

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.

Case IPR2024-01436
Patent No. 10,762,002

**PATENT OWNER'S PRELIMINARY RESPONSE
UNDER 37 C.F.R. § 42.107**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	THE ‘002 PATENT	2
III.	CLAIM CONSTRUCTION	7
IV.	OVERVIEW OF CITED ART	9
	A. OVERVIEW OF KAPLAN.....	9
	B. OVERVIEW OF MAEDA	10
	C. OVERVIEW OF AHMED	11
	D. OVERVIEW OF DEFORCHE.....	12
V.	ARGUMENT.....	13
	A. APPLICABLE LAW	14
	1. MEANS-PLUS-FUNCTION RECITATIONS	14
	2. OBVIOUSNESS.....	15
	B. GROUND I IS DEFICIENT WITH REGARD TO CLAIMS 1-3, 9-11, 19, AND 21-22 BECAUSE THE ALLEGED COMBINATION FAILS TO DISCLOSE OR SUGGEST ROUTING THE AUDIO DATA, AS REQUIRED BY CLAIMS 1, 11, AND 21.....	16
	1. CLAIMS 1 AND 11.....	17
	2. CLAIM 21	30
	C. GROUND II IS DEFICIENT WITH REGARD TO CLAIMS 1-2, 9-11, 19,	

AND 21-22 BECAUSE THE ALLEGED COMBINATION FAILS TO
DISCLOSE OR SUGGEST ROUTING THE AUDIO DATA, AS
REQUIRED BY CLAIMS 1, 11, AND 21..... 39

1. CLAIMS 1 AND 11..... 41

2. CLAIM 21 53

VI. CONCLUSION..... 63

CERTIFICATION UNDER 37 CFR §42.24(D) 64

CERTIFICATE OF SERVICE..... 65

TABLE OF AUTHORITIES

Cases

<i>DSS Tech. Mgmt. Inc. v. Apple Inc.</i> , 885 F.3d 1367, 1377 (Fed. Cir. 2018) ...	25, 35, 48, 58
<i>Graham v. John Deere Co.</i> , 383 U.S. 1 (1966).....	15
<i>In re Wesslau</i> , 353 F.2d 238, 241 (CCPA 1965)	21, 31
<i>KSR Int’l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2007).....	passim
<i>MTD Prods. Inc. v. Iancu</i> , 933 F.3d 1336 (Fed. Cir. 2019).....	15
<i>Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.</i> , 851 F.3d 1270, 1274-1275 (Fed. Cir. 2017)	25, 35, 48, 58
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303, 1312-13 (Fed. Cir. 2005)	7

Statutes

35 U.S.C. § 314(a).....	13
-------------------------	----

Regulations

37 C.F.R. § 42.104(b)(3)	15
37 C.F.R. § 42.108(c)	13
C.F.R. § 42.100(b).....	7

I. INTRODUCTION

U.S. Patent 10,762,002 (“the ‘002 patent”) “relates to electronic tools for meetings with audio including methods or devices for providing connection to a communications network.” Ex. 1001 at 9:4-9. The ‘002 patent’s inventors recognized that “instead of ‘scraping’ the audio like e.g. prior art products do, embodiments of the present invention provide a channel, as described above, which is adapted to capture the audio on the peripheral device using only standard drivers and not requiring any software installation in or on the processing device...The generic drivers installed on the processing device make the audio available at the port 8 to the peripheral device 32.” Ex. 1001 at 31:20-58.

Yealink (USA) Network Technology Co., Ltd. and Yealink Network Technology Co., Ltd. (“Petitioners”) petitioned for *Inter Partes* Review (“IPR”) of the ‘002 patent challenging Claims 1-3, 9-11, 19, and 21-22 (“the challenged claims”). Pursuant to 37 C.F.R. §42.107(a), Barco N.V. (“Patent Owner”) submits this Preliminary Response.

Petitioners have submitted proposed grounds for challenge based on obviousness. However, for each proposed ground, at least one claim element is missing from the combination of references. In addition, one of ordinary skill in

the art would have no motivation to modify the references as proposed by Petitioners. Thus, Petitioners failed to meet their initial burden to show that each element of the claims was known, and that the claims are obvious. Accordingly, the Board should conclude that the information presented in the Petition and accompanying evidence do not establish a reasonable likelihood that Petitioners will prevail with regard to any claim. Thus, the Board should deny institution of all grounds asserted in the Petition.

II. THE ‘002 PATENT

The ‘002 patent improves upon the prior art by providing “a method and a system for connecting a processing device such as a laptop, smartphone, PDA, computer, tablet and suchlike to a communications network, the processing device having a memory, a display and an operating system with pre-installed generic drivers providing a generic communications protocol for communication between processing device and a standard class of peripheral devices.” Ex. 1001 at 29:66 – 30:6.

In 2011 (the priority date of the ‘002 patent), there were many problems for holding a face-to-face meeting. Ex. 1001 at 4:37-38. For example, there was complexity of the networking infrastructure; high demands on technical expertise

of users in systems that are supposed to be designed to support everyday use by the non-expert user; barriers to the use of complicated technology in meetings; great variety of possible collaborative software solutions—none of which seems to solve the fundamental problems of holding successful meetings; lack of standards for audio; need to install proprietary drivers for audio; large number of different, non-standardised sound cards. *Id.* at 4:39-60.

The inventors of the ‘002 patent developed a remedy to the prior art problems by “advantageously use the availability of a plug and play interface such as a USB interface. A USB device is connected to a suitable port on the processing device. 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.” *Id.* at 30:36-43.

That is, the ‘002 patent states that “An advantage of embodiments of the present invention is to provide data transfer to the peripheral device via a peripheral interface such as a USB interface on any processing device such as a computer in a manner that is largely operating system independent and without leaving a footprint (Zero-Footprint). Installation of drivers and/or applications onto such a processing device as a computer is not necessary wherever pre-installed

generic drivers are present. Administrator rights on the processing device such as a computer are preferably not necessary. To avoid the need for administrator rights, embodiments of the present invention use other peripheral device pre-installed drivers such as USB class drivers supported without any extra installation.

Embodiments of the present invention route at least screen scraped data presented by client software running on the processing device for transfer to a communications network via a peripheral device such as a USB device. This bypasses any network interface of the processing device C (and hence many firewalls) but only for the specific client software. Other applications are not affected and can make use of the standard network interfaces, i.e. packets from/to the TCP/IP stack are transferred to a network device as normal. The client software is launched from the peripheral device such as a USB composite device or storage device as a portable application, which can avoid that any traces are left on the host OS.” *Id.* at 24:4-29.

The ‘002 patent further teaches that “With reference to the audio data on the processing device 31 such as a client PC, the audio is sent over a port using generic drivers such as over a USB port 8 using the standard built-in generic audio driver such as UAC driver 7. On the peripheral device 32, the audio packets are read from the generic port, e.g. USB port 11 by a dedicated audio device 14. These packets

are then processed by any of a mixer a rate converter, an echo canceller, noise canceller or similar. Any of the mixing, rate conversion, echo cancelling, noise cancelling can be executed using an ALSA driver 18.” *Id.* at 32:57-66.

For example, during prosecution, Claims 82, 92, and 102 (which became issued Claims 1, 11, and 21) were amended to recite “routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication and routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network, wherein the first pre-installed audio driver is used for transferring the audio data between the processing device and the peripheral device” to overcome the prior art rejection based on Nuyttens (US 2007/0033289) in view of Thompson (US 2009/0247006). Ex. 1004 at 529-547. While such arguments were found persuasive to overcome the prior art rejection, the Examiner issued a Non-Final Office Action rejecting the claims as failing to comply with the enablement requirement. Ex. 1004 at 473-479. The claims were subsequently amended to recite that the drivers were “generic” drivers and the Examiner issued a Notice of Allowance based on this claim language. Ex. 1004 at 334-341.

Thus, the claims of the ‘002 patent are directed to various aspects of using the pre-installed generic audio driver (or pre-installed generic driver) of the

operating system to set up audio communication (and data communication with respect to Claims 1 and 11) and routing the audio data via the connector/connection and the audio communication in a specific way. Independent Claim 1 specifically requires “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 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” and “routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication and routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device.” Ex. 1001 at 33:52-58, 33:62-34:3. Independent Claims 11 and 21 respectively also require the use of the pre-installed generic driver (or audio driver) for setting up a means for audio communication and routing the audio data via the connector/connection and the means for audio communication, while Claim 11 further requires “means for 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.” By virtue of dependency, the remaining challenged claims likewise require the use of the pre-installed generic driver for setting up a means for audio communication (and data communication with respect to Claims 1 and 11) and routing the audio data via the connector/connection and the means for audio communication.

III. CLAIM CONSTRUCTION

In an *inter partes* review proceeding, a claim of a patent shall be construed using the same claim construction standard that would be used to construe the claim in a civil action. *See* 37 C.F.R. § 42.100(b); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). Under *Phillips*, claims must be construed so as to sustain their validity, if possible. The specification is the “best source for understanding a technical term,” to be supplemented, “as needed, by the prosecution history.” *Id.* at 1315.

Patent Owner reserves the right to assert alternative claim constructions to those proposed by Petitioners, and to provide constructions for those terms that Petitioners have not construed, should any trial be instituted. For only the purposes of this Preliminary Response, Patent Owner relies on Petitioners’ construction of

the means-plus-function limitations. Patent Owner submits that one claim feature – “pre-installed generic audio driver” or “pre-installed generic driver” for setting up “a means for audio communication” and “means for data communication” – is relevant to the issues presented to the Board at this phase.

Patent Owner submits that this term should be construed to require a driver installed on a processing device as a standard driver that is standard for the operating system on the processing device, such that the installation of a specific driver for a peripheral device is not required. *See* Ex. 1001 at 14:32-39; *see also Id.* at 30:39-43 (“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.”); *see also Id.* at 24:9-11 (“Installation of drivers and/or applications onto such a processing device as a computer is not necessary wherever pre-installed generic drivers are present.”). As such, “[t]he generic drivers installed on the processing device make the audio available at the port 8 to the peripheral device 32.” Ex. 1001 at 31:20-58.

IV. OVERVIEW OF CITED ART

A. Overview of Kaplan

Kaplan describes that the communications system 100 includes a receiver 110 and a transmitter 120, in which 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. 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. Ex. 1027 at [0016]-[0017]. Kaplan further states that “In some embodiments, when the transmitter 120 is connected to computer 220 for the first time, the transmitter may identify itself to the computer 220 as a mass storage device, such as a removable disk drive. In one embodiment, for instance, after the transmitter 120 is coupled to the computer 220, the transmitter 120 may identify itself as a removable disk drive to an operating system executing on the computer 220. The operating system can then treat the internal non-volatile memory 420 of the transmitter 120 like any other removable disk.” *Id.* at [0046]. As stated at [0022] of Kaplan, however, “the transmitter 120 may includes software that is configured to access video footage stored on a computer or on a web server accessible through the internet.” *Id.* at [0022]. That

is, Kaplan only generally describes a dongle having a connector compliant with the USB standard in which file are stored on the dongle, e.g., as media files in static storage.

B. Overview of Maeda

Maeda describes “an image and audio transmission system that can automatically prevent audio interference when displaying images from multiple PCs on a projector, and can easily switch between one and multiple connectors.” Ex. 1031 at [0010]). For example, Maeda states 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.” *Id.* at [0017]. Maeda further states that 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” and 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.” *Id.* at [0026], [0028]. Still further, Maeda describes that the “PC communication unit 127 is a processing unit that acquires image and audio transmission data from the image

capture unit 123 and the audio capture unit 128, compresses and packets the data, and transmits it to the projector 200, and is realized by the CPU 101, the network IF 108, and the like.” *Id.* at [0030]. That is, while Maeda describes using a wireless LAN, a wired LAN, USB, or IEEE1394, Maeda is directed to a purely software solution for transmitting the screen generated by the screen generation unit and the audio generated by the audio generation unit.

C. Overview of Ahmed

Ahmed describes “an integrated wireless system for transmitting media wirelessly from one device to another device in real time.” Ex. 1014 at 6:30-32. Specifically, Ahmed states that “the computing device 101 and remote monitor 103 further comprise a processing system on a chip capable of wirelessly transmitting and receiving graphics, audio, text, and video encoded under a plurality of standards.” *Id.* at 7:11-15. Ahmed further states that “Computing device 200 comprises an operating system 201 capable running the novel software systems of the present invention 202 and a transceiver 203.” *Id.* at 7:27-29. For example, Ahmed describes that the “software of the present invention captures 502 the real time video directly from the video buffer. The capture video is then compressed 503 using the CODEC. Similarly, the audio is capture 504 using the audio software operating on the computing device and is compressed using the

CODEC.” *Id.* at 9:13-16. Ahmed also describes that in “use, the operating system renders graphics and video content onto the video memory of a virtual display driver and a mirror display driver.” *Id.* at 10:1-3.

In an embodiment, Ahmed describes that “a virtual audio driver, referred to as a virtual audio cable (VAC), is installed as a normal audio driver that can be selected as a default playback and/or recording device. A feature of VAC is that, by default, it routes all the audio going into its audio output pin to its input pin. Therefore, if VAC is selected as a default playback device, then all the audio being played on the system would go to the output pin of VAC and hence to its input pin.” *Id.* at 18:17 to 19:2. Ahmed also states that “[t]o transmit the media, any transmission protocol may be employed. However, it is preferred to transmit separate video and audio data streams, in accordance with a hybrid TCP/UDP protocol, that are synchronized using a clock or counter.” *Id.* at 19:16-19. That is, Ahmed describes a software solution for sharing audio/video data with a projector.

D. Overview of Deforche

Deforche is directed to a wireless modem device and a method for operating the same. Ex. 1030 at [0004]. Deforche describes that “one of the pre-installed generic drivers of the operating system on the computer device is exploited for setting up the modem/host communication interface, i.e. the generic driver is used

in connection with a computer peripheral device for which it is not actually intended.” *Id.* at [0011]). Deforche further states that the “user plugs the USB modem (below also referred to as ‘the modem device.’ At this point, the modem presents itself as a USB modem with VID/PID.” *Id.* at [0034]. That is, Deforche is directed to a wireless modem device for network connection.

V. ARGUMENT

Petitioners must establish a reasonable likelihood of prevailing with respect to at least one of the claims challenged in the petition to support institution of an IPR. *See* 35 U.S.C. § 314(a); *see also* 37 C.F.R. § 42.108(c). Petitioners have not shown a reasonable likelihood of prevailing since the Petitioners failed to show that any of the cited art, alone or in combination, discloses or suggests the same combination of features of the independent claims. Specifically, Petitioners have not established that the combination of the teachings of the cited references discloses or suggests: 1) 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; routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication and routing the audio data from the wireless transceiver of the

peripheral device to a base node over the communications network, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by independent Claim 1; 2) means for 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; means for 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 means for routing the audio data from the wireless transceiver of the peripheral device to a base node over the communications network, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by independent Claim 11; and 3) a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication and for routing the audio data from the peripheral device to the base node over the communications network, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by independent Claim 21.

A. Applicable Law

1. Means-Plus-Function Recitations

37 C.F.R. § 42.104(b)(3) states “[w]here the claim to be construed contains a means-plus-function or step-plus-function limitation as permitted under 35 U.S.C. 112(f), the construction of the claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function.” 37 C.F.R. § 42.104(b)(3). That is, if it is determined that the limitation is in means-plus-function format, the second step requires reviewing the specification to identify the structure that preforms the claimed function(s) and thus “corresponds to” the claimed means. *See MTD Prods. Inc. v. Iancu*, 933 F.3d 1336, 1344 (Fed. Cir. 2019).

2. Obviousness

Obviousness is a question of law based on the underlying factual determinations, including: (A) determining the scope and content of the prior art, (B) ascertaining the differences between the claimed subject matter and the prior art, and (C) resolving the level of ordinary skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). A claim is unpatentable if “the differences between the subject matter sought to be patented 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) (quoting 35 U.S.C. § 103).

“[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *Id.* at 418.

B. Ground I is deficient with regard to Claims 1-3, 9-11, 19, and 21-22 because the alleged combination fails to disclose or suggest routing the audio data, as required by Claims 1, 11, and 21

Petitioners allege in Ground I of the petition that a combination of the teachings of Kaplan, Ahmed, and Deforche not only teaches a pre-installed generic audio driver (or generic driver), but also teaches routing audio data from the processing device to the peripheral device via the connector (or connection) and means for audio communication, as required by independent Claims 1, 11, and 21. Petition at 28-40; 43-45. Petitioners, however, have failed to demonstrate how the teachings of Kaplan modified with the teachings of Ahmed and Deforche, taken alone or in combination, disclose or suggest: 1) 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; routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by independent Claim 1; 2) means for 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; means for routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by independent Claim 11; and 3) a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by independent Claim 21.

1. Claims 1 and 11

Claim 1 requires “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 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” and “routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device,” while Claim 11 similarly requires “means for 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 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” and “means for routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device.”

Although the Petitioners lead Ground I with Kaplan, the Petitioners concede that Kaplan does not specifically disclose using a “first pre-installed

generic audio driver” and that “Kaplan does not explain whether it uses “a second pre-installed generic driver of the operating system” for non-audio data.” Petition at 32, 34. Instead, Kaplan only generally describes a dongle including a connector 122 compliant with the USB standard. *See* Ex. 1027 at [0016]-[0017]. While Kaplan states that the transmitter may identify itself to the computer as a mass storage device (*see Id.* at [0046]), not only is there no indication in Kaplan that when the dongle is inserted into the computer, a means for audio communication between the peripheral device and the processing device is set up by means of a first pre-installed generic audio driver of the operating system and a means for data communication is set up between the peripheral device and the processing device by means of a second pre-installed generic driver of the operating system, there is no indication that the audio data is routed from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 1, and as similarly recited in Claim 11. In other words, Kaplan only describes using a wireless transmitter for sending video data to a receiver, in which the video and audio data are statically saved as media files, but provides no indication of how audio data (and non-audio data) is

transmitted from the computer to the transmitter.

Petitioners, understanding the deficiencies of Kaplan, then attempt to rely on Ahmed and Deforche. Petition at 32-35. According to the Petitioners, Ahmed teaches “while the various media streams may be multiplexed and transmitted in a single stream, it is preferred to transmit the media data streams separately in a synchronized manner” and sending the audio portion of an audio stream using a first...audio driver by teaching a virtual audio driver that is installed as a normal audio driver and “using a ‘mirror display driver’ and a ‘first socket 1202 for transmitting video.’” *See* Petition at 32-35. Petitioners further allege that “To the extent PO contends that Ahmed does not disclose that its audio driver is a ‘pre-installed generic audio driver of the operating system,’ Deforche discloses using ‘a pre-installed generic audio driver’ to wirelessly exchange any IP data.” Petition at 33, 35. Petitioners then further suggest that Kaplan discloses “routing audio data from the processing device” (e.g., “computer 220”) “to the peripheral device” (e.g., “transmitter 120”) “via the connector” (410) “and the means for audio communication.” Petition at 38.

Petitioners, however, are 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. *See In re*

Wesslau, 353 F.2d 238, 241 (CCPA 1965) (“It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.”). For example, as indicated above, Ahmed is clearly directed to a software solution that is run on the computing device, e.g., a novel software system (*see* Ex. 1014 at 7:27-29), in which the operating system renders graphics and video content onto the video memory of a virtual display driver and a mirror display driver. Specifically, as admitted by the Petitioners, Ahmed states that “a virtual audio driver...is installed as a normal audio driver...” Petition at 32-33 (emphasis added). As such, similar to the deficiencies of prior software based systems as discussed in the ‘002 patent, Ahmed describes a software solution for wireless real time transmission of data from a source to a monitor, in which an audio driver is needed or stereo mix option dependent on the capabilities of the particular audio device. *See* Ex. 1001 at 4:30-35 (“Software based systems for presentations typically rely on specific software drivers to be installed on the client PC...In case the built-in generic audio driver is used, it is hard to guarantee that the audio will work on any given hardware, considering the large variety of sound cards in PC's.”). That is, Petitioners are merely picking and

choosing certain teachings of Ahmed, but provide no indication that Ahmed teaches such features are used for an external peripheral device physically coupled to a port of the processing device, let alone, routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device and 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, as required by Claim 1, and as similarly recited in Claim 11.

Similarly, Deforche is merely directed to a wireless modem device. While Deforche states that pre-installed generic drivers of the operating system are exploited for setting up the modem/host communication interface, there is no indication that the teachings of Deforche are operable for routing audio data between a peripheral device and a processing device, e.g., making audio available at the port to the peripheral device. For example, Deforche states that:

...the USB modem presents itself as a USB Mass Storage Device
(10) presenting a CDROM (exposing flash memory), a Generic
Volume (exposing microSD) and a 3rd Generic Device to

transport control and TCP/IP data between the host OS and the USB modem. Immediately after this configuration is shown in the OS, and now assuming a Windows OS, the CD Rom has an autorun that launches a launcher in which the user has the possibility to launch amongst other applications a web browser (e.g. Firefox) and a Connection Manager (CM). This launcher is based on portable application principles, as it is also done with other applications. (Ex. 1030 at [0034]).

That is, similar to the deficiencies of prior USB interfaces as discussed in the ‘002 patent, Deforche simply discloses a USB solution by circumventing modality-specific drivers (e.g., for network connection) by re-purposing generic HID functionality. *See* Ex. 1001 at 4:3-5 (“Accordingly connecting a projector to a computer using the standard USB port might become commonplace with time.”). That is, Petitioners are merely picking and choosing certain teachings of Deforche, which is not only from a completely different domain, e.g., networking using a modem, but there is nothing in Deforche that provides a reasoned basis that supports that Deforche teaches routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and

the peripheral device and 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, as required by Claim 1, and as similarly recited in Claim 11. Furthermore, contrary to Petitioners' assertion in the Declaration of Kevin Almeroth ("Almeroth Declaration") that Deforche teaches a "pre-installed generic audio driver" (*see* Ex. 1002 at [95], [126]), there is no discussion in Deforche of any audio driver, let alone, a pre-installed generic audio driver, as suggested by Petitioners.

That is, Petitioners have not established that any of the cited references of Kaplan, Ahmed, and Deforche, taken alone or in combination, discloses or suggests each of the required elements of Claims 1 and 11. For this reason alone, Petitioners failed to meet its burden of showing a reasonable likelihood that it would prevail with respect to any of the challenged claims, and institution should be denied.

Moreover, while Petitioners allege that not only would it "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 that "It would thus have been obvious to modify Ahmed to

use Deforche’s “pre-installed generic audio driver” because it is a known technique to improve a similar device in the same way” (Petition at 26-28), Petitioners have not established “a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *See KSR* at 418. Instead, Petitioners are attempting to use a POSITA’s common knowledge to supply a wholly missing claim limitation without evidentiary support and the petition should be rejected. *See DSS Tech. Mgmt. Inc. v. Apple Inc.*, 885 F.3d 1367, 1377 (Fed. Cir. 2018) (The Board may not “rel[y] on ‘ordinary creativity’ ‘as a wholesale substitute for reasoned analysis and evidentiary support’ ‘when dealing with a limitation missing from the prior art references specified’”); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 851 F.3d 1270, 1274-1275 (Fed. Cir. 2017) (expert may not “fill in missing limitations” by alleging that a person of ordinary skill in the art would envision them).

Specifically, Petitioners have at most only established that there are a number of different ways a processing device can be connected to a communications network and only discuss “several examples of techniques to transfer image data from a computer to a display routed through a wireless USB dongle.” *See Ex. 1002* at [38]-[53] (emphasis added). Petitioners, however, have

not established that any of the cited art, taken alone or in combination, teaches that the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device and the second pre-installed generic driver of the operating system is used for setting up a means for data communication between the peripheral device and the processing device and routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 1 (and as similarly recited in Claim 11).

Instead, Petitioners have only provided conclusory statements, which are not supported with “reasoned analysis and evidentiary support.” For example, Petitioners assert “while neither Kaplan nor Ahmed specifically refer to drivers as “pre-installed generic drivers,” Deforche teaches that using such drivers “has the advantage that the need for a specific driver for the communication between the wireless modem device and the computer device can be avoided.” (EX-1030, abstract, ¶¶9; EX-1002, ¶¶95). It would thus have been obvious to modify Ahmed to use Deforche’s “pre-installed generic audio driver” because it is a known technique to improve a similar device in the same way” (*see* Petition at 27-28),

which is merely supported by the same conclusory statements in the Almeroth Declaration (*see* Ex. 1002 at [111]). Such alleged combination, however, is entirely conclusory. For example, Kaplan only generally states that “the transmitter 120 includes a wireless transceiver 450 that is operable to transmit data from the computer to the receiver 110,” and that “the data may include video and audio data for display on the display device.” Ex. 1027 at [0017]. That is, Kaplan only describes audio and video data being stored, e.g., as media files, and transmitting the same, but there is no indication in Kaplan of the specific steps of 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 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 and routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication.

Petitioners then simply conclude that Ahmed’s software-based driver-level implementation of separate drivers can somehow be applied to set up communication between Kaplan’s computer and the physically coupled USB transmitter to achieve Kaplan’s transmission of audio/video data and that it would

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. Initially, Patent Owner notes that Deforche does not in-fact teach any "audio driver" but is directed to network connection using a modem, as indicated above. Petitioners have also failed to provide reasoned analysis of how the combination of Kaplan, Ahmed, and Deforche teaches routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device and 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, as required by Claim 1, and as similarly recited in Claim 11, e.g., having a pre-installed generic driver installed on the processing device to make the audio (and video data) available at the port to the peripheral device such that separate plug-and-play capabilities of the peripheral device are used for the communication of the video and audio data. That is, even assuming *arguendo* that it would have been obvious to modify Kaplan to use pre-installed generic drivers as taught in Deforche, as suggested by Petitioners, Petitioners have not provided reasoned

analysis of how this combination, including the teachings of Ahmed, would have prompted one having ordinary skill in the art to have modified the teachings of Kaplan, which is directed to transmitting static data, in using the pre-installed generic driver to set up a means for audio communication and a means for data communication and routing audio data from the processing device to the wireless transceiver via the connector and the means for audio communication, in which the pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device. Instead, Petitioners are attempting to improperly fill in missing limitations using an expert declaration, which is deficient for the same reasons as Petitioners' conclusory statements, e.g., Petitioners have not provided reasoning or rationale that the combination of Kaplan, Ahmed, and Deforche results in the same combination of features as required by Claims 1 and 11. That is, "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention

does." *KSR* at 418 (emphasis added).

Without more than conclusory statements, Petitioners have not shown that the cited art discloses or suggests the routing as claimed and institution should be denied.

2. Claim 21

Claim 21 requires “a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device.”

Although the Petitioners allege that “Kaplan in combination with Ahmed and Deforche discloses this limitation for similar reasons to those described for claims 1(e)-(f) and 11(e)-(f)” (*see* Petition at 45), Petitioner failed to establish that the combination of Kaplan, Ahmed, and Deforche, taken alone or in combination, discloses or suggests each and every feature recited in Claim 21. Instead, Kaplan only generally describes a dongle including a connector 122 compliant with the USB standard. *See* Ex. 1027 at [0016]-[0017]. While Kaplan states that the transmitter may identify itself to the computer as a mass storage device (*see Id.* at [0046]), not only is there no indication in Kaplan that when the dongle is inserted

into the computer, of any first software code portion for setting up, by means of the pre-installed generic driver of the operating system, a means for audio communication between the peripheral device and the processing device, there is no indication of any third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21. In other words, Kaplan only describes using a wireless transmitter for sending video data to a receiver, in which the video and audio data are statically saved as media files, but provides no indication of how any software code portion is provided for routing audio data from the computer to the transmitter.

Petitioners, understanding the deficiencies of Kaplan, then attempt to rely on the similar reasons of Ahmed and Deforche with respect to Claims 1 and 11. Petitioners, however, are 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. *See In re Wesslau* at 241. For example, as indicated above, Ahmed is clearly directed to a software solution that is run on the computing device, e.g., a novel software system (*see* Ex. 1014 at

7:27-29), in which the operating system renders graphics and video content onto the video memory of a virtual display driver and a mirror display driver.

Specifically, as admitted by the Petitioners, Ahmed states that “a virtual audio driver...is installed as a normal audio driver...” Petition at 32-33 (emphasis added). That is, Petitioners are merely picking and choosing certain teachings of Ahmed, but provide no indication that Ahmed teaches such features are used for an external peripheral device comprising a connection configured to be physically coupled to a port of the processing device and a memory in which executable software code is stored for execution on the processing device, let alone, a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication and for routing the audio data from the peripheral device to the base node over the communications network, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21.

Similarly, Deforche is merely directed to a wireless modem device. While Deforche states that pre-installed generic drivers of the operating system are exploited for setting up the modem/host communication interface, there is no indication that the teachings of Deforche include a first software code portion for

setting up, by means of the pre-installed generic driver, a means for audio communication between the peripheral device and the processing device, let alone, a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, e.g., making audio available at the port to the peripheral device.

For example, Deforche states that:

...the USB modem presents itself as a USB Mass Storage Device (10) presenting a CD Rom (exposing flash memory), a Generic Volume (exposing microSD) and a 3rd Generic Device to transport control and TCP/IP data between the host OS and the USB modem. Immediately after this configuration is shown in the OS, and now assuming a Windows OS, the CD Rom has an autorun that launches a launcher in which the user has the possibility to launch amongst other applications a web browser (e.g. Firefox) and a Connection Manager (CM). This launcher is based on portable application principles, as it is also done with other applications. (Ex. 1030 at [0034]).

That is, similar to the deficiencies of prior USB interfaces as discussed in the ‘002 patent, Deforche simply discloses a USB solution by circumventing modality-specific drivers (e.g., for network connection) by re-purposing generic HID functionality. *See* Ex. 1001 at 4:3-5 (“Accordingly connecting a projector to

a computer using the standard USB port might become commonplace with time.”). That is, Petitioners are merely picking and choosing certain teachings of Deforche, which is not only from a completely different domain, e.g., networking using a modem, but there is nothing in Deforche that provides a reasoned basis that supports that Deforche teaches a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21. Furthermore, contrary to Petitioners’ assertion in the Almeroth Declaration that Deforche teaches a “pre-installed generic audio driver” (*see* Ex. 1002 at [95], [126]), there is no discussion in Deforche of any audio driver, let alone, a pre-installed generic audio driver, as suggested by Petitioners.

That is, Petitioners have not established that any of the cited references of Kaplan, Ahmed, and Deforche, taken alone or in combination, discloses or suggests each of the required elements of Claim 21. For this reason alone, Petitioners failed to meet its burden of showing a reasonable likelihood that it would prevail with respect to any of the challenged claims, and institution should be denied.

Moreover, while Petitioners allege that not only would it “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 that “It would thus have been obvious to modify Ahmed to use Deforche’s “pre-installed generic audio driver” because it is a known technique to improve a similar device in the same way” (Petition at 26-28), Petitioners have not established “a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *See KSR* at 418. Instead, Petitioners are attempting to use a POSITA’s common knowledge to supply a wholly missing claim limitation without evidentiary support and the petition should be rejected. *See DSS Tech. Mgmt. Inc.* at 1377; *Nidec Motor Corp.* at 1274-1275.

Specifically, Petitioners have at most only established that there are a number of different ways a processing device can be connected to a communications network and only discuss “several examples of techniques to transfer image data from a computer to a display routed through a wireless USB dongle.” *See Ex. 1002* at [38]-[53] (emphasis added). Petitioners, however, have not established that any of the cited art, taken alone or in combination, teaches

that the executable software code portion includes a first software code portion for setting up, by means of the pre-installed generic driver of the operating system, a means for audio communication between the peripheral device and the processing device and a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21.

Instead, Petitioners have only provided conclusory statements, which are not supported with “reasoned analysis and evidentiary support.” For example, Petitioners assert “while neither Kaplan nor Ahmed specifically refer to drivers as “pre-installed generic drivers,” Deforche teaches that using such drivers “has the advantage that the need for a specific driver for the communication between the wireless modem device and the computer device can be avoided.” (EX-1030, abstract, ¶¶9; EX-1002, ¶95). It would thus have been obvious to modify Ahmed to use Deforche’s “pre-installed generic audio driver” because it is a known technique to improve a similar device in the same way” (*see* Petition at 27-28), which is merely supported by the same conclusory statements in the Almeroth Declaration (*see* Ex. 1002 at [111]). Such alleged combination, however, is

entirely conclusory. For example, Kaplan only generally states that “the transmitter 120 includes a wireless transceiver 450 that is operable to transmit data from the computer to the receiver 110,” and that “the data may include video and audio data for display on the display device.” Ex. 1027 at [0017]. That is, Kaplan only describes audio and video data being stored, e.g., as media files, and transmitting the same, but there is no indication in Kaplan of any software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication and for routing the audio data from the peripheral device to the base node over the communications network, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device.

Petitioners then simply conclude that Ahmed’s software-based driver-level implementation of separate drivers can somehow be applied to set up communication between Kaplan’s computer and the physically coupled USB transmitter to achieve Kaplan’s transmission of audio/video data and that it would 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. Initially, Patent Owner notes that Deforche does not in-fact teach any “audio driver” but is directed to network connection using a modem, as indicated

above. Petitioners have also failed to provide reasoned analysis of how the combination of Kaplan, Ahmed, and Deforche teaches a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication and for routing the audio data from the peripheral device to the base node over the communications network, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21, e.g., using a pre-installed generic driver installed on the processing device to make the audio available at the port to the peripheral device. That is, even assuming *arguendo* that it would have been obvious to modify Kaplan to use pre-installed generic drivers as taught in Deforche, as suggested by Petitioners, Petitioners have not provided reasoned analysis of how this combination, including the teachings of Ahmed, would have prompted one having ordinary skill in the art to have modified the teachings of Kaplan, which is directed to transmitting static data, to result in the same combination of features as recited in Claim 21. Instead, Petitioners are attempting to improperly fill in missing limitations using an expert declaration, which is deficient for the same reasons as Petitioners' conclusory statements. That is, "a patent composed of several elements is not proved obvious merely by demonstrating that each of its

elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR* at 418 (emphasis added).

Without more than conclusory statements, Petitioners have not shown that the cited art discloses or suggests the software code portion as claimed and institution should be denied.

C. Ground II is deficient with regard to Claims 1-2, 9-11, 19, and 21-22 because the alleged combination fails to disclose or suggest routing the audio data, as required by Claims 1, 11, and 21

For Ground II, Petitioners allege that a combination of the teachings of Maeda, Ahmed, and Deforche not only teaches a pre-installed generic audio driver (or generic driver), but also teaches routing audio data from the processing device to the peripheral device via the connector (or connection) and means for audio communication, as required by independent Claims 1, 11, and 21. Petition at 45-60. Petitioners, however, have failed to demonstrate how the teachings of Maeda modified with the teachings of Ahmed and Deforche, taken alone or in

combination, disclose or suggest: 1) 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; routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by independent Claim 1; 2) means for 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; means for routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by independent Claim 11; and 3) a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by independent Claim 21.

1. Claims 1 and 11

Claim 1 requires “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 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” and “routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device,” while Claim 11 similarly requires “means for 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 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” and “means for routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device.”

Although the Petitioners lead Ground II with Maeda, the Petitioners concede that Maeda does not specifically disclose using a “first pre-installed generic audio driver” and that “Maeda does not explain whether it uses “a second pre-installed generic driver of the operating system.”” Petition at 53, 55. Instead, Maeda only generally describes using a wireless LAN card containing a wireless LAN chip attached to PC 100 (Ex. 1031 at [0017]) in which “PC communication unit 127 is a processing unit that acquires image and audio transmission data from the image capture unit 123 and the audio capture unit 128, compresses and packets the data, and transmits it to the projector 200, and is realized by the CPU 101, the network IF 108, and the like” (*Id.* at [0030]). While Maeda briefly indicates that “although the example of using a wireless LAN has been shown as a method of connecting the PC and the projector, the method is not limited to these and may also be a wired LAN, USB, or IEEE1394” (*Id.* at [0076]), not only is there no indication in Maeda that when a dongle is inserted into the computer, a means for audio communication between the peripheral device and the processing device is set up by means of a first pre-installed generic audio driver of the operating system and a means for data communication is set up between the peripheral device and the processing device by means of a second pre-installed generic driver of the operating system, there is no indication that the audio data is

routed from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 1 and similarly recited in Claim 11. In other words, Maeda only describes using a wireless LAN card and a software solution for wireless transmission of audio and video to a projector, but “does not disclose the granular details regarding its use of a device’s drivers for how the transmission of audio/visual content between a PC and its LAN card is achieved.” Ex. 1002 at [148].

Petitioners, understanding the deficiencies of Maeda, then attempt to rely on Ahmed and Deforche. Petition at 52-57. According to the Petitioners, Ahmed teaches “while the various media streams may be multiplexed and transmitted in a single stream, it is preferred to transmit the media data streams separately in a synchronized manner” and sending the audio portion of an audio stream using a first...audio driver by teaching a virtual audio driver that is installed as a normal audio driver and “using a ‘mirror display driver’ and a ‘first socket 1202 for transmitting video.” *See* Petition at 54-57. Petitioners further allege that “To the extent PO contends that Ahmed does not disclose that its audio driver is a ‘pre-installed generic audio driver of the operating system,’ Deforche discloses using

‘a pre-installed generic audio driver’ to wirelessly exchange any IP data.” Petition at 54-55. Petitioners then further suggest that Maeda discloses “routing audio data from the processing device to the peripheral device...via the connector and the means for audio communication” since “the wireless LAN card/wireless modem device may be presented as a human interface device or other class of peripheral device (e.g., as suggested by Deforche), such that the audio data is routed using audio communication provided by and set up using a pre-installed generic audio driver (see limitation 1(b) above and 1(g) below).” Petition at 57-58.

Petitioners, however, are improperly picking and choosing from the references to support their flawed position, and are not fully appreciating the references for what they fairly suggest to one of ordinary skill in the art. For example, as indicated above, both Maeda and Ahmed are clearly directed to a software solution for audio and video that is run on the computing device, e.g., a novel software system (*see* Ex. 1014 at 7:27-29) and audio capture unit being a processing unit (*see* Ex. 1031 at [0028]). As such, similar to the deficiencies of prior software based systems as discussed in the ‘002 patent, both Maeda and Ahmed are directed to software solutions for wireless real time transmission of data from a source to a monitor, in which an audio driver is needed or stereo mix option dependent on the capabilities of the particular audio device. *See* Ex. 1001

at 4:30-35 (“Software based systems for presentations typically rely on specific software drivers to be installed on the client PC...In case the built-in generic audio driver is used, it is hard to guarantee that the audio will work on any given hardware, considering the large variety of sound cards in PC's.”). That is, Petitioners are merely picking and choosing certain teachings of Maeda and Ahmed, but provide no indication that either Maeda or Ahmed teaches such features are used for an external peripheral device physically coupled to a port of the processing device, let alone, routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device and 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, as required by Claim 1 and similarly recited in Claim 11.

Similarly, Deforche is merely directed to a wireless modem device. While Deforche describes that pre-installed generic drivers of the operating system are exploited for setting up the modem/host communication interface, there is no indication that the teachings of Deforche are operable for routing audio data

between a peripheral device and a processing device, e.g., making audio available at the port to the peripheral device. For example, Deforche states that:

...the USB modem presents itself as a USB Mass Storage Device (10) presenting a CD Rom (exposing flash memory), a Generic Volume (exposing microSD) and a 3rd Generic Device to transport control and TCP/IP data between the host OS and the USB modem. Immediately after this configuration is shown in the OS, and now assuming a Windows OS, the CD Rom has an autorun that launches a launcher in which the user has the possibility to launch amongst other applications a web browser (e.g. Firefox) and a Connection Manager (CM). This launcher is based on portable application principles, as it is also done with other applications. (Ex. 1030 at [0034]).

That is, similar to the deficiencies of prior USB interfaces as discussed in the ‘002 patent, Deforche simply describes a USB solution by circumventing modality-specific drivers (e.g., for network connection) by re-purposing generic HID functionality. *See* Ex. 1001 at 4:3-5 (“Accordingly connecting a projector to a computer using the standard USB port might become commonplace with time.”). That is, Petitioners are merely picking and choosing certain teachings of Deforche, which is not only from a completely different domain, e.g., networking using a modem, but there is nothing in Deforche that provides a reasoned basis

that supports that Deforche teaches routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device and 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, as required by Claim 1 and similarly recited in Claim 11.

That is, Petitioners have not established that any of the cited references of Maeda, Ahmed, and Deforche, taken alone or in combination, discloses or suggests each of the required elements of Claims 1 and 11. For this reason alone, Petitioners have failed to meet its burden of showing a reasonable likelihood that it would prevail with respect to any of the challenged claims, and institution should be denied.

Moreover, while Petitioners allege that not only would it “have been a simple application to include Ahmed’s driver-level implementation to achieve Maeda’s remote transmission of audio/video data streams ready for improvement” and that “It would thus have been obvious to modify Ahmed to use Deforche’s “pre-installed generic audio driver” because it is a known technique to

improve a similar device in the same way” (Petition at 46-47), Petitioners have not established “a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *See KSR* at 418. Instead, Petitioners are attempting to use a POSITA’s common knowledge to supply a wholly missing claim limitation without evidentiary support and should be rejected. *See DSS Tech. Mgmt. Inc.* at 1377; *Nidec Motor Corp.* at 1274-1275.

Specifically, Petitioners have at most only established that there are a number of different ways a processing device can be connected to a communications network and only discusses “several examples of techniques to transfer image data from a computer to a display routed through a wireless USB dongle.” *See Ex. 1002* at [38]-[53] (emphasis added). Petitioners, however, have not established that any of the cited art, taken alone or in combination, teaches that the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device and the second pre-installed generic driver of the operating system is used for setting up a means for data communication between the peripheral device and the processing device and routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication,

wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 1 (and as similarly recited in Claim 11).

Instead, Petitioners have only provided conclusory statements, which are not supported with “reasoned analysis and evidentiary support.” For example, Petitioners assert while “Maeda does not specifically disclose using a “pre-installed generic audio driver” and “[t]o the extend that Ahmed does not disclose that its audio driver is a “pre-installed generic audio driver of the operating system,” Deforche discloses using “pre-installed generic driver” to wirelessly exchange any IP data. (EX-1030, abstract, ¶¶9-11; EX-1002, ¶168)... It would thus have been obvious to modify Ahmed to use “pre-installed generic audio driver” because “[t]his has the advantage that the need for a specific driver for the communication between the wireless modem device and the computer device can be avoided.”” (*see* Petition at 53-55), which is merely supported by the same conclusory statements in the Almeroth Declaration (*see* Ex. 1002 at [168]-[170]). Such alleged combination, however, is entirely conclusory. For example, Maeda only generally describes that the wireless LAN card can be a wired LAN, USB, or IEEE1394, but is clearly directed to a software solution for audio/video transmission, and specifically, for a system in which multiple PCs are connected.

That is, there is no indication in Maeda the specific steps of 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 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 and routing audio data from the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 1 and similarly recited in Claim 11.

Petitioners then simply conclude that “[i]t would have been a simple substitution to include Ahmed’s driver-level implementation to achieve Maeda’s remote transmission of audio/video data streams ready for improvement” and that “[i]t would 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.” Petition at 46-47. Initially noting that Deforche does not in-fact teach any “audio driver” but is directed to network connection using a modem, as indicated above, Petitioners have also failed to provide reasoned analysis of how the combination of Maeda, Ahmed, and Deforche teaches routing audio data from

the processing device to the wireless transceiver via the connector of the peripheral device and the means for audio communication, wherein the first pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device and 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, as required by Claim 1 and similarly recited in Claim 11, e.g., generic driver installed on the processing device to make the audio (and video data) available at the port to the peripheral device such that separate plug-and-play capabilities of the peripheral device are used for the communication of the video and audio data. That is, even assuming *arguendo* that it would have been obvious to modify Maeda to use pre-installed generic drivers as taught in Deforche, as suggested by Petitioners, Petitioners have not provided reasoned analysis of how this combination, including the teachings of Ahmed, would have prompted one having ordinary skill in the art to have modified the teachings of Maeda, which is directed to a software solution for transmitting audio and video data, to use the pre-installed generic driver to set up a means for audio communication and a means for data communication and routing audio data from the processing device to the wireless transceiver via the connector and the means for audio

communication, in which the pre-installed generic audio driver is used for transferring the audio data between the processing device and the peripheral device. Instead, Petitioners are attempting to improperly fill in missing limitations using an expert declaration, which is deficient for the same reasons as Petitioners' conclusory statements. That is, "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR* at 418 (emphasis added).

Without more than conclusory statements, Petitioners have not shown that the cited art discloses or suggests the routing as claimed and institution should be denied.

Accordingly, for the above reasoning, the Petition is deficient because it fails to articulate how and why the teachings of Maeda combined with the teachings of Ahmed and Deforche meet the same combination of features as required by the

independent claims. Institution must be denied for this reason.

2. Claim 21

Claim 21 requires “a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device.”

Although the Petitioners allege that “Maeda in combination with Ahmed and Deforche discloses this limitation for similar reasons to those described for claims 1(e)-(f) and 11(e)-(f)” (*see* Petition at 64), Petitioner failed to establish that the combination of Maeda, Ahmed, and Deforche, taken alone or in combination, discloses or suggests the same combination of features as recited in Claim 21. Instead, Maeda only generally describes using a wireless LAN card containing a wireless LAN chip attached to PC 100 (Ex. 1031 at [0017]) in which “PC communication unit 127 is a processing unit that acquires image and audio transmission data from the image capture unit 123 and the audio capture unit 128, compresses and packets the data, and transmits it to the projector 200, and is realized by the CPU 101, the network IF 108, and the like” (*Id.* at [0030]). While Maeda briefly indicates that “although the example of using a wireless LAN has

been shown as a method of connecting the PC and the projector, the method is not limited to these and may also be a wired LAN, USB, or IEEE1394” (*Id.* at [0076]), not only is there no indication in Maeda that when a dongle is inserted into the computer, of any first software code portion for setting up, by means of the pre-installed generic driver of the operating system, a means for audio communication between the peripheral device and the processing device, there is no indication of any third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21. In other words, Maeda only describes using a wireless LAN card and a software solution for wireless transmission of audio and video to a projector, but provides no indication of how any software code portion is provided for routing audio data from the computer to the transmitter.

Petitioners, understanding the deficiencies of Maeda, then attempt to rely on the similar reasons of Ahmed and Deforche with respect to Claims 1 and 11. Petitioners, however, are improperly picking and choosing from the references to support their flawed position, and are not fully appreciating the references for what they fairly suggest to one of ordinary skill in the art. For example, as

indicated above, both Maeda and Ahmed are clearly directed to a software solution for audio and video that is run on the computing device, e.g., a novel software system (*see* Ex. 1014 at 7:27-29) and audio capture unit being a processing unit (*see* Ex. 1031 at [0028]). As such, similar to the deficiencies of prior software based systems as discussed in the '002 patent, both Maeda and Ahmed describe software solutions for wireless real time transmission of data from a source to a monitor, in which an audio driver is needed or stereo mix option dependent on the capabilities of the particular audio device. *See* Ex. 1001 at 4:30-35 (“Software based systems for presentations typically rely on specific software drivers to be installed on the client PC...In case the built-in generic audio driver is used, it is hard to guarantee that the audio will work on any given hardware, considering the large variety of sound cards in PC's.”). That is, Petitioners are merely picking and choosing certain teachings of Maeda and Ahmed, but provide no indication that either Maeda or Ahmed teaches such features are used for an external peripheral device including a connection configured to be physically coupled to a port of the processing device and a memory in which executable software code is stored for execution on the processing device, let alone, a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the

means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21.

Similarly, Deforche is merely directed to a wireless modem device. While Deforche states that pre-installed generic drivers of the operating system are exploited for setting up the modem/host communication interface, there is no indication that the teachings of Deforche include a first software code portion for setting up, by means of the pre-installed generic driver, a means for audio communication between the peripheral device and the processing device, let alone, a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, e.g., making audio available at the port to the peripheral device.

For example, Deforche states that:

...the USB modem presents itself as a USB Mass Storage Device (10) presenting a CDRom (exposing flash memory), a Generic Volume (exposing microSD) and a 3rd Generic Device to transport control and TCP/IP data between the host OS and the USB modem. Immediately after this configuration is shown in the OS, and now assuming a Windows OS, the CD Rom has an autorun that launches a launcher in which the user has the

possibility to launch amongst other applications a web browser (e.g. Firefox) and a Connection Manager (CM). This launcher is based on portable application principles, as it is also done with other applications. (Ex. 1030 at [0034]).

That is, similar to the deficiencies of prior USB interfaces as discussed in the ‘002 patent, Deforche simply describes a USB solution by circumventing modality-specific drivers (e.g., for network connection) by re-purposing generic HID functionality. *See* Ex. 1001 at 4:3-5 (“Accordingly connecting a projector to a computer using the standard USB port might become commonplace with time.”). That is, Petitioners are merely picking and choosing certain teachings of Deforche, which is not only from a completely different domain, e.g., networking using a modem, but there is nothing in Deforche that provides a reasoned basis that supports that Deforche teaches a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21.

That is, Petitioners have not established that any of the cited references of Maeda, Ahmed, and Deforche, taken alone or in combination, discloses or

suggests each of the required elements of Claim 21. For this reason alone, Petitioners failed to meet its burden of showing a reasonable likelihood that it would prevail with respect to any of the challenged claims, and institution should be denied.

Moreover, while Petitioners allege that not only would it “have been a simple application to include Ahmed’s driver-level implementation to achieve Maeda’s remote transmission of audio/video data streams ready for improvement” and that “It would thus have been obvious to modify Ahmed to use Deforche’s “pre-installed generic audio driver” because it is a known technique to improve a similar device in the same way” (Petition at 46-47), Petitioners have not established “a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *See KSR* at 418. Instead, Petitioners are attempting to use a POSITA’s common knowledge to supply a wholly missing claim limitation without evidentiary support and the petition should be rejected. *See DSS Tech. Mgmt. Inc.* at 1377; *Nidec Motor Corp.* at 1274-1275.

Specifically, Petitioners have at most only established that there are a number of different ways a processing device can be connected to a communications network and only discuss “several examples of techniques to

transfer image data from a computer to a display routed through a wireless USB dongle.” *See* Ex. 1002 at [38]-[53] (emphasis added). Petitioners, however, have not established that any of the cited art, taken alone or in combination, teaches that the executable software code portion includes a first software code portion for setting up, by means of the pre-installed generic driver of the operating system, a means for audio communication between the peripheral device and the processing device and a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21.

Instead, Petitioners have only provided conclusory statements, which are not supported with “reasoned analysis and evidentiary support.” For example, Petitioners assert while “Maeda does not specifically disclose using a “pre-installed generic audio driver” and “[t]o the extend that Ahmed does not disclose that its audio driver is a “pre-installed generic audio driver of the operating system,” Deforche discloses using “pre-installed generic driver” to wirelessly exchange any IP data. (EX-1030, abstract, ¶¶9-11; EX-1002, ¶168)... It would thus have been obvious to modify Ahmed to use “pre-installed generic audio

driver” because “[t]his has the advantage that the need for a specific driver for the communication between the wireless modem device and the computer device can be avoided.”” (*see* Petition at 53-55), which is merely supported by the same conclusory statements in the Almeroth Declaration (*see* Ex. 1002 at [168]-[170]). Such alleged combination, however, is entirely conclusory. For example, Maeda only generally describes that the wireless LAN card can be a wired LAN, USB, or IEEE1394, but is clearly directed to a software solution for audio/video transmission, and specifically, for a system in which multiple PCs are connected. That is, there is no indication in Maeda of any software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication and for routing the audio data from the peripheral device to the base node over the communications network, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21.

Petitioners then simply conclude that “[i]t would have been a simple substitution to include Ahmed’s driver-level implementation to achieve Maeda’s remote transmission of audio/video data streams ready for improvement” and that “[i]t would 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.” Petition at 46-47. Initially noting that Deforche does not in-fact teach any “audio driver” but is directed to network connection using a modem, as indicated above, Petitioners have also failed to provide reasoned analysis of how the combination of Maeda, Ahmed, and Deforche teaches the same combination of features as recited in Claim 21. That is, even assuming *arguendo* that it would have been obvious to modify Maeda to use pre-installed generic drivers as taught in Deforche, as suggested by Petitioners, Petitioners have not provided reasoned analysis of how this combination, including the teachings of Ahmed, results in the peripheral device including a connection configured to be physically coupled to a port of the processing device and a memory in which executable software code is stored for execution on the processing device and the executable software code including a third software code portion for routing audio data from the processing device to the peripheral device via the connection and the means for audio communication and for routing the audio data from the peripheral device to the base node over the communications network, wherein the first pre-installed generic driver is used for transferring the audio data between the processing device and the peripheral device, as required by Claim 21. Instead, Petitioners are attempting to improperly fill in missing limitations using an expert declaration, which is deficient for the same reasons as Petitioners’ conclusory statements.

That is, “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR* at 418 (emphasis added).

Without more than conclusory statements, Petitioners have not shown that the cited art discloses or suggests the software code portion as claimed and institution should be denied.

VI. CONCLUSION

Based on the deficiencies identified above, Petitioners have not shown a reasonable likelihood of prevailing on any of its proposed grounds. Thus, Patent Owner respectfully submits that the Board should decline to institute an IPR proceeding.

Respectfully submitted,

Date: January 9, 2025

By: /Thomas Lee/
Thomas Lee (Reg. No. 66396)

HSML P.C.
Customer Number 52835
45 South Seventh St., Suite 2700
Minneapolis, MN 55402
Phone: (612) 455-3800
Fax: (612) 455-3801

Email: tlee@hsml.com

Counsel for Patent Owner

CERTIFICATION UNDER 37 CFR §42.24(d)

Under the provisions of 37 CFR §42.24(d), the undersigned hereby certifies that the word count for the foregoing Patent Owner's Preliminary Response totals 13,951, which is less than the 14,000 allowed under 37 CFR §42.24(b)(1).

Respectfully submitted,

Dated: January 9, 2025

By: /Thomas Lee/
Thomas Lee (Reg. No. 66396)

HSML P.C.
45 South Seventh St., Suite 2700
Minneapolis, MN 55402
Phone: (612) 455-3800
Fax: (612) 455-3801

Email: tlee@hsml.com

Counsel for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4) and 42.205(b), the undersigned certifies that on January 9, 2025, a complete and entire copy of this Patent Owner's Preliminary Response and Accompanying Exhibits were provided via electronic service, to the Petitioners by serving the correspondence address of record as follows:

ipt.docketchi@dentons.com
stephen.yang@dentons.com
kevin.greenleaf@dentons.com
timothy.bickham@dentons.com
forrest.gothia@dentons.com

DATED: January 9, 2025

By: / Thomas Lee /
Thomas Lee (Reg. No. 66396)

HSML P.C.
45 South Seventh St., Suite 2700
Minneapolis, MN 55402
Phone: (612) 455-3800
Fax: (612) 455-3801

Email: tlee@hsml.com

Counsel for Patent Owner