

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.,
Petitioner,

v.

BARCO N.V.,
Patent Owner.

IPR2024-01436
Patent 10,762,002 B2

Before MEREDITH C. PETRAVICK, DAVID C. McKONE, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

PETRAVICK, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background and Summary

Yealink (USA) Network Technology Co., Ltd. and Yealink Network Technology Co., Ltd. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–3, 9–11, 19, 21, and 22 of U.S. Patent No. 10,762,002 B2 (Ex. 1001, “the ’002 patent”). Paper 2 (“Pet.”). Barco N.V. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

We also authorized the parties to submit additional briefing to address arguments raised by Patent Owner. Paper 9. Petitioner filed a Reply (Paper 10) and Patent Owner filed a Sur-Reply (Paper 11).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

After considering the Petition, the Preliminary Response, the Reply, the Sur-Reply, and the evidence of record, we determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one of the challenged claims of the ’002 patent.

Accordingly, we institute an *inter partes* review of claims 1–3, 9–11, 19, 21, and 22 of the ’002 patent on the grounds asserted in the Petition.

B. Real Parties in Interest

Petitioner identifies itself as the real party in interest. Pet. 1. Patent Owner identifies itself as the real party in interest. Paper 3, 2.

C. Related Matters

The parties identify the following related court proceeding: *Barco, Inc. et al. v. Yealink (USA) Network Technology Co., Ltd. et al.*, 2:23-cv-521 (ED Tex.) (filed Nov. 14, 2023). Pet. 1; Paper 3, 2.

D. The '002 Patent

The '002 patent, titled “Electronic Tool and Methods with Audio for Meetings,” issued September 1, 2020. Ex. 1001, codes (45), (54). The '002 patent relates to “electronic tools for meetings with audio.” *Id.* at 1:4–6.

The '002 patent describes problems “holding a face-to-face meeting using advanced electronic tools,” including complexity of the network infrastructure, high demands on technical expertise of users, great variety of possible collaborative software solutions, time taken to prepare presentations for meetings, lack of standards for audio, among other problems. *Id.* at 4:37–60.

Figure 11 of the '002 patent, shown below, illustrates a schematic representation of a communication system for presentations in which audio has been integrated. Ex. 1001, 15:3–6.

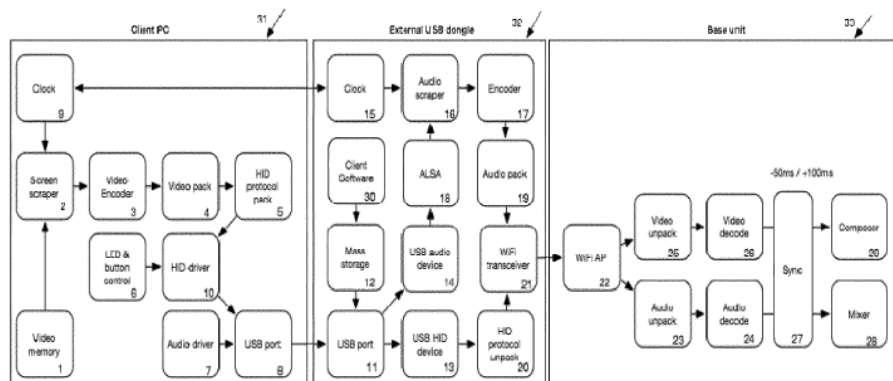


FIG. 11

Figure 11, above, is a schematic illustration containing processing device 31, peripheral device 32, and base unit 33. *Id.* at 31:43–48, Fig. 11. The peripheral device can be coupled with the processing device by a “plug and play interface such as USB [universal serial bus].” *Id.* at 31:45–50.

“[G]eneric drivers installed on the processing device make the audio available at the port 8 to the peripheral device 32.” *Id.* at 31:57–58. A pre-installed generic driver is one that “is installed with the installation of the operating system” and “can drive a standard class of peripheral devices coupled to or connected to the processing device.” *Id.* at 14:32–38.

Peripheral device 32 contains port 11. *Id.* at 31:60–61. “[A]udio data is captured at this interface 8-11 internally in the peripheral device 32,” and then this data is “optionally re-encoded and streamed to the communications network to which the peripheral device 32 has access.” *Id.* at 31:61–65.

“On the base unit 33 the audio information stream is recovered at a suitable communications interface such as the WiFi access point 22.” *Id.* at 33:7–11.

Processing device 31 also contains software that is executed for processing of video data. *Id.* at 32:11–14. The software “captures the video data that is available on the processing device, e.g. from a presentation or video that is running on the processing device.” *Id.* at 32:22–26. The video is then encoded, packetized, and prepared “for transport over the plug and play interface using a generic driver 10, such as over a USB interface using generic pre-installed drivers.” *Id.* at 32:35–40. The video packets are then received on the peripheral device at port 11, unpacked, and then “transmitted to the communications network by a transmitter 21.” *Id.* at 32:43–49.

E. Illustrative Claim

Petitioner challenges claims 1–3, 9–11, 19, 21, and 22 of the '002 patent. Pet. 2. Claims 1, 11, and 21 are independent. Ex. 1001, 33:41–36:21. Claims 2, 3, 9, 10, and 22 depend from claim 1, and claim 19 depends from claim 11. *Id.* Claim 1 is illustrative and is reproduced below with Petitioner's labeling added in brackets.

1. [preamble] 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:
 - [1a] 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;
 - [1b] 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
 - [1c] [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;
 - [1d] using the peripheral device to connect the processing device to a communications network via the wireless transceiver;
 - [1e] 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
 - [1f] routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network,
 - [1g] wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device.

F. Evidence and Asserted Grounds

Petitioner asserts that claims 1–3, 9–11, 19, 21, and 22 of the '002 would have been unpatentable on the following grounds:

Ground	Claim(s) Challenged	35 U.S.C. §	Basis
1	1–3, 9–11, 19, 21, 22	103(a) ¹	Kaplan, ² Ahmed, ³ Deforche ⁴
2	1–3, 9–11, 19, 21, 22	103(a)	Maeda, ⁵ Ahmed, Deforche

Petitioner also relies on the Declaration of Dr. Kevin Almeroth (Ex. 1002) to support its analysis.

II. ANALYSIS

A. Legal Standards

“In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d, 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (Sept. 16, 2011), includes revisions to Sections 102 and 103 that became effective on March 16, 2013. Because the challenged claims issued from an application claiming priority to an application filed before March 16, 2013, we apply pre-AIA law.

² U.S. Patent Application Publication No. US 2010/0295994 A1, published Nov. 25, 2010 (Ex. 1027).

³ WO 2006/113711 A2, published Oct. 26, 2006 (Ex. 1014).

⁴ EP 2107463A2, published Oct. 7, 2009 (Ex. 1030).

⁵ JP 2007-208606 A, published Aug. 16, 2007 (Ex. 1055). We cite to the English language translation at Exhibit 1031.

each claim”)); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A claim is unpatentable under § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). “[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *KSR*, 550 U.S. at 416 (citing *U.S. v. Adams*, 383 U.S. 39, 50–51 (1966)).

The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Here, the record contains no evidence of objective indicia of non-obviousness.

B. Level of Ordinary Skill in the Art

Petitioner contends that a person having ordinary skill in the art (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.

Pet. 10 (citing Ex. 1002 ¶¶ 36–37).

Patent Owner does not dispute Petitioner’s proposed level of ordinary skill in the art and does not propose an alternative level. *See generally* Prelim. Resp.

For purposes of this Decision, we adopt Petitioner’s proposed definition of a person of ordinary skill in the pertinent art, as it is consistent with the ’002 patent and the asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. Claim Construction

In an *inter partes* review, we apply the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b). In applying this standard, we generally give claim terms their ordinary and customary meaning as would be understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc).

However, a patentee may act as their own lexicographer. “To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning and must *clearly express* an intent to redefine the term.” *Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1378 (Fed. Cir. 2022) (emphasis added).

Petitioner and Patent Owner proposes constructions for a number of claim terms. Pet. 10–19; Prelim. Resp. 7–8. Only those terms in

controversy, however, need to be construed, and only to the extent necessary to resolve the controversy. *Realtime Data LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019).

Petitioner and Patent Owner explicitly propose constructions for the term “pre-installed generic driver. Pet. 13; Prelim. Resp. 7–8. Those proposed constructions are consistent with the lexicographic definition provided in the ’002 patent. In a section titled “Definitions,” the ’002 patent states:

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. 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 device.

Ex. 1001, 14:32–38. We apply this lexicographic definition in our analysis below.

For the purposes of determining whether to institute trial or not, we need not construe explicitly any other claim term.

D. Ground 1: Obviousness Based on Kaplan, Ahmed, Deforche

Petitioner contends that claims 1–3, 9–11, 19, 21, and 22 are obvious over Kaplan, Ahmed, and Deforche. Pet. 26–45.

1. Overview of Kaplan (Ex. 1027)

Kaplan is titled “Management and Display of Video Content,” and relates to “improved methods and systems for viewing video footage on a display device.” Ex. 1027, code (54), ¶ 4.

Figure 2 of Kaplan, reproduced below, illustrates an exemplary use of a communications system. Ex. 1027 ¶ 11.

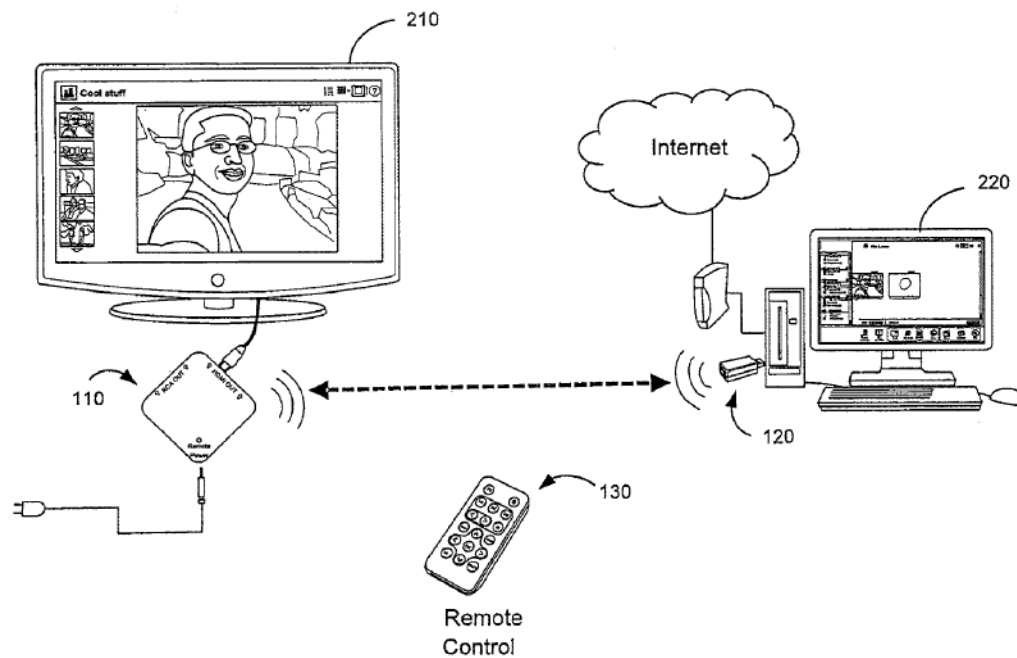


FIG. 2

Figure 2 illustrates a communications system, including receiver 110, transmitter 120, display device 210, and computer 220. *Id.* ¶¶ 21, 26. The transmitter may be a dongle with a USB connector and operable to be inserted into a USB port of a computer. *Id.* ¶ 17. The transmitter includes the ability to both transmit and receive data from receiver 110. *Id.* Kaplan explains that a user may select a video to be played, which may be transmitted from computer 220 through transmitter 120 to receiver 110 for display on display device 210. *Id.* ¶ 28.

2. Overview of Ahmed (Ex. 1014)

Ahmed is titled “Integrated Wireless Multimedia Transmission System,” and relates to “methods and systems for the wireless real time transmission of data from a source to a monitor.” Ex. 1014, codes (54), (57).

Figure 1 of Ahmed, reproduced below, illustrates a block diagram of an integrated wireless media transmission system. Ex. 1014, 3:17–18.

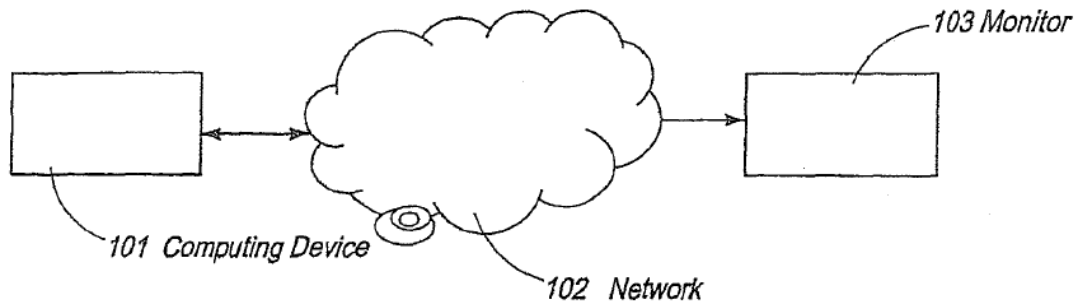


FIG. 1

Figure 1 illustrates computing device 101, wireless network 102, and remote monitor 103. *Id.* 1014, 7:6–11. The computing device and remote monitor each comprise processing systems on a chip capable of wirelessly transmitting and receiving graphics, audio, text, and video. *Id.* at 7:11–15. The processing systems can either be integrated into the computing device and remote monitor, or incorporated into a standalone device that is in wired communication with the computing device and remote monitor. *Id.* at 7:18–22.

3. Overview of Deforche (Ex. 1030)

Deforche is titled “Wireless Modem Device Usable on Computer Device without Driver Installation,” and “relates to a wireless modem device connectable to a computer device.” Ex. 1030, code (54), ¶ 1. Defroche explains that “an aim of the present invention” is to provide a wireless modem device without “the need for installation of an appropriate driver.” *Id.* ¶ 4. “[A] pre-installed generic driver of an operating system installed on

the computer device is used for setting up a modem/host communication interface.” *Id.* ¶ 9.

4. Independent Claim 1

Petitioner contends that claim 1 is unpatentable as obvious over Kaplan, Ahmed, and Deforche. Pet. 26–40. Petitioner provides a detailed mapping of the teachings of Kaplan, Ahmed, and Deforche to the elements of claim 1. *Id.* at 28–40.

[preamble] 1. 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 that claim 1’s preamble is limiting,⁶ Petitioner relies upon Kaplan to teach connecting computer 320 (i.e., a processing device) to a communications network via transmitter 120 (i.e., a peripheral device). Pet. 28–29 (citing Ex. 1027 ¶¶ 5–9, 16–18, 23, 31–32, 57–61, Figs. 2, 6; Ex. 1002 ¶¶ 96–98, 100, 131–32).

Kaplan’s computer 320 has memory 420, a display, and an operating system. Ex. 1027 ¶¶ 47–49, 59, Fig. 2; Ex. 1002 ¶ 99. Kaplan discloses that the operating system may be Windows®. Ex. 1027 ¶¶ 47–48.

Petitioner’s declarant Dr. Kevin Almeroth testifies that:

A POSITA would have understood that an operating system (such as Windows®) would have been installed with standard drivers (pre-installed generic drivers) that provide a communications protocol for communication between the

⁶ At this stage of the proceeding, we do not need to determine whether or not the preamble is limiting because we determine that the Kaplan sufficiently discloses the preamble.

computer and a class of peripheral devices (such as peripheral mass storage devices), which was well known in the art.

Ex. 1002 ¶ 99. Dr. Almeroth’s testimony is consistent with the ’002 patent which discloses 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 device.” Ex. 1001, 14:265–28.

On this record, we determine that Petitioner’s evidence and analysis sufficiently shows that Kaplan discloses the preamble.

[1a] 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;

Petitioner contends that Kaplan discloses coupling transmitter 120 physically to a USB port of computer 220. Pet. 30–31 (citing Ex. 1027 ¶¶ 21, 45, Fig. 2; Ex. 1002 ¶¶ 101, 133). Kaplan’s transmitter 120 has wireless transceiver 450 and USB connector 410. Ex. 1027 ¶¶ 16–17; Fig. 4.

On this record, we determine that Petitioner’s evidence and analysis sufficiently shows that Kaplan discloses element 1a.

[1b] 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;

[1c] [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;

Petitioner contends that Kaplan teaches setting up a means for audio communication between the peripheral device and the processing device.

(Pet. 32 (citing Ex. 1027 ¶¶ 8, 17, 22, 26, 28, 47–51, 58, Fig. 6; Ex. 1002 ¶¶ 103, 134)) and setting up a means for data communication between the peripheral device and the processing device (Pet. 34 (citing Ex. 1027 ¶¶ 8, 17, 22, 31, 47–54, 58, Fig. 6; Ex. 1002 ¶¶ 112, 135)).

Petitioner, however, acknowledges that “Kaplan does not specifically disclose using a ‘*first pre-installed generic audio driver*’” (Pet. 32) and that “Kaplan does not explain whether it uses ‘*a second pre-installed generic driver of the operating system*’ for non-audio data” (*id.* at 34). *See also id.* at 26 (“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.”).

Petitioner relies upon Ahmed and Deforche to teach using a first pre-installed generic audio driver of the operating system to set up a means for audio communication and a second pre-installed generic driver of the operating system to set up a means for data communication. Pet. 26–27, 32–35.

On this record, we are persuaded by Petitioner’s evidence and analysis that it would have been obvious to a POSITA to implement Kaplan’s system using the pre-installed generic drivers as taught by Ahmed, and Deforche, as proposed by Petitioner.

Kaplan discloses that data, which may include video and audio data for display on a display device, is transmitted from computer 220 to transmitter 120 through USB connector 410, which is compliant with the USB standard. Ex. 1027 ¶ 17; *see also id.* ¶¶ 45–48. Kaplan teaches using “the USB standard” to establish an initial connection using standard drivers. *Id.* ¶¶ 45–52; *see also id.* ¶ 48 (“Upon execution, the resident software application may check the computer 220 to determine whether required

software components are available on the computer 220”). Dr. Almeroth testifies that “[a] POSITA would have understood that this connection extends through USB interface 410 based on the particular USB drive of computer 220 that recognizes the transmitter—thus providing a means for data communication.” Ex. 1002 ¶ 103.

Dr. Almeroth also testifies that Kaplan essentially describes a plug-and-play device which operates as a wireless transmitter to send video footage. *Id.* (citing Ex. 2017 ¶¶ 21, 40, 50–51). Dr. Almeroth further testifies:

Plug-and-play devices have a set of functionality provided by generic drivers according to pre-defined device classes, such as USB mass storage devices, image capturing devices, audio input and output devices, human interface devices, *etc.* (*Id.*) Notably, among these was a USB audio driver, which was a generic driver that did not require separate installation.

Ex. 1002 ¶ 105. Dr. Almeroth’s testimony is consistent with the ’002 patent, which states: “For example, on every PC-like platform, there is standard built-in support for a USB audio device. Thus, there is a standard generic audio driver available. Using this audio interface is thus possible without special driver installation.” Ex. 1001, 30:39–43; *see also id.* at 31:52–54 (“Commercially available processing devices currently support external USB audio devices through a generic built-in USB audio software driver.”).

Ahmed teaches that it is preferable transmit audio and video streams separately in a synchronized manner. Ex. 1014, 17:10–12; 18:26–19:15, 27:1–4. Ahmed teaches using a first audio driver to for an audio stream (*id.* at 18:26–19:15) and a second driver to send a video portion. (*id.* at Abstr., 3:26–28, 27:427).

Deforche teaches using pre-installed generic drivers of the operating system when setting up a computer and modem communication interface to avoid the need to install proprietary devices. Ex. 1030 ¶¶ Abstract, 9–11, 27.

Dr. Almeroth testifies:

A POSITA looking to implement a system like Kaplan’s communication system would have been motivated by Ahmed to provide separate drivers for separate audio and video streams as suggested by Ahmed and employ those drivers to set up a communications interfaces for each for the reasons discussed above by Deforche and known in the art. Further, a POSITA would have been motivated to select a suitable pre-installed generic driver, such as a USB-HID driver capable of communicating audio data for setting up a means for data communication (such as an interface using a generic communication protocol provided by the driver) between a transmitter and computer (similar to Kaplan and Deforche) for the transfer of data across the interface. (*See, e.g.*, Ex-1030, ¶¶34–39.) A POSITA would have also had a reasonable expectation of success in implementing such standard software, particularly given the teachings of Deforche.

Ex. 1002 ¶ 118

On this record, we are persuaded by Petitioner that “[i]t 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” and “[i]t 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.” Pet. 26–27.

[1d] using the peripheral device to connect the processing device to a communications network via the wireless transceiver;

Petitioner contends that Kaplan discloses using transmitter 120's transceiver 450 to connect computer 220 to a communications network. Pet. 35–26 (citing Ex.1027 ¶¶ 6, 9, 18, 23, 25, 31, 45, Fig. 2; Ex. 1002 ¶¶ 119–121, 136). Kaplan states:

[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.

On this record, we determine that Petitioner's evidence and analysis sufficiently shows that Kaplan discloses element 1d.

[1e] 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;

[1f] routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network;

Petitioner contends that Kaplan teaches elements 1e and 1f because Kaplan discloses that “the 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.” Pet. 38–39 (quoting Ex. 1027 ¶ 17; additionally citing Ex. 1027, Abstr., ¶¶ 2–6, 16, 18, 28, 44, 45, 58, Figs. 4, 6; Ex. 1002 ¶¶ 122–124, 137–138).

Dr. Almeroth testifies:

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, and finally out the receiver 110’s video and audio outputs to a display/television.

Ex. 1002 ¶ 123 (citing Ex. 1027 ¶¶ 5, 8, 17–18, 42–44, 57–61, Figs. 2–4, 6); *see also id.* ¶ 125.

On this record, we determine that Petitioner’s evidence and analysis sufficiently shows that Kaplan discloses elements 1e and 1f.

[1g] wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device.

Petitioner relies upon its evidence and analysis used to meet element 1(b) to show that the combination of Kaplan, Ahmed, and Deforche teaches element 1(g). Pet. 40.

For the same reasons as discussed in connection with element 1(b), on this record, we determine that Petitioner’s evidence and analysis sufficiently shows that Kaplan, Ahmed, and Deforche teaches elements 1g.

5. *Patent Owner’s Argument*

Patent Owner argues that Petitioner is “improperly picking and choosing from the references to support their flawed position, without fully appreciating the references for what they fairly suggest to one of ordinary skill in the art.” Prelim. Resp. 20–21 (quoting *In re Wesslau*, 353 F.2d 238, 241 (CCPA 1965)). Patent Owner essentially argues that none of Kaplan, Ahmed, or Deforche individually teach elements 1b, 1c, 1e, and 1g. *See generally* Prelim. Resp. 17–24. For example, Patent Owner argues that Ahmed alone does not teach using a pre-installed generic audio driver or using an external peripheral device physically coupled to a port of the processing device. *Id.* at 21–22.

Patent Owner’s argument is misplaced because Patent Owner attacks the prior art individually when, as our discussion above details, Petitioner’s ground of unpatentability is based upon a combination the prior art’s disclosures. “The question in an obviousness inquiry is whether it would have been obvious to a person of ordinary skill in the art to combine the relevant disclosures of the two references, not whether each individual reference discloses all of the necessary elements.” *Palo Alto Networks, Inc. v. Centripetal Networks LLC*, 122 F.4th 1378, 1385–86 (Fed. Cir. 2024) (quoting *Game & Tech. Co. v. Wargaming Grp. Ltd.*, 942 F.3d 1343, 1352 (Fed. Cir. 2019)); *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (nonobviousness is not established by attacking references individually when unpatentability is predicated upon a combination of prior

art disclosures); *see also KSR*, 550 U.S. at 420–421 (stating “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton,” and “in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle”).

Patent Owner also argues that Petitioner’s rationale to combine the references is insufficient because it is conclusory. Prelim. Resp. 24–30.

On this record, we determine Petitioner’s rationale to combine to be sufficient. We note that at this stage of the proceeding Petitioner’s rationale to combine is supported by the testimony of Dr. Almeroth as to the knowledge of a POSITA. Patent Owner’s argument as to the knowledge of a POSTIA are unsupported.

On this record, Petitioner sufficiently shows that Ahmed and Deforche teach that using separate audio and video drivers was “preferred” and “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.” Pet. 26–28, 36–37 (citing Ex. 1014, 18:26–19:21; Ex. 1030 ¶ 9). “If a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *KSR*, 550 U.S. at 417.

At this stage of the proceeding, for these reasons, we find Patent Owner’s arguments unpersuasive.

6. Conclusion as to Claim 1

After considering Petitioner’s evidence and argument, and taking into account Patent Owner’s arguments, we determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing

the unpatentability of claim 1 based on the combination of Kaplan, Ahmed, and Deforche (Ground 1).

7. Independent Claims 11 and 21 and Dependent Claims 2, 3, 9, 10, 19, and 22

“When instituting inter partes review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.” 37 C.F.R. § 42.108(a). We must “either (1) institute as to all claims challenged in the petition and on all grounds in the petition, or (2) institute on no claims and deny institution.” Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019),⁷ 5–6, 64; *see also* 37 C.F.R. § 42.108(a), *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1359–60 (Fed. Cir. 2018) (stating a decision to institute is “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

Because we have decided to grant institution on Ground 1 with respect to claim 1, we must do the same for the remaining claims of Ground 1.

Petitioner’s analysis for independent claims 11 and 21 are similar to its analysis for claim 1. *See, e.g.*, Pet. 28, 43–45. For independent claims 11 and 21, Patent Owner likewise makes similar argument as it did for claim 1. *See, e.g.*, Prelim. Resp. 30–39. On this record, for the same reasons as discussed for claim 1, we find Patent Owner’s argument unpersuasive.

Patent Owner at this stage does not raise any arguments specifically directed to the dependent claims of Ground 1.

⁷ Available at <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf?MURL=TrialPracticeGuideConsolidated>

E. Ground 2: Obviousness of Based on Maeda, Ahmed, and Deforche

Petitioner contends that claims 1–3, 9–11, 19, 21, and 22 are obvious over Maeda, Ahmed, and Deforche. Pet. 45–65.

1. Overview of Maeda (Ex. 1031)

Maeda is titled “Audio-Visual Transmission System and Audio-Visual Transmission Method,” and relates to a system and method for “transmitting images and audio from an image generating device such as a personal computer . . . to an image projection device such as a projector.” Ex. 1031, code (54), ¶ 1. Maeda discloses “a wireless transmission system that simultaneously displays image signals from a plurality of PCs on one projector.” *Id.* ¶ 5.

Figure 1 of Maeda, reproduced below, illustrates an external configuration of an image transmission system. Ex. 1031 ¶ 79.

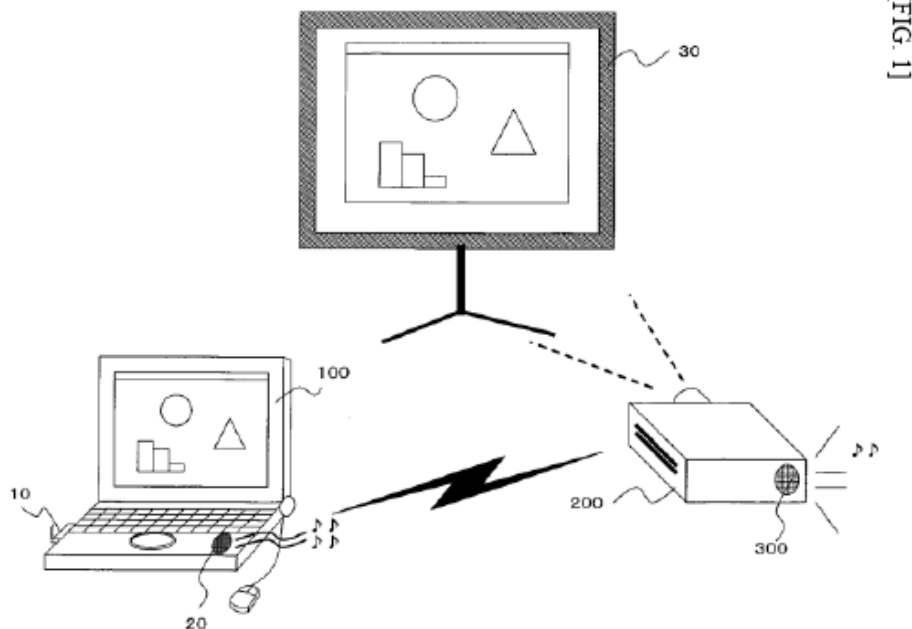


Figure 1 illustrates an external configuration of an audio/video transmission system, including a PC 100, projector 200, and screen 30. *Id.* ¶¶ 16–17. “A wireless LAN card 10 containing a wireless LAN chip is attached to PC 100, thereby transmitting image signals and audio signals to projector 200.” *Id.* ¶ 17.

2. Independent Claim 1

Petitioner contends that claim 1 is unpatentable as obvious over Maeda, Ahmed, and Deforche. Pet. 45–60. Petitioner provides a detail mapping of the teachings of Maeda, Ahmed, and Deforche to the elements of claim 1. *Id.* at 47–60.

[preamble] 1. 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 that claim 1’s preamble is limiting, Petitioner relies upon Maeda to teach connecting PC 100 (i.e., a processing device) to a wireless LAN via wireless LAN card 10 (i.e., a peripheral device). Pet 47–48 (citing Ex. 1031 ¶¶ 15, 17, 19, 76; Ex. 1002 ¶¶ 151–153, 191–192). PC 100 has main memory 102, storage device 103, and display 110. Ex. 1031 ¶ 19, Fig. 2. Petitioner contends that “[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. Pet. 49–50 (citing Ex. 1002 ¶ 155).

Petitioner acknowledges that Maeda “does not disclose driver-level specifics of how it would achieve the disclosed transmission of audio/visual content.” Pet. 46.

Petitioner relies upon Ahmed and Deforche, in combination, to teach pre-installed generic audio and video drivers for providing communication protocols between processing devices, like PC 100, and peripheral devices, like wireless LAN card 10. Pet. 46–47, 50–51 (citing Ex. 1014, 17:13–16 18:26–19:15, 27:4–17, Fig. 12; Ex. 1030 ¶¶ 9–11). Petitioner notes that the ’002 patent teaches 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, 5:58–60.

As discussed below in connection with element 1b and 1c, Petitioner argues that it would have been obvious to a POSITA to use separate pre-installed generic audio and video drivers, as taught by Ahmed and Deforche, in Maeda’s system. Pet. 46–47 (citing Ex. 1002 ¶¶ 149, 150).

On this record, we determine that Petitioner’s evidence and analysis sufficiently shows that the combination of Maeda, Ahmed, and Deforche teaches the preamble.

[1a] 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;

Petitioner contends that Maeda discloses coupling wireless LAN card 10, having a wireless LAN chip, to PC 100, via network IF 18 (i.e., a port). Pet. 51 (citing Ex. 1031 ¶ 17, 19, Fig. 1; Ex. 1002 ¶¶ 158–161, 193).

On this record, we determine that Petitioner’s evidence and analysis sufficiently shows that Maeda discloses element 1a.

[1b] 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;

[1c] [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;

Petitioner contends that Maeda teaches setting up a means for audio communication between the peripheral device and the processing device. and setting up a means for data communication between the peripheral device and the processing device. Pet. 52 (citing Ex. 1031 ¶¶ 15, 17, 19, Fig. 1; Ex. 1002 ¶¶ 162–165, 194), 55 (citing Ex. 1031 ¶¶ 15, 17, 19, Fig. 1; Ex. 1002 ¶¶ 171–172, 195).

Petitioner, however, acknowledges that “Maeda does not specifically disclose using a ‘*pre-installed generic audio driver*’” (Pet. 53) and that “Maeda does not explain whether it uses ‘*a second pre-installed generic driver of the operating system.*’ (*id.* at 55). *See also id.* at 46 (“Maeda, however, does not disclose driver-level specifics of how it would achieve the disclosed transmission of audio/visual content.”)

Petitioner relies upon Ahmed and Deforche to teach using a first pre-installed generic audio driver of the operating system to set up a means for audio communication and a second pre-installed generic driver of the operating system to set up a means for data communication. Pet. 46–47, 54–57.

On this record, we are persuaded by Petitioner’s evidence and analysis that it would have been obvious to a POSITA to implement Maeda’s system using the pre-installed generic drivers as taught by Ahmed, and Deforche, as proposed by Petitioner.

Dr. Almeroth testifies that

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. . . . 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.

Ex. 1002 ¶ 163. Dr. Almeroth’s testimony is consistent with the ’002 patent, which states: “For example, on every PC-like platform, there is standard built-in support for a USB audio device. Thus, there is a standard generic audio driver available. Using this audio interface is thus possible without special driver installation.” Ex. 1001, 30:39–43; *see also id.* at 31:52–54 (“Commercially available processing devices currently support external USB audio devices through a generic built-in USB audio software driver.”).

Ahmed teaches that it is preferable transmit audio and video streams separately in a synchronized manner. Ex. 1014, 17:10–12; 18:26–19:15. Ahmed teaches using a first audio driver to for an audio stream (*id.* at 18:26–19:15) and a second driver to send a video portion (*id.* at Abstract, 3:26–28, 27:4–27).

Deforche teaches using pre-installed generic drivers of the operating system when setting up a computer and modem communication interface to avoid the need to install proprietary devices. Ex. 1030 ¶¶ Abstract, 9–11, 27.

Dr. Almeroth testifies:

A POSITA looking to implement a system like Maeda’s system would have been motivated by Ahmed to provide separate drivers for separate audio and video streams as suggested by Ahmed and employ those drivers to set up a communications interfaces for each for the reasons discussed

above by Deforche and known in the art. Further, a POSITA would have been motivated to select a suitable pre-installed generic driver, such as a USB-HID driver capable of communicating audio data for setting up a means for data communication (such as an interface using a generic communication protocol provided by the driver) between a transmitter and computer (similar to Deforche) for the transfer of data across the interface. (See, e.g., Ex-1030, ¶¶34–39.) A POSITA would have also had a reasonable expectation of success in implementing such standard software, particularly given the teachings of Deforche.

Ex. 1002 ¶ 179.

On this record, we are persuaded by Petitioner that “[i]t would have been a simple substitution to include 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” and “[i]t 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.” Pet. 46–47.

[1d] using the peripheral device to connect the processing device to a communications network via the wireless transceiver;

[1e] 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;

[1f] routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network;

Petitioner contends that Maeda teaches elements 1e and 1f because Maeda discloses that “[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.” Pet. 57–99 (quoting Ex.

1031 ¶ 17; additionally citing Ex. 1031, 15, 19, Fig. 1; Ex. 1002 ¶¶ 180, 181, 183, 196–198).

On this record, we determine that Petitioner’s evidence and analysis sufficiently shows that Maeda discloses elements 1d, 1e and 1f.

[1g] wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device.

Petitioner relies upon its evidence and analysis used to meet element 1(b) to show that the combination of Madea, Ahmed, and Deforche teaches element 1(g). Pet. 60.

For the same reasons as discussed in connection with element 1(b), on this record, we determine that Petitioner’s evidence and analysis sufficiently shows that Maeda, Ahmed, and Deforche teaches elements 1g.

3. Patent Owner’s Argument

Like for Ground 1, Patent Owner argues that Petitioner is “improperly picking and choosing from the references to support their flawed position, without fully appreciating the references for what they fairly suggest to one of ordinary skill in the art.” Prelim. Resp. 44–47. Patent Owner essentially argues that none of Madea, Ahmed, or Deforche individually teaches elements 1b, 1c, 1e, and 1g. *See generally* Prelim. Resp. 41–47. Patent Owner also argues that Petitioner’s rationale to combine the references is insufficient because it is conclusory. Prelim. Resp. 47–53.

For the same reasons a discussed above with respect to Ground 1, we find Patent Owner’s argument unpersuasive. On this record, Petitioner sufficiently shows that Ahmed and Deforche teach that using separate audio and video drivers was “preferred” and “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.” Pet. 46–47, 54–57 (citing Ex. 1014, 18:26–19:21; Ex. 1030 ¶ 9).

4. Conclusion as to Claim 1

After considering Petitioner’s evidence and argument, and taking into account Patent Owner’s arguments, we determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of claim 1 based on the combination of Maeda, Ahmed, and Deforche (Ground 2).

5. Independent Claims 21 and 11 and Dependent Claims 2, 3, 9, 10, 19, and 22

Because we have decided to grant institution on Ground 2 with respect to claim 1, we must do the same for the remaining claims of Ground 2. 37 C.F.R. § 42.108(a).

Petitioner’s analysis for independent claims 11 and 21 are similar to its analysis for claim 1. *See, e.g.*, Pet. 47, 63–65. For independent claims 11 and 21, Patent Owner likewise makes similar argument as it did for claim 1. *See, e.g.*, Prelim. Resp. 53–62. On this record, for the same reasons as discussed for claim 1, we find Patent Owner’s argument unpersuasive.

Patent Owner at this stage does not raise any arguments specifically directed to the remaining claims of Ground 2.

III. CONCLUSION

After considering the evidence and arguments presented in the Petition, Preliminary Response, Reply, and Sur-Reply, we determine that the information presented shows a reasonable likelihood that Petitioner would

prevail in establishing that at least one claim of the '002 patent is unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted for claims 1–3, 9–11, 19, 21, and 22 of the '002 patent on the unpatentability grounds asserted in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which commences on the entry date of this decision.

IPR2024-01436
Patent 10,762,002 B2

FOR PETITIONER:

Stephen Yang
Stephen.yang@dentons.com

Timothy Bickman
Timothy.bickman@dentons.com

Kevin Greenleaf
Kevin.greenleaf@dentons.com

Forrest Gothia
Forrest.gothia@dentons.com

FOR PATENT OWNER:

Thomas Lee
tlee@hsml.com

Amol Kavathekar
akavathekar@hsml.com