UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

BARCO N.V.
Patent Owner

U.S. Patent No. 10,762,002
IPR2024-01436

Declaration of Dr. Kevin C. Almeroth in Support of Petitioner's Reply in the Inter Partes Review of U.S. Patent No. 10,762,002

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TABLE OF EXHIBITS

EXHIBIT	DESCRIPTION
Ex-1001	U.S. Patent No. 10,762,002
Ex-1002	Declaration of Kevin C. Almeroth, Ph.D.
Ex-1003	Curriculum Vitae of Kevin C. Almeroth, Ph.D.
Ex-1004	File History of U.S. Patent No. 10,762,002
Ex-1005	U.S. Patent Application Publication No. 2005/0210390 ("Ono")
Ex-1006	U.S. Patent Application Publication No. 2008/0074560 ("Ichieda")
Ex-1007	U.S. Patent Application Publication No. 2006/0069840 ("Corbett")
Ex-1008	**RESERVED**
Ex-1009	English Translation of Japanese Patent Application Publication No. 2008-165007 ("Uchida")
Ex-1010	Japanese Patent Application Publication No. 2008-165007
Ex-1011	Certification for English Translation of Japanese Patent Application Publication No. 2008-165007
Ex-1012	**RESERVED**
Ex-1013	**RESERVED**
Ex-1014	International Patent Application Publication No. 2006/113711 ("Ahmed")
Ex-1015–Ex-1019	**RESERVED**
Ex-1020	U.S. Patent Application Publication No. 2010/0087139 ("Glass")
Ex-1021	U.S. Patent Application Publication No. 2009/0198839 ("Banerjee")
Ex-1022	U.S. Patent Application Publication No. 2011/0115689 ("Sugiyama")
Ex-1023	U.S. Patent Application Publication No. 2009/0187687 (Hulbert")

EXHIBIT	DESCRIPTION
Ex-1024	U.S. Patent Application Publication No. 2003/0112975 ("Taiwanese")
Ex-1025	**RESERVED**
Ex-1026	U.S. Patent Application Publication No. 2009/0172219 ("Mardiks")
Ex-1027	U.S. Patent Application Publication No. 2010/0295994 ("Kaplan")
Ex-1028	**RESERVED**
Ex-1029	**RESERVED**
Ex-1030	EP Patent Application Publication No. 2107463 ("Deforche")
Ex-1031	JP Patent Application Publication No. 2007-208606 ("Maeda")
Ex-1033	U.S. Patent Application Publication No. 2002/0196378 ("Slobodin")
Ex-1034	U.S. Patent Application Publication No. 2002/0174254 ("Kita")
Ex-1035–Ex-1049	**RESERVED**
Ex-1050	Imation Wireless Projection Link User Guide
Ex-1051	EZAir Press Release, "EZAir Wireless PC to TV Solutions Now Available Across Europe," March 16, 2011
Ex-1052	Warpia Product Brief, "Wireless USB PC to TV Audio/Video Display Adapter," 2009
Ex-1053	Q-Waves Product Overview, "Quicklink TV," November 2010
Ex-1054	IOGear Installation Guide, "Wireless USB to VGA Kit," 2008
Ex-1055	JP Patent Application Publication No. 2007-208606
Ex-1056	Certification for English Translation of JP Patent Application Publication No. 2007-208606
Ex-1057	**RESERVED**
Ex-1058	U.S. Patent Application Publication No. 2011/0038005 ("Ochai")

EXHIBIT	DESCRIPTION
Ex-1059	U.S. Patent Application Publication No. 2006/0229100 ("Born")
Ex-1060	U.S. Patent No. 7,207,059 ("Kurian")
Ex-1061	U.S. Patent Application Publication No. 2007/0123251 ("McElvaney")
Ex-1062	U.S. Patent Application Publication No. 2003/0036406 ("Huang")
Ex-1063	U.S. Patent No. 5,913,174 ("Casarez")
Ex-1064	U.S. Patent No. 6,717,801 ("Castell")
Ex-1065	U.S. Patent No. 6,804,541 ("Muramatsu")
Ex-1066	**RESERVED**
Ex-1067	Clickshare CSE-200 base unit firmware
Ex-1068	'237 Brogioli report
Ex-1069	CSE-800 User Guide
Ex-1070	Brogioli '002 depo transcript
Ex-1071	Brogioli '237 depo transcript
Ex-1072	Brogioli '676 depo transcript
Ex-1073	Brogioli '951 depo transcript
Ex-1074	What is a driver? (https://learn.microsoft.com/en-us/windows-hardware/drivers/gettingstarted/what-is-a-driver-)
Ex-1075	ClickShare Button connection issues
Ex-1076	ClickShare C-5 Base Unit Datasheet
Ex-1077	https://www.barco.com/en/inspiration/news-insights/2019-05-03-different-ways-to-share-your-content-with-clickshare (retrieved September 24, 2025).
Ex-1078	Erwin Six depo. transcript

EXHIBIT	DESCRIPTION
Ex-1079	Barco Driver Version Installed 18-7-2025 (https://www.barco.com/en/support/knowledge-base/12770-clickshare-windows-driver-version-installed)
Ex-1080	"Why is ClickShare Windows Driver required and how can I install/update it on my PC?" (https://www.barco.com/en/support/knowledge-base/5676-clickshare-windows-driver-requirements-and-installation)
Ex-1081	Minidrivers, Miniport drivers, and driver pairs (https://learn.microsoft.com/en-us/windows-hardware/drivers/gettingstarted/minidrivers-and-driver-pairs)
Ex-1082	Yealink Press Release (https://www.yealink.com/en/product-detail/wireless-presentation-wpp30-eol)
Ex-1083	Second Declaration of Declaration of Kevin C. Almeroth, Ph.D.
Ex-1084	Dr. Brogioli Dist. Ct. Transcript
Ex-1085	USB Audio Class System Driver (Usbaudio.sys) (https://learn.microsoft.com/en-us/windows-hardware/drivers/audio/usb-audio-class-system-driver--usbaudio-sys-)
Ex-1086	**RESERVED**
Ex-1087	U.S. Patent No. 11,403,237
Ex-1088	U.S. Patent No. 11,258,676
Ex-1089	U.S. Patent No. 11,422,951
Ex-1090	Deposition transcript of Andrew Ludke, Crestron
Ex-1091	Deposition transcript of William Scally, Barco's damages expert

I. INTRODUCTION

1. I have reviewed the Patent Owner's Response ("POR," Paper 20) and the associated exhibits. Below are my opinions concerning the POR.

II. BARCO'S CONCERNS WITH MY TESTIMONY SHOULD NOT BE AFFORDED WEIGHT.

2. In my opinion, the Patent Owner selectively references my testimony in an attempt to suggest inconsistency where there is none. For example, the Patent Owner highlights my statement that "data is data." POR, 10-11, citing EX-2006, transcript from IPR2024-01436. It is universally accepted in the field of Computer Science that all data in general-purpose computers is ultimately represented as binary values, i.e., 1's and 0's. This data, regardless of its type, is transmitted and received over various interfaces, such as USB. My testimony was limited to this foundational concept and, in my view, does not reflect any deficiency in my expertise.

3. In a separate proceeding that addressed an unrelated issue, I testified regarding prior art that teaches transcoding data "based on a type of functional data." See Ex. 2030, ¶¶212-213. In my opinion, this simply illustrates the routine nature of encoding and decoding audio and video data with different codecs, which is a common practice in the field. That testimony is not relevant to my "data is data" comment in the related '1436 IPR, except to reaffirm that all digital data consists of

1's and 0's and can be transferred across any general-purpose computer interface, such as USB.

4. The Patent Owner also asserts that I lack clarity regarding the definition of "driver," noting that I provided a specific definition for this proceeding. In my experience, there is no inconsistency in this position, as the term "driver" can have different meanings depending on the context in which it is used. It is common in the field for technical terms to have context-dependent definitions.

5. Furthermore, the Patent Owner devotes several pages to disputing my opinion that implementation details often represent design choices, claiming that my views are unreliable or inconsistent. POR, 12-16. In my opinion, the Patent Owner's argument attempts to confine the prior art solely to its explicit disclosures, without considering how a POSA would recognize the many possible methods of implementation.

III. GROUND I – IT WOULD HAVE BEEN OBVIOUS TO COMBINE KAPLAN WITH DEFORCHE AND AHMED.

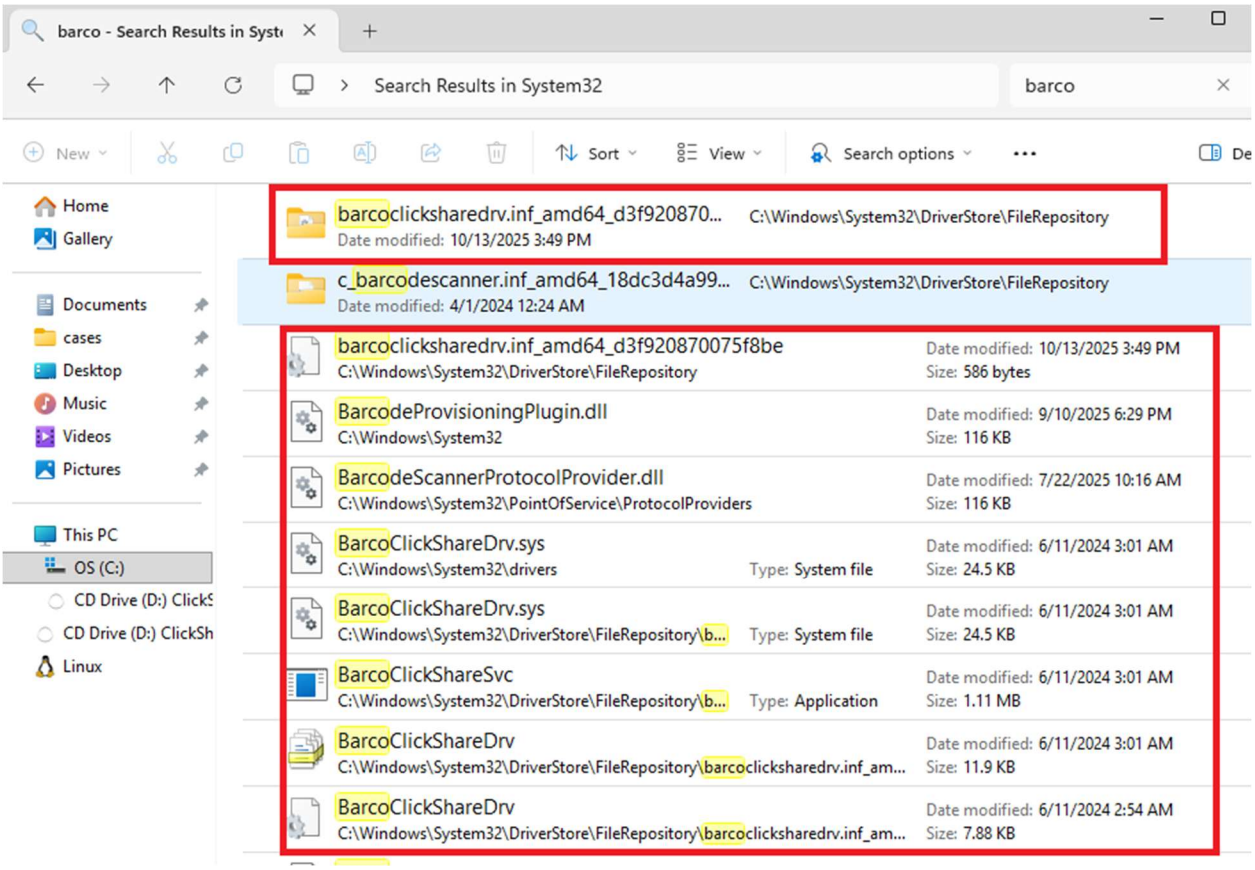
6. It is my opinion that the person of ordinary skill in the art, an engineer with a master's degree and five years of experience, would consider using preexisting software to speed development and efficiently develop a new product. An example of preexisting software that engineers used frequently are drivers included in operating systems. Ex-1074 ("What is a driver?"). These standard drivers are included in operating systems so that developers of peripheral devices and

software that uses peripheral devices do not have to develop propriety drivers for each new product. Therefore, absent some necessity, the first choice for developing an application that includes accessing a peripheral device, such as a USB peripheral device, would be to use a pre-installed generic driver, such as that disclosed by Deforche. Ex-1030, ¶¶10, 37.

A. The POSA Would Have Had a Reasonable Expectation of Modifying Kaplan with Ahmed and Deforche.

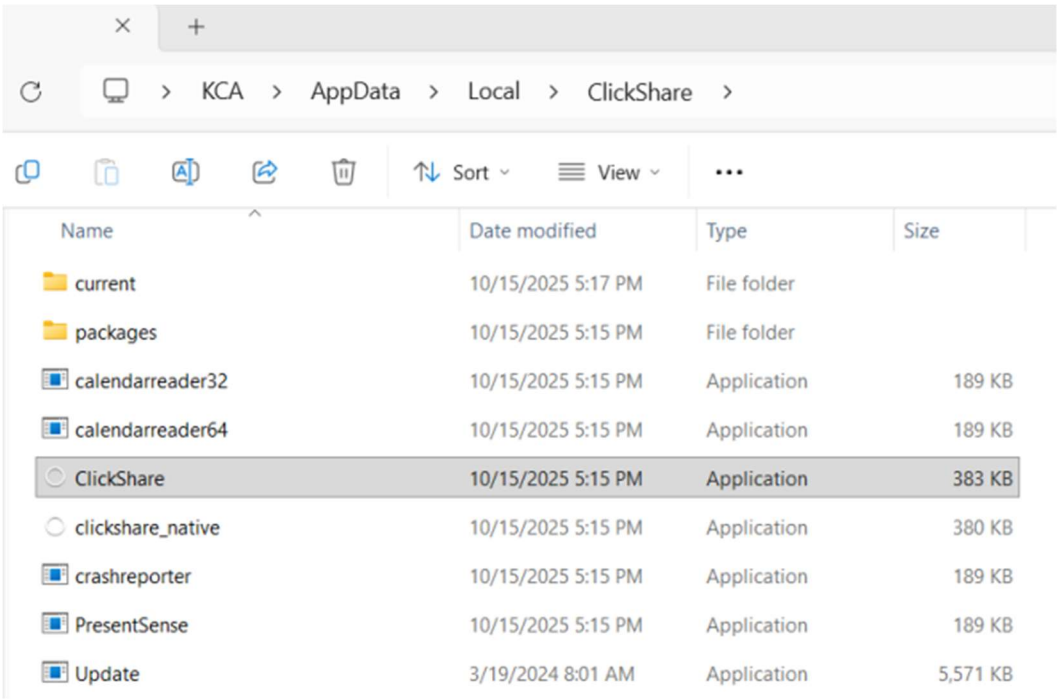
7. It is my opinion that Kaplan's use of the word "install" is non-limiting to the disclosure and is not a requirement to implement Kaplan's system. Kaplan does not include a requirement to permanently alter a computer system. It would have been obvious to implement Kaplan's system as either installing a driver that remained on the system, as Barco's system does. Ex-1070, 20:11-24:23 (Dr. Brogioli testifying that Barco's software is zero-footprint despite driver installation). Dr. Brogioli testified that such a system still has a "zero-footprint" despite having a driver installed permanently on a user's computer. Or, Kaplan could have followed a zero-footprint approach, as disclosed by Deforche, which uses a portable application, such as Kaplan's application which would obviously be implemented as a zero-footprint application due to the teaching, suggestion, or motivation disclosed by Deforche. Ex-1030, ¶¶16, 28 ("This means that the need can be avoided to install drivers and/or applications on PC's to give USB modem connectivity.") 29-43, 50-51, and FIG. 4a.

8. I confirmed that Barco installs several files permanently after I connected a ClickShare dongle to my PC; below is a screenshot of the files I identified:



9. The Barco ClickShare dongle also attempted to create a launch-on-boot application and installed special-purpose software in my ../AppData/Local/ directory:





10. Dr. Brogioli's report for the '237 patent included one of these driver files. EX-1068, ¶125 (including BarcoClickShareDrv.cab). I also determined that the Barco website discusses permanently installing files. *See* Ex-1079 ("Barco Driver Version Installed"); Ex-1080 ("Why is ClickShare Windows Driver required and how can I install/update it on my PC? … Once a ClickShare Button is plugged into the PC, the Microsoft Driver Update mechanism will attempt to automatically

download and install / update the ClickShare Windows Driver"). Therefore, it is my opinion that whether to use a zero-footprint implementation is a matter of obvious design choice that can be changed due to design considerations, for similar reasons that Barco's commercial implementation chose ultimately to also install special purpose software like some other prior art references. Ex-1069, 1 ("ClickShare driver is needed.")

11. It is my opinion that the POSA would have understood, based on the teachings of at least Ahmed and Deforche, that composite device drivers, such as HID and MSD drivers, could be used to send audio or video data, because Ahmed teaches using different drivers for audio and video (EX-1014, 17:13-16, 18:26-19:21), and Deforche teaches using two different pre-installed generic drivers (Ex-1030, ¶36). Ahmed further states a preference for this implementation. Ex-1014, 18:26-19:21, *see also* 27:1-27. Therefore, it would have been an obvious to include the implementation details from Ahmed and Deforche's disclosures into Kaplan as one of a limited number of obvious ways to implement Kaplan's system.

B. There Is No Dispute that Deforche Teaches, "*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*"

12. First, I understand that Dr. Brogioli admitted that Deforche teaches this limitation. Ex-1072, 72:13-73:13; *see also* Ex-1030, abstract ("setting up, by means

of a pre-installed generic driver of the operating system on the computer device, a modem/host communication interface"). I agree with Dr. Brogioli on this point.

13. Second, it is my opinion the person of ordinary skill in the art would have recognized that each of Kaplan, Ahmed, and Deforche include drivers to drive their respective peripheral devices Ex-1027, ¶¶46-48 (Kaplan disclosing using Windows, which has mass-storage drivers), EX-1014, 14:10-13; 17:3-16, 18:26-19:21 (Ahmed disclosing a separate "normal audio driver" and a "mirror display driver" or "normal display driver"); EX-1030, ¶10 (Deforche disclosing "a human interface device (HID) [or] a mass storage device (MSD) driver."). They each include differing levels of disclosure concerning drivers, and perhaps do not use the word "driver," just they might not explicitly mention other standard PC components, such as memory, a processor, a motherboard, or permanent storage, such as a hard disk drive. However, the POSA would have understood that the disclosed PCs necessarily or at least obviously included each of these components and drivers to make them work. Therefore, I relied on the various disclosures of the three references to provide explicit disclosure for what the POSA would have understood would have been obvious implementation details known in the art, such that a simple substation of the various known methods would achieve the predictable result of communicating between a processing device and a peripheral device.

1. Ahmed and Deforche Demonstrate a Reasonable Expectation of Success in Using First and Second "*Pre-Installed Generic Drivers*" for Audio and Video Signals.

14. It is my opinion that the POSA would have understood, based on the teachings of at least Ahmed and Deforche, that composite device drivers, such as HID and MSD drivers, could be used to send audio or video data, because Ahmed teaches using different drivers for audio and video (EX-1014, 17:13-16, 18:26-19:21), and Deforche teaches using two different pre-installed generic drivers (Ex-1030, ¶36). Ahmed further states a preference for this implementation. Ex-1014, 18:26-19:21, *see also* 27:1-27. Therefore, it would have been obvious to include the implementation details from Ahmed and Deforche's disclosures into Maeda as one of a limited number of obvious ways to implement Maeda's system.

2. The Combination of References Renders Obvious Drivers to Communicate Data

15. I understand that that Ahmed's "miniport driver" is a known, standard component that handles communication with displays, such as the mirrored or virtual display. *See*, *e.g.*, Ex-1081.

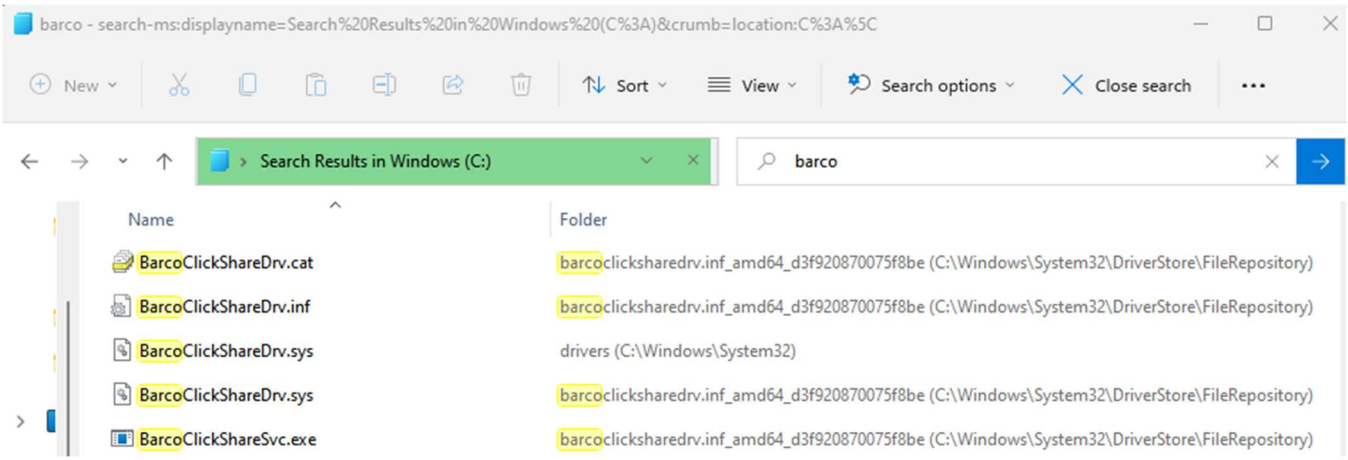
IV. GROUND II – IT WOULD HAVE BEEN OBVIOUS TO COMBINE MAEDA WITH DEFORCHE AND AHMED.

A. The POSA Would Have Had a Reasonable Expectation of Modifying Meada with Ahmed and Deforche.

16. It is my opinion that Ahmed's use of the word "install" is non-limiting to the disclosure and is not a requirement to implement Ahmed's system. Further,

Maeda's use of special purpose software is unimportant because the '002 patent obviously also uses special purpose software. Ex-1001, 6:23-25 ("[T]he present invention use software stored on the peripheral device which allows screen scraping when run on the processing device."). Moreover, Dr. Brogioli testified that Barco's system installs special purpose software, but it is still zero-footprint. Ex-1070, 20:11-24:23 (testifying that Barco's software is zero-footprint despite driver installation). Dr. Brogioli testified that such a system still has a "zero-footprint" despite having a driver installed permanently on a user's computer. Or, Maeda could have followed a zero-footprint approach, as disclosed by Deforche, which uses a portable application, such as Maeda's application which would obviously be implemented as a zero-footprint application due to the teaching, suggestion, or motivation disclosed by Deforche. Ex-1030, ¶¶16, 28 ("This means that the need can be avoided to install drivers and/or applications on PC's to give USB modem connectivity.") 29-43, 50-51, and FIG. 4a.

17. I confirmed that Barco installs several files permanently after I connected a ClickShare dongle to my PC; below is a screenshot of the files I identified:



18. Dr. Brogioli's report for the '237 patent included one of these driver files. EX-1068, ¶125 (including BarcoClickShareDrv.cab). I also determined that the Barco website discusses permanently installing files. *See* Ex-1079 ("Barco Driver Version Installed"); Ex-1080 ("Why is ClickShare Windows Driver required and how can I install/update it on my PC?").

B. There Is No Dispute that Deforche Teaches, "*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*"

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20. Second, it is my opinion the person of ordinary skill in the art would have recognized that each of Maeda, Ahmed, and Deforche include drivers to drive their respective peripheral devices Ex-1027, ¶¶46-48 (Maeda disclosing using

standard PC which obviously includes an operating system and drivers); EX-1014, 14:10-13; 17:3-16, 18:26-19:21 (Ahmed disclosing a separate "normal audio driver" and a "mirror display driver" or "normal display driver"); EX-1030, ¶10 (Deforche disclosing "a human interface device (HID) [or] a mass storage device (MSD) driver."). They each include differing levels of disclosure concerning drivers, and perhaps do not use the word "driver," just they might not explicitly mention other standard PC components, such as memory, a processor, a motherboard, or permanent storage, such as a hard disk drive. However, the POSA would have understood that the disclosed PCs necessarily or at least obviously included each of these components and drivers to make them work. Therefore, I relied on the various disclosures of the three references to provide explicit disclosure for what the POSA would have understood would have been obvious implementation details known in the art, such that a simple substation of the various known methods would achieve the predictable result of communicating between a processing device and a peripheral device.

21. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

By: Kevin C. Almeroth
Kevin C. Almeroth, Ph.D.

Dated: October 15, 2025