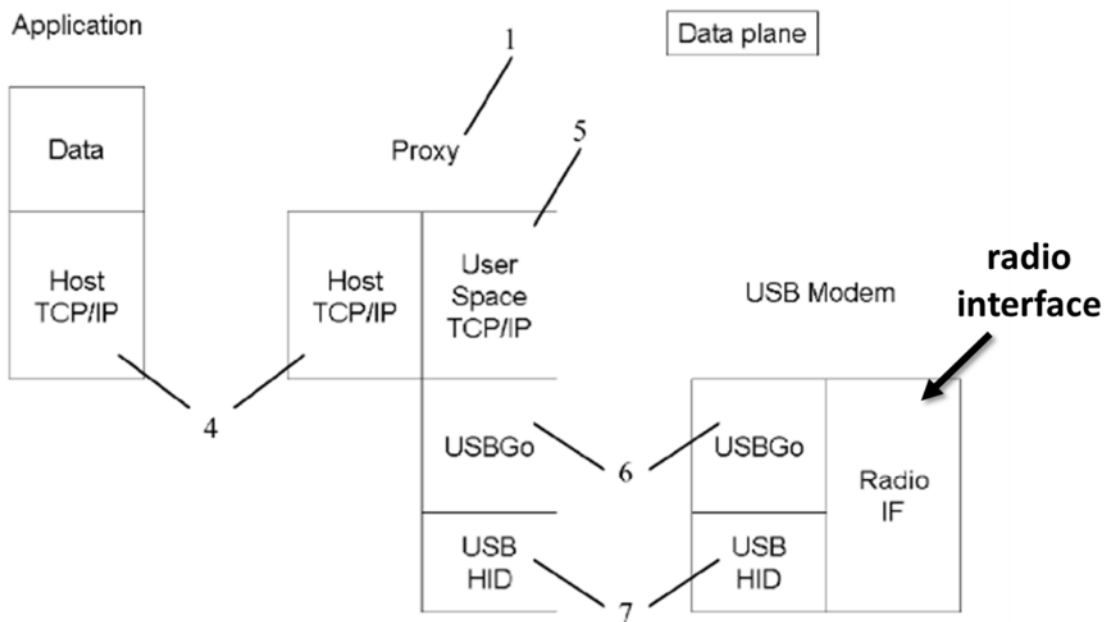


Figure 2

(Ex-1030, FIG. 2)

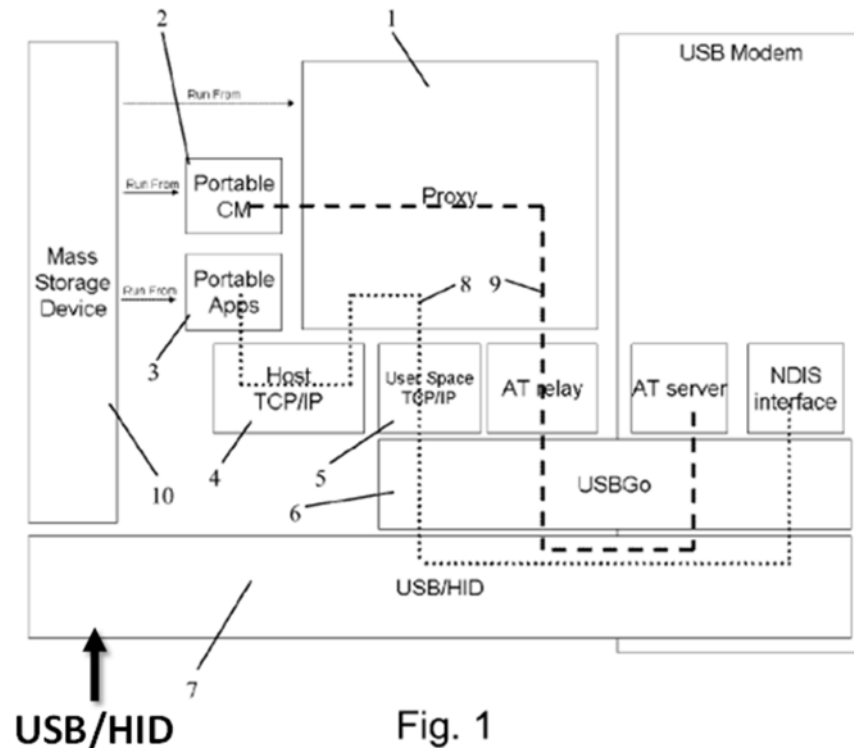
A POSITA would have found it obvious to include a transceiver and connector configured to connect to a corresponding port in a wireless LAN card or similar wireless modem device to wirelessly transmit and receive data because it was conventional in the art at the time of invention. (*See, e.g.*, Ex-1059, ¶¶1-6; Ex-1022, FIG. 2; Ex-1024, ¶16, FIG. 3; Ex-1007, ¶¶18-21, 30, FIG. 1, 47; Ex-1060, 1:64-2:3, 3:42-64, FIG. 1; Ex-1027, ¶¶17, 45; Ex-1002, ¶¶130, 140). Further, a POSITA would have had a reasonable expectation of success in implementing such well-known, routine, and predictable technology. (Ex-1002, ¶¶130, 140).

c. 1(b): *presenting the external peripheral device to the processing device as a human interface device*

Maeda-Deforche discloses this limitation. (*See, e.g.*, Ex-1002, ¶141). In addition to Maeda's disclosure discussed above (*see, e.g.*, Ex-1031, ¶¶15-19), Deforche provides additional details on how a wireless modem device can be configured to communicate with its host computer. (Ex-1002, ¶141). Deforche "relates to a wireless modem device connectable to a computer device and a method for operating said wireless modem." (Ex-1031, ¶1). Thus, Deforche is from the same general field of technology as the '237 patent. (Ex-1001, 1:15-20 (stating that it relates to, among other things, "devices for providing connection to a communications network"); Ex-1002, ¶141) Additionally, Deforche recognizes numerous issues in the prior art, including that "when a wireless modem is connected for the first time to a computer device, installation of an appropriate driver is required before applications running on the computer device can use the functionality of the wireless modem to connect to wireless networks." (Ex-1031, ¶2). Further, Deforche recognizes that this was inconvenient and undesirable particularly where the user lacked administrator rights or was otherwise restricted from driver installation. (Ex-1031, ¶¶3-6, 28-30; Ex-1002, ¶141). Deforche also addresses a desire to provide modem functionality in any computer independent of the operating system without leaving a footprint (Zero-Footprint). (Ex-1031, ¶¶28-30; Ex-1002, ¶141). Thus, Deforche is also directed to solving problems like the '237 patent. (*See, e.g.*, Ex-

1001, 24:20-45; Ex-1002, ¶141). Thus, a POSITA would have found it obvious to use the teachings of Deforche to implement Maeda's system of a wireless communications network. (Ex-1002, ¶¶130, 142).

Deforche's wireless modem device presents itself to the host computer as a human interface device or other generic device. (*See, e.g.*, Ex-1030, ¶¶10, 33-36, 43-45, 51-52, claim 2, FIG. 1 (USB interface 7 exposed to a host computer as a human interface device (HID))); Ex-1002, ¶143). By doing so, Deforche's system avoids the need for a user to install a driver for the peripheral wireless modem device. (*See, e.g.*, Ex-1030, ¶¶10, 32-39, 0043-46, 51-52; Ex-1002, ¶144). Instead, the computer utilizes its given drivers for human interface devices to establish a channel of communication with the wireless device. (*Id.*; Ex-1002, ¶144).



(Ex-1030, FIG. 1).

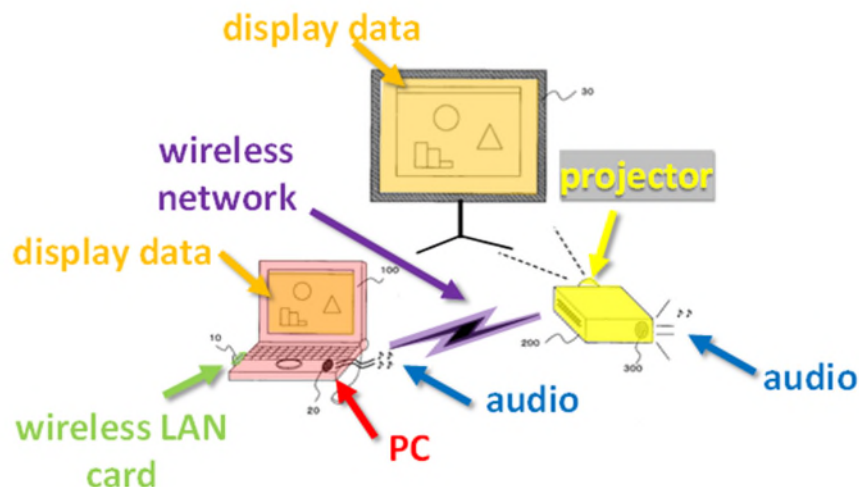
A POSITA would have found it obvious to use the teachings of Deforche, as described above, to implement the system of Maeda to avoid the need for a user to install a separate driver for a wireless peripheral device. (Ex-1002, ¶145). Given how known the limitations were in the art, a POSITA would have had a reasonable expectation of success in achieving the claimed combination of Maeda with Deforche. (Ex-1002, ¶¶145).

- d. **1(c): communicating at least one of audio data and display data from the processing device to the external peripheral device via the human interface device**

Maeda-Deforche discloses this limitation. (See, e.g., Ex-1002, ¶¶146-147).

Maeda's system communicates at least one of audio data and display data from PC

100 (*e.g.*, the “processing device”) to wireless LAN card 10 (*e.g.*, the “external peripheral device”) via network IF [interface] 108. (*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, ¶146; *see also* Ex-1034, ¶¶90, 93). As described above (*see* limitation 1(b)), the wireless LAN card/wireless modem device may be presented as a human interface device (*e.g.*, as suggested by Deforche), such that the audio and display data may be said to be communicated via the human interface device. (*See, e.g.*, Ex-1030, ¶¶32-39, 52; Ex-1002, ¶146).



(Ex-1031, FIG. 1).

e. (d): reading the audio data from the port

Maeda-Deforche discloses this limitation. (*See, e.g.*, Ex-1002, ¶147). A POSITA would recognize that Maeda reads audio data from a port at the network IF 108 of the PC 100. (*See, e.g.*, Ex-1031, ¶¶15, 17, 19; Ex-1002, ¶147). Similarly, as discussed for limitation 1(a) above, for the wireless LAN card 10 to transmit audio data to the wireless LAN, the data must be read from the PC's port. (Ex-1002, ¶147). Moreover, Maeda (as modified by Deforche) suggests reading all data from a port/interface on the host PC to, for example, a wireless USB modem device. (*See, e.g.*, Ex-1030, ¶¶34-39; Ex-1002, ¶¶147).

f. 1(e): connecting the processing device to a communications network via the transceiver

Maeda-Deforche discloses this limitation. (*See, e.g.*, Ex-1002, ¶148). Maeda's system connects the PC 100 to a communications network via the wireless LAN card 100. (*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, ¶148; *see also* Ex-1005, ¶¶35, 39-42, 50-57, 61-62; Ex-1009, ¶¶40-41, 65, 68, 90, 165-167; Ex-1033 ¶70; Ex-1034 ¶¶14-15). As described above (*see* limitation 1(a)), this connection may be achieved through the wireless LAN card's transceiver chip, or other well-known transceiver that enables two-way communication. (Ex-1002, ¶148).

g. 1(f): *display data and audio data being routed between the processing device and the communication network via the transceiver and further to a base node*

Maeda-Deforche discloses this limitation. (See, e.g., Ex-1002, ¶149). Maeda routes display data and audio data are between the PC and the communication network via the LAN card, which is then further transmitted to a projector 200. (See, e.g., Ex-1031, ¶17 (“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-1002, ¶149). As described above (see limitations 1(a), 1(c), and 1(e)), data routing is achieved through the wireless LAN card’s chip transceiver, or other well-known transceiver that enables two-way communication. (Ex-1002, ¶149).

3. Claim 3: *The method of claim 1, further comprising presenting the external peripheral device to the processing device as any of the following: a mass storage device; and a composite device*

Maeda-Deforche discloses the limitations of claim 3. (See, e.g., Ex-1002, ¶150-151). As discussed above, Deforche presents its wireless modem peripheral

device to a computer's operating system as a USB mass storage device (UMS), such that the pre-installed mass storage device driver of the computer can setup communication with the peripheral device without the need to install special device drivers, or as a composite device, such that it is able to first set up a communication with the wireless modem device and then is able to transfer data using its wireless capability. (*See, e.g.*, Ex-1030, ¶¶31 (“At this point, the USB modem presents itself as a USB Mass Storage Device (10)”), 0033 (“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”), 37-46; Ex-1002, ¶¶150-151).

Furthermore, Deforche is also able to present its wireless modem peripheral device as a composite device to the computer's operating system, which allows the pre-installed device drivers for the different components of the composite device to communicate with these interfaces of the peripheral device independently and, importantly, without the user needing to install special device drivers. (*See, e.g.*, Ex-1030, ¶33 (“A switching mechanism allows a ZeroFootprint device to present itself as a USB/HID+MSD device or USB modem device, depending on the availability of drivers in the system. 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”);
Ex-1002, ¶151).

4. Claim 9

- a. **9(pre):** *A system for connecting a processing device to a communications network, the processing device having a memory, a display and an operating system and communication between processing device and a class of peripheral devices, the system comprising*

To the extent limiting, Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(pre). (See, e.g., Section X.B.2.a; Ex-1002, ¶¶152-153).

- b. **9(a):** *means for coupling an external peripheral device physically to a port of the processing device, the external peripheral device having a transceiver and a connector configured to couple to the port of the processing device*

Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(a). (See, e.g., Section X.B.2.b; Ex-1002, ¶154).

- c. **9(b):** *means for presenting the external peripheral device to the processing device as a human interface device*

Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(b). (See, e.g., Section X.B.2.c; Ex-1002, ¶155).

- d. **9(c): means for at least one of display data communication and audio communication between the external peripheral device and the processing device via the human interface device**

Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(b)-(c). (See, e.g., Section X.B.2.c-d; Ex-1002, ¶156).

- e. **9(d): wherein the external peripheral device is configured to connect the processing device to a communications network via the transceiver**

Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(e). (See, e.g., Section X.B.2.f; Ex-1002, ¶157).

- f. **9(e): means for routing display data and audio data between the processing device and the communication network via the means for display data and audio data communication and the transceiver to a base node**

Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(c), 1(f). (See, e.g., Section X.B.2.d & g; Ex-1002, ¶158).

5. **Claim 18**

- a. **18(pre): A peripheral device for providing communication connectivity to a processing device which is provided with memory, a display and an operating system and for communication between the processing device and a class of peripheral device, the peripheral device comprising a connection configured to be physically coupled to a port of the processing device and the peripheral device being adapted to work with executable software code, said executable software code comprising:**

To the extent limiting, Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(pre)-(a). (See, e.g., Section X.B.2.a-b; Ex-1002, ¶¶159-160).

- b. **18(a): a fourth software code for presenting the external peripheral device to the processing device as a human interface device**

Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(b). (See, e.g., Section X.B.2.c; Ex-1002, ¶161).

- c. **18(b): a first software code portion for setting up, a means for at least one of display data communication and audio data communication between the peripheral device and the processing device via the human interface device**

Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(c)-(d). (See, e.g., Section X.B.2.d-e; Ex-1002, ¶162).

- d. 18(c): *a second software code portion for connecting the processing device to a communications network via a transceiver of the external peripheral device***

Maeda-Deforche discloses this limitation for similar reasons to those described for limitation 1(e). (See, e.g., Section X.B.2.f; Ex-1002, ¶163).

- e. 18(d): *a third software code portion for routing the display data and the audio data between the processing device and the communication network via the transceiver to a base node.***

Maeda-Deforche discloses this limitation for similar reasons to those described for limitations 1(c)-(d), 1(f). (See, e.g., Section X.B.2.d-e & f; Ex-1002, ¶164).

6. Claim 19

- a. 19(pre): *A method for connecting a processing device to a communications network, the processing device having a memory, a display and an operating system, the method comprising***

To the extent limiting, Maeda-Deforche discloses this limitation for similar reasons like those described above for limitation 1(pre). (See, e.g., Section X.B.2.a; Ex-1002, ¶¶165-166).

- b. 19(a): *coupling an external peripheral device physically to a port of the processing device***

Maeda-Deforche discloses this limitation for similar reasons like those described above for limitation 1(a). (See, e.g., Section X.B.2.b; Ex-1002, ¶167).

- c. **19(b): wherein the peripheral device comprises a wireless transceiver and a connector, said connector configured to couple to the port of the processing device**

Maeda-Deforche discloses this limitation for similar reasons like those described above for limitation 1(a). (See, e.g., Section X.B.2.b; Ex-1002, ¶168).

- d. **19(c): presenting the external peripheral device to the processing device as a human interface device**

Maeda-Deforche discloses this limitation for similar reasons like those described above for limitation 1(b). (See, e.g., Section X.B.2.c; Ex-1002, ¶169).

- e. **19(d): setting up one of an audio communication between the peripheral device and the processing device and a display data communication between the peripheral device and the processing device via the human interface device**

Maeda-Deforche discloses this limitation for similar reasons to those described above for limitation 1(c)-(d). (See, e.g., Section X.B.2.d-e; Ex-1002, ¶170). Moreover, a POSITA would recognize that Maeda's PC 100 set up communication with the wireless LAN card 10 when the wireless LAN card 10 is attached to PC 100. For instance, Maeda discloses that its PC 100 includes an audio capture unit 128 and PC communication unit 127 which could provide communication of audio data from the PC 100 to the wireless LAN card 10, which could then be transmitted to the projector 200 via the wireless LAN. (See, e.g., Ex-1031, ¶¶22, 29, 30; Ex-1002, ¶170). Similarly, a POSITA would recognize that Maeda disclosed an image capture unit 123 and PC communication unit 127 which

could provide communication of display data from the PC 100 to the wireless LAN card 10 for transmission to the projector 200 via the wireless LAN. (See, e.g., Ex-1031, ¶¶22, 23, 26, 29, 30; Ex-1002, ¶170).

f. 19(e): *the peripheral device being configured to connect the processing device to a communications network via the wireless transceiver*

Maeda-Deforche discloses this limitation for similar reasons to those described above for limitation 1(e). (See, e.g., Section X.B.2.f; Ex-1002, ¶171).

g. 19(f): *routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the audio communication*

Maeda-Deforche discloses this limitation for similar reasons to those described above for limitation 1(c)-(d), 1(f). (See, e.g., Section X.B.2.d-e & f; Ex-1002, ¶172). Maeda's PC 100 transmits image signals and audio signals to projector 200, which are obtained from an image capture unit 123 that captures the image signal and a sound capture unit 128 that captures the audio signal. (Ex-1031, ¶¶26 ("The image capture unit 123 is a processing unit that receives a capture instruction from the control unit 121 and captures the screen generated by the screen generation unit 122, and is realized by the graphics chip 104, the main memory 102, and the like"), 28 ("The audio capture unit 128 is a processing unit that receives a capture instruction from the control unit 121 and captures the audio generated by the audio generation unit 124, and is realized by the audio chip 114, the main memory 102,

and the like”), 29, 30; Ex-1002, ¶172). The captured audio signal is then routed from the PC 100 to the wireless LAN card 10 to be transmitted for audio output at the projector 200. (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, ¶172).

h. 19(g): *routing display data from the processing device to the wireless transceiver via the connector of the peripheral device and the display data communication*

Maeda-Deforche discloses this limitation for similar reasons to those described above for limitations 1(c)-(d), 1(f). (See, e.g., Section X.B.2.d-e & f; Ex-1002, ¶173). A POSITA would recognize that Maeda’s wireless LAN card 10 includes a transceiver and a connector (to electrically couple the card 10 to the PC 100). Moreover, a POSITA would have found it obvious to implement such features as conventional structures to perform those functions. (Section X.B.1). Further, Maeda’s PC 100 can transmit both image signals and audio signals via the wireless LAN card 10. An image capture unit 123 captures the image signal, and a sound capture unit 128 captures the audio signal. (Ex-1031, ¶¶26, 28, 29, 30; Ex-1002, ¶173). Display data of the captured video signal is thereafter routed from the PC 100 via the wireless LAN card 10 for display at the projector 200. (See, e.g., Ex-1031, ¶17; Ex-1002, ¶173).

- i. **19(h): routing the display data and the audio data from the wireless transceiver of the peripheral device to a base node over the communications network via at least one channel created between the external peripheral device to the base node**

Maeda-Deforche discloses this limitation for similar reasons like those described above for limitation 1(f). (*See, e.g.*, Section X.B.2.g; Ex-1002, ¶174). Moreover, Maeda-Deforche discloses routing the display data and the audio data from the wireless transceiver of the peripheral device to a base node over the communications network via at least one channel created between the external peripheral device to the base node. (*See, e.g.*, Ex-1031, ¶43-44; Ex-1002, ¶174). Further, Maeda discloses that “images can be transmitted using TCP (Transmission Control Protocol), while audio can be transmitted using UDP (User Datagram Protocol).” (Ex-1031, ¶57; Ex-1002, ¶174). A POSITA would have understood these conventional protocols utilize transmission channels to transfer their respective data. Moreover, the combination with Deforche, which includes an implementation of a wireless modem that uses its HID identification for wireless transmission, suggests the use of transmission channels to data transmission as was conventional in the art. (*See* Ex-1030, ¶38; Ex-1002, ¶174).

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,

¶¶175-176). 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.*, IPR2020-01019, 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 and, specifically, stated that the prior art did not teach “presenting the external device to the processing device as a human interface device” in combination with all the claimed limitations. (Ex-1004, p.394). Patent Owner argued that the prior art combination did not teach, in relevant part, “that the external peripheral device is presented to the processing device as a human interface device.” (Ex-1004, p.675 (7/13/2021 response, 8) (emphasis in original)).

Deforche undeniably teaches this limitation, however, such as presenting the wireless modem device as a human interface device (HID) to avoid the need to install a driver for the peripheral wireless modem device. *See* § X.B.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 of presenting the external peripheral device to the processing device as a human interface device.

XIV. CONCLUSION

For the foregoing reasons, Petitioner respectfully requests review and cancellation of claims 1, 3, 9, 18, and 19 of the '237 patent.

Dated: September 13, 2024

Respectfully submitted,

By: /Stephen Yang/
Stephen Yang
Reg. No. 70,589
Dentons US LLP

1221 Avenue of the Americas
New York, NY 10020
(212) 398-4890 (telephone)
(212) 768-6800 (facsimile)
stephen.yang@dentons.com

Lead counsel for Petitioner

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 11,852 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), and complies with typeface requirements of 37 C.F.R. §42.6(a)(ii) and the style requirements of 37 C.F.R. §§42.6(a)(iii) and (iv).

Dated: September 13, 2024

By: /Stephen Yang/
Stephen Yang
Reg. No. 70,589
Attorney for Petitioner

CERTIFICATE OF SERVICE

I hereby certify that on September 13, 2024, I caused a true and correct copy of the foregoing Petition for Inter Partes Review of U.S. Patent No. 11,403,237 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:

HAMRE, SCHUMANN, MUELLER & LARSON P.C.
45 South Seven Street, Suite 2700
Minneapolis, MN 55402-1683

Dated: September 13, 2024

Respectfully submitted,

/Stephen Yang/
Stephen Yang
Reg. No. 70,589
Attorney for Petitioner