Trials@uspto.gov
–571-272-7822

Paper 20
Entered: December 11, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CANON INC., CANON U.S.A., INC.,
CANON FINANCIAL SERVICES, INC., FUJIFILM CORPORATION,
FUJIFILM HOLDINGS AMERICA CORPORATION,
FUJIFILM NORTH AMERICA CORPORATION, JVC KENWOOD
CORPORATION, JVCKENWOOD USA CORPORATION,
NIKON CORPORATION, NIKON INC., OLYMPUS CORPORATION,
OLYMPUS AMERICA INC., PANASONIC CORPORATION,
PANASONIC CORPORATION OF NORTH AMERICA,
SAMSUNG ELECTRONICS CO., LTD., and
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioner,

v.

PAPST LICENSING GMBH & CO., KG,
Patent Owner.

Case IPR2016-01200
Patent 8,504,746 B2

Before JONI Y. CHANG, JENNIFER S. BISK, and MIRIAM L. QUINN, *Administrative Patent Judges.*

QUINN, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 134, Fujifilm Corporation and a multitude of other entities, listed in the caption ("Petitioner"), challenge the patentability of certain claims of U.S. Patent No. 8,504,746 B2 (Ex. 1001, "the '746 patent"), owned by Papst Licensing GMBH & Co. KG ("Patent Owner"). We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that claims 1, 6, 15, 17, 18, 31, and 34 of the '746 patent are unpatentable.

A. PROCEDURAL HISTORY

The Petitioner-captioned entities filed a Petition to institute *inter partes* review of claims 1, 6, 15, 17, 18, 31, and 34 of the '746 patent. Paper 1 ("Pet."). Patent Owner filed a Preliminary Response. Paper 7 ("Prelim. Resp."). On December 16, 2016, we instituted *inter partes* review as to challenged claims 1, 6, 15, 17, 18, 31, and 34. Paper 8 ("Institution Decision" or "Dec").

After institution, Patent Owner filed a Patent Owner Response. Paper 12 ("PO Resp."). And Petitioner filed a Reply. Paper 14 ("Reply"). We heard oral arguments on September 14, 2017. A transcript of the hearing has been entered into the record. Paper 17 ("Tr.").

B. RELATED MATTERS

Petitioner identifies the patent-at-issue as the subject matter of many district court cases filed in the Northern District of California, Eastern

District of Texas, District of D.C. and District of Delaware. Pet 6–9; PO Notice, Paper 5, 1–3.

The '746 patent also has been the subject of multiple petitions for *inter partes* review filed by various Petitioners. Pet. at 9; Paper 5 at 1.

A final written decision in each of the following proceedings is entered concurrently with this decision: IPR2016-01211 and IPR2016-01213.

C. REAL PARTIES-IN-INTEREST

Petitioner asserts that the following parties are real parties-in-interest: Canon Inc.; Canon U.S.A., Inc.; Canon Financial Services, Inc.; Fujifilm Corporation; Fujifilm Holdings America Corporation; Fujifilm North America Corporation; JVC Kenwood Corporation; JVC Kenwood USA Corporation; Nikon Corporation, Nikon Inc.; Olympus Corporation; Olympus America Inc.; Panasonic Corporation; Panasonic Corporation of North America; Samsung Electronics Co., Ltd; and Samsung Electronics America, Inc. Pet. 5–6.

D. THE '746 PATENT (EX. 1003)

The '746 patent is titled, "Analog Data Generating and Processing Device for use With a Personal Computer." It relates generally to the transfer of data, and, in particular, to interface devices for communication between a computer or host device and a data transmit/receive device from which data is to be acquired or with which two-way communications is to take place. Ex. 1003, 1:20–24. Figure 1, reproduced below, illustrates a general block diagram of an interface device 10. *Id.* at 4:59–60.

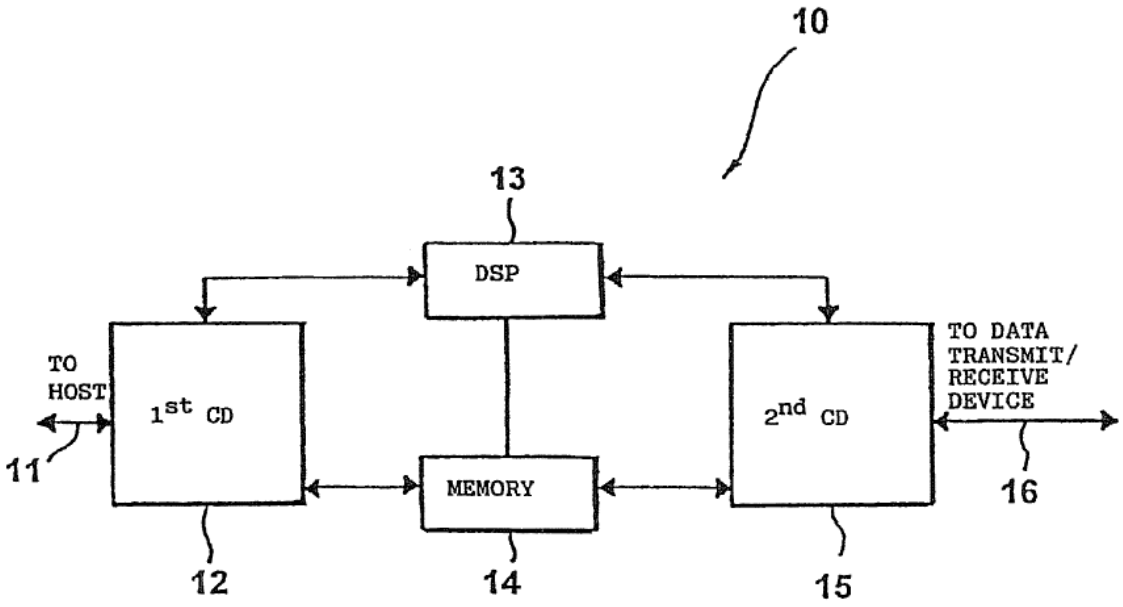

FIG.1

According to Figure 1, first connecting device 12 is attached to a host device (not shown), digital signal processor (DSP) 13, and memory means 14. *Id.* at 4:60–65. DSP 13 and memory means 14 are also connected to second connecting device 15. *Id.* at 4:64–67. The interface device "simulates a hard disk with a root directory whose entries are 'virtual' files which can be created for the most varied functions." *Id.* at 5:11–14. "Regardless of which data transmit/receive device at the output line 16 is attached to the second connecting device, the digital signal processor 13 informs the host device that it is communicating with a hard disk drive." *Id.* at 5:31–34. In one embodiment, the interface device is automatically detected when the host system is "booted," resulting in the user "no longer

[being] responsible for installing the interface device 10 on the host device by means of specific drivers which must also be loaded." *Id.* at 7:13–20.

E. REPRESENTATIVE CLAIM

There are three independent claims in the set of challenged claims (1, 31, 34). Claim 1 is reproduced below, and is illustrative of the subject matter claimed.

> 1. An analog data acquisition device operatively connect able to a computer through a multipurpose interface of the computer, the computer having an operating system programmed so that, when the computer receives a signal from the device through said multipurpose interface of the computer indicative of a class of devices, the computer automatically activates a device driver corresponding to the class of devices for allowing the transfer of data between the device and the operating system of the computer, the analog data acquisition device comprising:
>
> a) a program memory;
>
> b) an analog signal acquisition channel for receiving a signal from an analog source;
>
> c) a processor operatively interfaced with the multipurpose interface of the computer, the program memory, and a data storage memory when the analog data acquisition device is operational;
>
> d) wherein the processor is configured and programmed to implement a data generation process by which analog data is acquired from the analog signal acquisition channel, the analog data is processed and digitized, and the processed and digitized analog data is stored in a file system of the data storage memory as at least one file of digitized analog data;
>
> e) wherein when the analog acquisition device is operatively interfaced with the multipurpose interface of the computer, the processor executes at least one instruction set stored in the program memory and thereby automatically causes at least one parameter indicative of the class of

> devices to be sent to the computer through the multipurpose interface of the computer, independent of the analog source, wherein the analog data acquisition device is not within the class of devices; and
>
> f) wherein the processor is further configured and programmed to execute at least one other instruction set stored in the program memory to thereby allow the at least one file of digitized analog data acquired from the analog signal acquisition channel to be transferred to the computer using the device driver corresponding to said class of devices so that the analog data acquisition device appears to the computer as if it were a device of the class of devices;
>
> whereby there is no requirement for any user-loaded file transfer enabling software to be loaded on or installed in the computer in addition to the operating system.

F. INSTITUTED GROUNDS OF UNPATENTABILITY

We instituted *inter partes* review of claims 1, 6, 15, 17, 18, 31, and 34 (Dec. 26):

Reference(s)	Basis	Claim
Aytac,[1] SCSI Specification,[2] and Admitted Prior Art[3]	§ 103	1, 6, 15, 17, 18, 31, 34

In addition to the supporting argument for these grounds in the

[1] U.S. Patent No. 5,758,081 ("Aytac") (Ex. 1006).
[2] American National Standard for Information Systems, Small Computer System Interface-2, ANSI X3.131-1994 (1994) ("SCSI Specification") (Ex. 1005).
[3] Although the Admitted Prior Art is relied upon in the Petitioner's analysis, the Admitted Prior Art are omitted inadvertently from the statement of the asserted ground. Pet. 16. In our Decision on Institution we treated the statement of the asserted ground as mere harmless error and presumed that Petitioner intended to assert that the challenged claims are unpatentable based, in part, on the Admitted Prior Art. Arguments by Patent Owner to the contrary are addressed further below.

Petition, Petitioner also presents expert testimony. Ex. 1001, Declaration of Paul F. Reynolds, Ph.D. ("Reynolds Declaration"). Patent Owner supports its arguments of patentability with expert testimony. Ex. 2006, Declaration of Thomas A. Gafford ("Gafford Declaration").

II. ANALYSIS

A. CLAIM INTERPRETATION

The Board interprets claims in an unexpired patent using the "broadest reasonable construction in light of the specification of the patent in which [they] appear[]." 37 C.F.R. § 42.100(b). Under this standard, we presume that claim terms have their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) ("The ordinary and customary meaning 'is the meaning that the term would have to a person of ordinary skill in the art in question.'") (Citation omitted). Claims of an *expired* patent are given their ordinary and customary meaning similar to the construction standard applied by the U.S. district courts. *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc); *In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012); *see also Black & Decker, Inc. v. Positec USA, Inc.*, 646 F. App'x. 1019, 1024 (non-precedential) (applying the U.S. district court standard to construe the claims of an expired patent in an *inter partes* review). "In many cases, the claim construction will be the same under [both] standards." *In re CSB-System Int'l, Inc.*, 832 F.3d 1335, 1341 (Fed. Cir. 2016).

Here, in the Decision on Institution, we applied the broadest reasonable interpretation standard to construe several claim terms. We note, however, that the '746 patent claims under 35 U.S.C. § 120 the benefit of the

filing date of U.S. Patent No. 6,470,399 ("the '399 patent"), through a chain of continuing applications. Ex. 1003, [63]. After institution of trial in the present case, Patent Owner, in related cases involving the '399 patent, indicated that the '399 patent will expire on March 3, 2018 (20 years from the '399 patent's March 3, 1998 filing date). *See, e.g.*, Case IPR2016-01839, Ex. 1001, [22], Paper 14; Case IPR2017-00443, Paper 6, 7 n.1. In the Institution Decisions in those related cases involving the '399 patent, we did not apply the broadest reasonable interpretation standard, and adopted the claim constructions set forth by the district court and affirmed by the Federal Circuit in *In re Papst Licensing GmbH & Co. KG Litig. v. Fujifilm Corp.*, 778 F.3d 1255 (Fed. Cir. 2015) (Ex. 1011).[4] *See, e.g.*, Case IPR2017-00443, Papers 7−8. In the instant proceeding, neither party provides, nor can we discern, any reason the broadest reasonable interpretation standard would lead to a different result than the district court claim construction standard.

In our Decision on Institution, we provided preliminary constructions for the following terms:

1) "without requiring" limitations:

   i. "whereby there is no requirement for any user-loaded file transfer enabling software to be loaded on or installed"

   ii. "without requiring any end user to load software"

   iii. "without requiring any user-loaded file transfer enabling software to be loaded on or installed"; and

2) "end user" (Dec. 6−11).

[4] The '746 patent and the '399 patent share the same Specification and some of the claim terms are used in both patents (e.g., interface device). Our interpretations herein are consistent with the Federal Circuit's decision.

Patent Owner does not present an argument as to whether the Board's construction for either of these terms is erroneous. PO Resp. 14–15. However, with regard to the "without requiring" limitations, Patent Owner proffers its own understanding of the Board's claim construction. *Id.* at 15. In light of the parties' arguments regarding the applicability of the prior art, we address both terms below.

"*whereby there is no requirement for any user-loaded file transfer enabling software to be loaded on or installed*"

"*without requiring any end user to load software*"

"*without requiring any user-loaded file transfer enabling software to be loaded on or installed*"

Each independent claim recites negative limitations in apparatus (claims 1 and 31) and method claims (claim 34). For instance, claim 1 requires the automatic file transfer process to occur "whereby there is no requirement for any user-loaded file transfer enabling software to be loaded on or installed in the computer in addition to the operating system." Ex. 1003, 12:24–27. Claims 31 and 34 require the automatic file transfer process to occur "without requiring any user-loaded file transfer enabling software to be loaded on or installed in the computer [or host device]." Ex. 1003, 14:42–44, 16:15–17. Dependent claim 17 further recites that the automatic file system transfer occurs "(a) without requiring any end user to load any software onto the computer at any time, and (b) without requiring any end user to interact with the computer to set up a file system in the analog data acquisition device at any time." Ex. 1003, 13:14–21.

For these claim limitations, the parties agree to adopt the construction proposed by Patent Owner in the related District Court proceeding—

"without requiring the end user to install or load specific drivers or software for the [ADGPD][5] *beyond that included in the operating system or BIOS*." Prelim. Resp. 22; Pet. 20–21 (citing Ex. 1009) (emphasis added). However, the parties' proposed claim construction may improperly exclude *SCSI drivers and drivers for multi-purpose interfaces* that do not necessarily reside in the operating system or BIOS.

The Specification discloses that a SCSI interface is a multi-purpose interface, and that a multi-purpose interface comprises "both an interface card and *specific driver software for the interface card*." Ex. 1003, 3:49–55 (emphasis added). Significantly, the Specification indicates that, at the time of the invention, multi-purpose interfaces can be, *but are not necessarily*, integrated into the BIOS system. *Id*. at 3:61–67. The Specification also makes clear that

> communication between the host device and the multi-purpose interface can take place *not only* via drivers for input/output device customary in a host device which reside in the BIOS system of the host device *but also via specific interface drivers* which, in the case of SCSI interfaces, are known as *multi-purpose interface ASPI (advanced SCSI programming interface) drivers*.

Id. at 10:14–20 (emphases added). Interpreting the negative limitations to exclude the drivers for a multi-purpose interface would be unreasonable when the very same claim, claim 1, also requires a multi-purpose interface. *Id.* at 11:61–64. Claim 15, which depends from claim 1, also requires a

[5] In addition to the acronym, the construction refers to the analog data acquisition device of claim 1, and analog data acquisition and interface device of claim 31.

SCSI INQUIRY command. *Id*. at 13:6–9. Therefore, the parties' proposed construction would be inconsistent with the Specification and those claims.

Furthermore, Patent Owner argues that the "without requiring" limitations "specify that a user is not required to install or load software onto the host computer, and therefore a manufacturer-installed driver for a multi-purpose interface would be consistent with these limitations." PO Resp. 15. Patent Owner also argues that "a driver for a multi-purpose interface or SCSI interface that must be installed by a user would be inconsistent with these limitations." *Id.* At the heart of this dispute is whether the "without requiring" limitations prohibit a user from installing or loading a driver. We are guided by the Federal Circuit's analysis in *Celsis In Vitro v. CellzDirect, Inc.*, 664 F.3d 922, 926–927 (Fed. Cir. 2012), concerning a claim reciting "without requiring," which is similar to the language the parties dispute.[6] In that decision, our reviewing court stated: "'without requiring' means simply that the claim does not require the [recited] step." The Court also stated that such a limitation was not susceptible to a construction where it means "prohibiting" the recited step. *Celsis*, 664 F.3d at 926. Here too, the claim language is not as restrictive as Patent Owner argues. The claim language, under a plain reading, means that the end user is "not required" to load or install the recited software. The claim language, however, does not prohibit the end user from ever installing or loading the recited software. The key word in the claim language is "requiring"—if the software is not required, then it does not matter whether the end user loaded or installed the software.

[6] We recognize that claim 1 recites "whereby there is no requirement" in contrast with other claims that recite "without requiring." Our analysis is applicable to claim 1 nonetheless, as the dispute for that claim also centers on our construction of the phrase to mean "without requiring."

In our Decision on Institution, we construed the claim phrases—"whereby there is no requirement for any user-loaded file transfer enabling software to be loaded on or installed," "without requiring any end user to load software onto the computer [at any time]" and "without requiring any user-loaded file transfer enabling software to be loaded on or installed in the computer [at any time]"—as "without requiring the end user to install or load specific drivers or software for the ADGPD beyond that included in the operating system, BIOS, *or drivers for a multi-purpose interface or SCSI interface*," adding "drivers for a multi-purpose interface or SCSI interface" to the parties' proposed claim construction. In consideration of Patent Owner's argument after Institution, we see no need to alter our construction of these claim terms, with the caveat, as stated above, that our interpretation of the "without requiring" phrase does not *prohibit* software to be loaded or installed by a user or end user.

"end user"

Claim 17, which depends from claim 1, recites "without requiring any *end user* to load any software onto the computer at any time," and "without requiring any *end user* to interact with the computer to set up a file system in the analog data acquisition device at any time." *See, e.g.*, Ex. 1003, 13:17–20 (emphases added). In the Preliminary Response, Patent owner alleges that the claim term "end user" should not be limited to "actual end user," but instead should include a "system administrator" who sets up a computer for another or "a technically competent individual who understood how to install device drivers." Prelim. Resp. 23–25.

As Patent Owner implies, one of ordinary skill in the art would have recognized that the claim term "end user" has a different meaning than the

term "system administrator." *Id*.; *see also* MICROSOFT COMPUTER DICTIONARY at 176 (3rd ed. 1997) (Ex. 3001, 3) (defining "end user" as "[t]he ultimate user of a computer or computer application in its finished, marketable form"); BARRON'S DICTIONARY OF COMPUTER AND INTERNET TERMS at 158 (6th ed. 1998) (defining "end user" as "the person ultimately intended to use a product, as opposed to people involved in developing or marketing it"), 453 (defining "system administrator" as "a person who manages a multiuser computer") (Ex. 3002, 3). Patent Owner has not identified where the Specification redefines the claim term "end user" to include system administrators. Rather, Patent Owner alleges that the prosecution history supports its proposed claim construction, citing to the August 13, 2009 Amendment (Ex. 2005). Prelim. Resp. 23–25. We do not agree.

There is a "heavy presumption" that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (citation omitted). To overcome this presumption, the patentee must "clearly set forth" and "clearly redefine" a claim term away from its ordinary meaning. *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001). The disavowal must be "unmistakable" and "unambiguous." *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1322 (Fed. Cir. 2012). Here, the portion of the prosecution history cited by Patent Owner does not even mention the term "system administrator," much less unmistakably and unambiguously redefine the claim term "end user" to include a "system administrator." Ex. 2005 at 24, 26, 29; Prelim. Resp. 23–24.

Moreover, Patent Owner's proposed construction would essentially redefine the claim term "end user" as "user," rendering the word "end" insignificant, if not wholly superfluous. We are mindful that "claims are interpreted with an eye toward giving effect to all terms in the claim." *Stumbo v. Eastman Outdoors, Inc.*, 508 F.3d 1358, 1362 (Fed. Cir. 2007) (denouncing claim constructions which render terms or phrases in claims superfluous).

Further, Patent Owner's proposed claim construction again broadly includes *anyone* that intended to use a computer. For example, Dr. Reynolds testifies, "[a] technically competent individual who understood how to install device drivers in my opinion was *not necessarily an end user*." Ex. 2007, 85:15−23, 86:16−17 (emphasis added). We agree with Dr. Reynolds that a system administrator can be, *but is not necessarily*, an end user. *Id.* at 87:12−18. Therefore, the plain meaning of "end user" is a type of user, but it does not encompasses *all users*.

In our Decision on Institution, for the reasons noted above, we declined to adopt Patent Owner's proposed claim construction. Giving the claim term "end user" its ordinary and customary meaning, we determine that "end user" is "[t]he ultimate user of a computer or computer application in its finished, marketable form." Ex. 3001. After institution, neither party challenged our preliminary claim construction analysis and conclusion as stated above. Therefore, our construction of "end user" as stated above is adopted without modification.

B. Analysis of Asserted Ground

Petitioner asserts a single ground based on obviousness. A patent claim is unpatentable as obvious under 35 U.S.C. § 103(a) if the differences

between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 406 (2007).

The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness.[7] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

1. Level of Ordinary Skill in the Art

First, we evaluate the level of ordinary skill in the art for purposes of this decision. In our Institution Decision we stated,

> Dr. Reynolds testifies that a person having ordinary skill in the art at the time of the invention "would have had at least a four-year degree from a reputable university in electrical engineering, computer science, or related field of study, or equivalent experience, and at least two [years of] experience in studying or developing computer interfaces or peripherals." Ex. 1001 ¶ 39. Dr. Reynolds further testifies that such an artisan also would "be familiar with operating systems (e.g., MS-DOS, Windows, Unix) and their associated file systems (e.g., a FAT file system), device drivers for computer components and peripherals (e.g., mass storage device drivers), and communication interfaces (e.g., SCSI and PCMCIA interfaces)." *Id*. Patent Owner confirms that Petitioner's statements regarding the level of ordinary skill in the art are mostly consistent with Patent Owner's view, but nonetheless contends that an ordinarily skilled artisan would have one more year of experience, or, alternatively, five or more

[7] Neither party proffers any objective evidence of nonobviousness in this proceeding.

> years of experience without a bachelor's degree. Prelim. Resp. 21–22. Notwithstanding the apparent differing opinions, at this juncture, the variance between the proffered levels of ordinary skill in the art does not have meaningful impact in our determination of whether to institute *inter partes* review. Our analysis in this Decision is supported by either level of skill.

Dec. 11–12. Patent Owner in its Response reiterates the same level of ordinary skill that it proffered in the Preliminary Response. PO Resp. 13–14. Patent Owner presents no argument as to why Petitioner's proposal is erroneous or why Patent Owner's proposal is more appropriate for this proceeding. More importantly, no argument presented hinges on whether either party's proposed level of ordinary skill in the art is adopted.

We find Mr. Reynolds' testimony persuasive as it is presents more than just the educational level of a person of ordinary skill in the art. Petitioner's proposal is more helpful as it identifies the familiar objects of the technology used by a person of ordinary skill at the time of the invention: operating systems (e.g., MS-DOS, Windows, Unix) and their associated file systems (e.g., a FAT file system), device drivers for computer components and peripherals (e.g., mass storage device drivers), and communication interfaces (e.g., SCSI and PCMCIA interfaces).. Ex. 1001 § 39. We therefore determine that Petitioner's level of ordinary skill in the art is appropriate.

2. Overview of Aytac (Ex. 1004)

Aytac discloses an interface device (CaTbox) that is connected to a host PC and a plurality of peripheral devices. Ex. 1004, Abs. Figure 1 of Aytac is reproduced below.

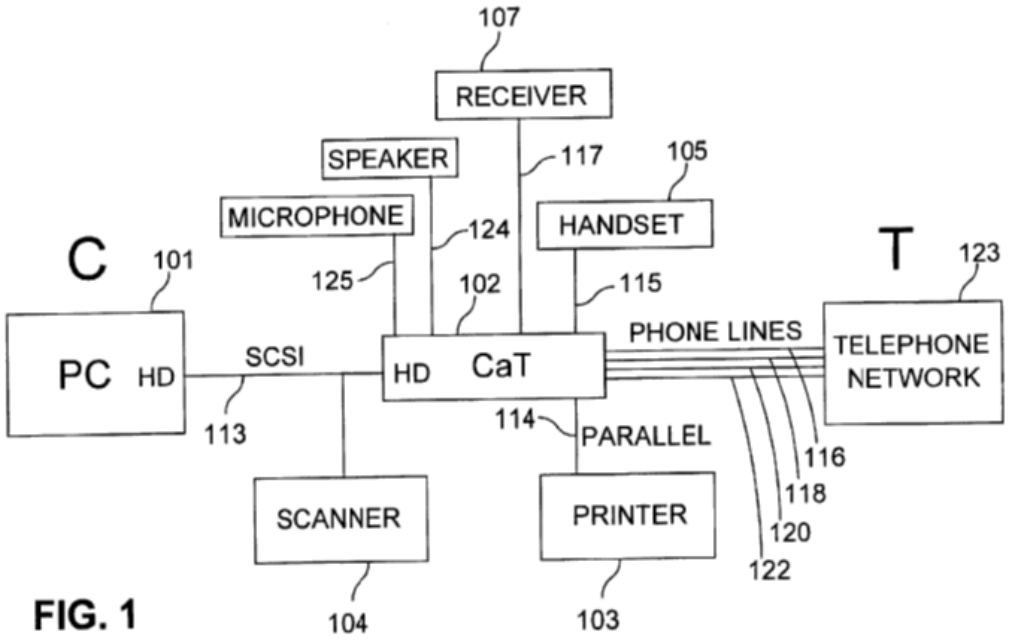

FIG. 1

As illustrated in Figure 1 of Aytac, CaTbox 102 connects to host PC 101 via SCSI bus 113 and telephone network 123 via phone lines 116, 118, 120, and 122. *Id*. at 8:63–9:4. CaTbox 102 is an interface device between host PC 101 and peripheral devices, including printer 103, scanner 104, telephone handset 105, receiver 107, speaker 124, and microphone 125. *Id*. According to Aytac, CaTbox runs an operating system, CaTOS, and contains a hard disk accessible to the PC, as a SCSI disk called CaTdisc. *Id*. at Abs. CaTbox receives faxes, voice mails, emails, and stores them on CaTdisc. *Id*.

1. Overview of the SCSI Specification

The SCSI Specification is a technical specification published by the American National Standard for Information Systems to set forth the SCSI standards. According to the SCSI Specification, the SCSI protocol "is designed to provide an efficient peer-to-peer I/O bus with up to 16 devices,

including one or more hosts." Ex. 1005, Abs.[8] The primary objective of the SCSI interface is "to provide host computers with device independence within a class of devices." *Id*. at 6. The SCSI-2 "standard defines an input/output bus for interconnecting computers and peripheral devices." *Id*. at 1. "It includes the necessary specification of the mechanical, electrical, and functional characteristics of the interface to allow interoperability of conforming devices." *Id*. "SCSI-2 includes command sets for magnetic and optical disks, tapes, printers, processors, CD-ROMs, scanners, medium changers, and communications devices." *Id*. at Abs. "The command set definitions allow a sophisticated operating system to obtain all required initialization information from the attached SCSI-2 devices." *Id*. at 6

2. Overview of the Admitted Prior Art

According to the '746 patent, drivers for hard disks were known to be customary drivers "in practically all host devices." Ex. 1003, 3:36–44, 4:17–21. The '746 patent indicates that SCSI interfaces and SCSI drivers were known in the art at the time of the invention. *Id*. at 8:39–41, 10:20–24. According to the patent, SCSI interfaces were present on most host devices or laptops, and SCSI drivers were "normally included by the manufacturer of the multi-purpose interface." *Id*. at 8:39–41, 10:23–24. Moreover, certain standard access commands, including the SCSI INQUIRY command, were "supported by all known operating systems (e.g., DOS[®], Windows[®], Unix[®])." *Id*. at 5:8–11, 5:18–21. The '746 patent further discloses that it was known to those skilled in the art that a virtual boot

[8] Citations to the SCSI Specification refer to the original page numbers.

sequence includes "the drive type, the starting position and the length of the file allocation table (FAT), the number of sectors." *Id*. at 5:40–44.

Patent Owner argues in its Response that some of the statements Petitioner relies on are not admissions of prior art. PO Resp. 12. Patent Owner, without any explanation, refers to the portion of the Specification that describes sending a virtual boot sequence, at column 5, lines 37–47. *Id.* That portion of the Specification describes "sending to the host device a virtual boot sequence which, in the case of actual hard drives, includes the drive type, the starting position and the length of the file allocation table (FAT), the number of sectors, etc., *known to those skilled in the art.*" Ex. 1003, 5: 38–44 (emphasis added). This statement unequivocally conveys that applicant deemed known that the virtual boot sequence of a hard drive, when sent, includes various pieces of information such as the drive type, the starting position and the length of the FAT, and the number of sectors. At a minimum, we infer that the applicant admits a person of skill in the art would have known this information at the time of the invention. Such statement is therefore an admission by applicant that the knowledge was in the prior art.

3. Aytac's Source Code

Petitioner asserts that Aytac's source code (Ex. 1006, 77–527) was filed on paper, as part of the original disclosure of the application that issued as Aytac's patent. Pet. 17–18. Petitioner acknowledges that the Office did not print the source code as part of Aytac's patent, but nevertheless alleges that Aytac's source code qualifies as prior art under § 102(e). *Id*.

In response, Patent Owner contends that Aytac's source code is not prior art under § 102(e) as to the challenged claims because it was not

published with Aytac's patent and Aytac's patent does not contain a reference to the source code. PO Resp. 8–11; Prelim. Resp. 36–39.

Upon review of the evidence before us, we agree with Patent Owner's contention. Petitioner concedes that the Aytac's patent was not printed with the source code, and proffers no evidence to indicate otherwise. Pet. 17–18. Petitioner does not identify any reference in Aytac's patent itself to the source code. *Id*. Nor does Petitioner proffer any evidence to show that a certificate of correction has ever been issued to have the source code properly added to Aytac's patent. *Id*. Finally, Petitioner's disagreement with the Board's decision on this issue is conclusory and provides no reason sufficient for us to reconsider our decision. Reply 10 n.4.

Based on this record, we are persuaded that Aytac's source code is not considered part of the patent disclosure. *See Sw. Software, Inc. v. Harlequin, Inc.*, 226 F.3d 1280, 1291 (Fed. Cir. 2000) (the source code that was filed with the application could not be considered as part of the patent disclosure because the patent was not printed with the source code and the certificate of correction adding the source code to the patent did not issue prior to the filing of the of the lawsuit). Therefore, we determine that Petitioner has not established sufficiently that Aytac's source code is prior art under § 102(e) as to the challenged claims.

We also agree with Patent Owner that Aytac's source code is not prior art under § 102(a) or (b) as to the claims at issue. As Patent Owner explains (Prelim. Resp. 37–39; PO Resp. 10–11), even if the source code were a printed publication as of *May 26, 1998*, the issued date of Aytac's patent, when the file record of Aytac's patent became publicly available, Aytac's source code still would not be prior art under § 102(a) or (b) as to the '746

patent, which appears to have an effective filing date of *March 3, 1998*. PO Resp. at 11. On its face, the '746 patent claims under 35 U.S.C. §§ 120 and 365(c), through a series of continuation and division applications, the benefit of the filing date (March 3, 1998) of International Application No. PCT/EP98/01187 that entered the national stage (U.S. Patent Application No. 09/331, 002) after compliance with 35 U.S.C. 371. Ex. 1003, at [63], [30]; Ex. 3003, at [21], [22], [86]. On this record, we determine that Petitioner has not established sufficiently that Aytac's source code is available as prior art under § 102(a) or (b) as to the challenged claims.

We further observe that, although Aytac's source code does not qualify as prior art, Aytac's source code may be relied upon to show the level of ordinary skill in the art at or around the time the invention was made. *Thomas and Betts Corp. v. Litton Sys., Inc.*, 720 F.2d 1572, 1581 (Fed. Cir. 1983) ("[references] though not technically prior art, were, in effect, properly used as indicators of the level of the ordinary skill in the art to which the invention pertained"). As discussed above, Aytac's source code was publicly available as of May 26, 1998 (less than three months after the effective filing date of the challenged claims), when Aytac's patent was issued and the file record of Aytac's patent that include the source code was available to the public. *See In re Wyer*, 655 F.2d 221, 226–27 (CCPA 1981) (concluding that when the specification is not issued in printed form but is announced in an official journal and anyone can inspect or obtain copies, it is sufficiently accessible to the public to constitute a "printed publication"). Moreover, Aytac's source code is an implementation of the invention that is described in the specification of Aytac's patent. *See generally* Ex. 1004.

Therefore, Aytac's source code may be relied upon to show the level of ordinary skill in the art at or around the time the invention was made.

4. Differences Between the Prior Art and Claimed Subject Matter

According to Petitioner, Aytac discloses the recited limitations of all the challenged claims, but relies on the SCSI Specification and the Admitted Prior Art for the limitations of: automatic recognition (Pet. 47–56); automatic file transfer process (Pet. 60–61); and sending a parameter indicative of the class of devices (Pet. 47–50). Petitioner proffers at least one motivation to combine the teachings as asserted. Pet. 25–26. In particular, Petitioner asserts that Aytac "specifically directs those skilled in the art to the SCSI Specification." *Id.* at 26.

For the limitations that are similarly recited in more than one of the challenged independent claims, the Petition treats the limitations as co-extensive and identifies how the prior art is alleged to teach or suggest those limitations. To the extent the parties do not point out the differences in claim scope between the independent claims, we analyze their similarly recited limitations together.

a. Challenged Independent Claims: 1, 31, and 34

Petitioner has shown that processor 201 and associated chipset 221 of the CaTbox discloses the processor limitation of claims 1, 31, and 34, which recite a processor that is "operatively interfaced" with a memory and a multipurpose interface of the host computer. *See* Pet. 38–41. Petitioner also points to CaTdisc 301, RAM, and the buffers of the CaTbox modems as the recited data storage memory. *Id.* at 39. We agree with Petitioner that Aytac discloses the recited processor and data storage memory.

With regard to the limitation that recites a "data generation process," Petitioner identifies two CaTbox features. Pet. 42–44. First, Petitioner points to the CaTbox modems receiving and digitizing a fax transmission, where the file (comprising the digitized fax) is stored in CaTdisc 301. *Id.* at 43. Second, Petitioner points to Aytac's microphone 125 that "generates analog audio signals and transmits those signals to CaTbox." *Id.*[9] Petitioner points to an annotated Table I of Aytac, reproduced below, to further support the proffered examples.

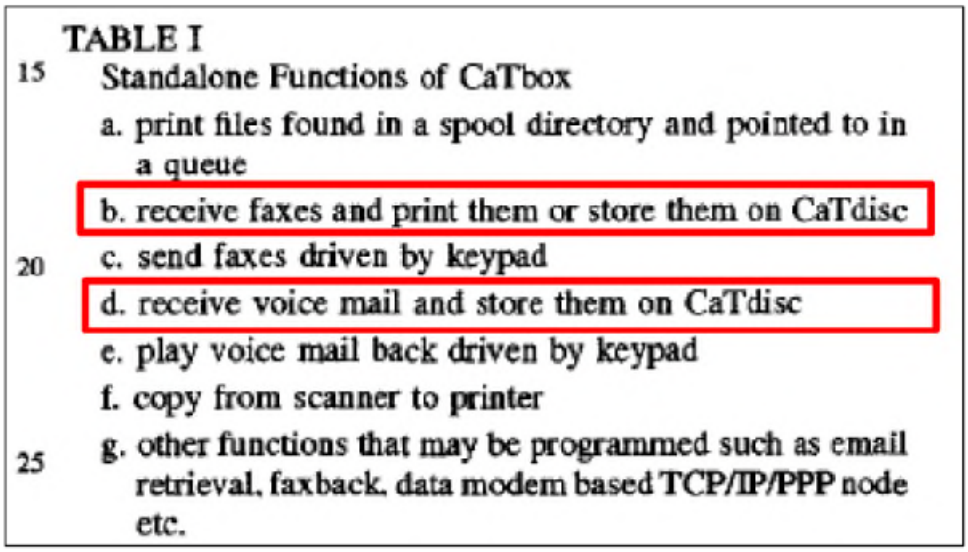

TABLE I

Standalone Functions of CaTbox

a. print files found in a spool directory and pointed to in a queue

b. receive faxes and print them or store them on CaTdisc

c. send faxes driven by keypad

d. receive voice mail and store them on CaTdisc

e. play voice mail back driven by keypad

f. copy from scanner to printer

g. other functions that may be programmed such as email retrieval, faxback, data modem based TCP/IP/PPP node etc.

Table I, describes "Standalone Functions of CaTbox," and lists two of these functions: "receive faxes and print them or store them on CaTdisc" and "receive voice mail and store them on CaTdisc." Ex. 1004, 10:14–27. We are persuaded by Petitioner's evidence that the features of fax transmission and audio generated by the microphone of Aytac disclose the recited "data generation process" limitation.

[9] Petitioner also supports the microphone example with an excerpt of source code that includes "a program for recording a voice message using a microphone connected to CaTbox." Pet. 44.

The challenged independent claims further require that the processor automatically cause at least one parameter indicative of the class of devices to be sent to a computer. Pet. 45–47. Petitioner refers to this claim limitation as the "automatic recognition process." *Id.* at 47. For this limitation, Petitioner relies on the Admitted Prior Art and the SCSI Specification, as summarized above. Pet. 47–48. Petitioner also relies on Aytac's disclosure of using a SCSI Interface and alleges that Aytac describes the automatic recognition process disclosed in the '746 patent. *Id.* ("Both patents reference the same SCSI commands (e.g., INQUIRY) to accomplish the same functions.").

We are persuaded that Petitioner has shown that the combination of Aytac and SCSI teaches the limitation of an "automatic recognition process." Aytac describes that the CaTbox looks like a SCSI disk to the PC and communicates with the host PC using a SCSI interface and cable. Ex. 1004, 4:49–53; 7:61–62; 10:28–30. To a person of ordinary skill, these teachings reasonably convey that the CaTbox utilizes SCSI commands, such as the INQUIRY command, to provide the identification information of the device. *See* Ex. 1001 ¶¶ 87–91. Particularly, in response to an INQUIRY command, the CaTbox provides the identifying information about its CaTdisc, which would be a parameter indicative of the class of devices as recited. *Id.* ¶ 91. Accordingly, we find that Aytac and the SCSI Specification teach the limitation of automatic recognition process.

Patent Owner challenges the combination of teachings from Aytac and the SCSI Specification, because "[a]lthough the SCSI Specification sets forth various functionalities for a SCSI device, it does not describe how a standard SCSI driver can support the full functionality of Aytac's CaTbox."

PO Resp. 11–12. We do not agree with Patent Owner. Petitioner has provided unrebutted evidence of the "common initial sequence of exchanges between an initiator and a target, for example, when the initiator is powered on or a new target device is connected to the SCSI bus." Pet. 33–34. As part of that exchange, the initiator issues an INQUIRY command, which requires the target device to respond by providing identifying information, "such as the target's device type, its vendor identification, its product identification, and any other required data. Pet. 34 (citing Ex. 1005 at 123–127; Ex. 1001 ¶¶ 50, 52). This inquiry is part of the SCSI protocol, which was commonly practiced at the time of the invention and specifically implemented by Aytac. Pet. 47. Aytac, for example, specifically refers to the SCSI specification in column 4, lines 51–52. Aytac also implements the SCSI protocol via a SCSI protocol chip and specifically refers to implementing many features of the SCSI protocol. Ex. 1004, 10:7–10; 56–67. This evidence persuades us that Aytac's use of the SCSI protocol would have included the common feature of using the INQUIRY command and its standard response in order to establish communication with the devices and further access data from the device.

Finally, Petitioner contends that Aytac, the Admitted Prior Art, and the SCSI Specification disclose the limitation referred to as the "automatic file transfer" process. Pet. 56–61. We agree with Petitioner's contention and find a preponderance of the evidence supports its contention. In particular, Petitioner has shown that "[a]fter receiving the INQUIRY response and file system information, host PC 101 is capable of accessing the files stored on CaTbox's CaTdisc 301 using SCSI read and write commands." Pet. 58–59 (citing the Reynolds Declaration, Ex. 1001 ¶¶

99–101). As an example of how Aytac discloses this feature, Petitioner argues, and we agree, that processor 201 is involved in receiving analog signals from microphone 125, converting the analog signals and storing the digital signals on CaTdisc 301, and reading the digital audio file from CaTdisc in response to a "read file" SCSI operation by the host. *Id.* at 59 (citing Ex. 1001 ¶¶ 99–100, 83–85); Ex. 1004, 8:14.

i. "without requiring" Limitation

Petitioner contends that "[b]ecause the automated file transfer uses the standard SCSI interface and drivers (ASPI) and standard OS file system software on both the host computer and on CaTbox, there is no need for the end user to load or install any file transfer enabling software on the host." Pet. 60 (relying on Ex. 1005, at 100); 67–68 (evidence and arguments proffered with regard to similar limitation recited in claim 17).[10] Further, Dr. Reynolds testifies that the ASPI drivers that enable the use of SCSI commands were typically already installed. Ex. 1001 ¶ 117. Patent Owner challenges Petitioner's contention because Aytac needs specialized software drivers and programs for both the host PC and the CaTbox. PO Resp. 20–22. More specifically, Patent Owner argues that the CATSYNC.VXD driver is "directly involved in every file transfer from the CaTbox to the host computer" and that it is user-loaded and is needed to be installed in order for the CaTbox to operate. *Id.* at 22–23.[11]

The issue for us to decide is whether the CATSYNC driver is file transfer enabling software that is *required* to be installed by the user. We find, based on the record evidence, that the CATSYNC driver is not required. We credit Dr. Reynolds testimony that the CATSYNC.VXD

[10] In our Decision on Institution, we stated that the evidence proffered with regard to claim 17 would be evaluated together with the evidence proffered for the independent claims. Dec. 23.

[11] We acknowledge that Patent Owner proffers arguments that other drivers, in addition to CATSYNC.VXD, are involved, such as CATCAS.EXE and CATSER.VXD. According to Mr. Gafford, the CATCAS and CATSER drivers are involved in the transfer of faxes and modems. Ex. 1013, 49:4–23. Because we do not rely on either the fax or modem functions of Aytac, the impact, if any, of the CATCAS or CATSER drivers is irrelevant to our determination.

driver is "intended only to provide synchronization and coordination among multiple on-going activities between the host computer and the CaTbox/CaTdisc," and this driver is not required for reading data files from the CaTdisc because if it were not installed, the host computer's requests to READ files "would default to LUN 0, the logical unit number for the CaTdisc (Ex. 1004, 11:25–27)." Ex. 1001 ¶ 118. Dr. Reynolds also testified that, "assuming it is installed on the host PC" the driver "hooks file IO calls from the PC" so it would be involved in the file transfer. Ex. 2007, 107:24–108:8. Therefore, there is no question that the CATSYNC driver provides file transfer synchronization between the CaTbox and the PC. This determination, however, is not conclusive of the issue. Petitioner's contention and evidence is that CATSYNC is not necessary because if it *were not installed* the CaTbox would continue to read files from the disc. Reply 11–12. That is, mere involvement of CATSYNC in file transfer does not indicate whether CATSYNC is *required* to be loaded by a user.

The evidence both parties proffer is that CATSYNC provides synchronization for file transfer. PO Resp. 22–23 (citing Ex. 2006 ¶¶ 41–43); Ex. 1001 ¶ 118. Patent Owner takes the involvement of synchronization one step further, to argue that CATSYNC is necessary to accomplish multitasking goals of Aytac. PO Resp. 28–29. According to Patent Owner, in order for Aytac to support the request of multiple devices, the user must have installed the driver that synchronizes the access to the disc to allow reliably the simultaneous access to the CaTbox by multiple devices. *Id.*

However, as Petitioner points out, and we agree, the file transfer occurs at the SCSI interface level, regardless of whether CATSYNC

synchronizes the transfer or not. Reply 11–12. Dr. Reynolds explains that once the INQUIRY command establishes communication, the SCSI protocol permits READ and WRITE requests to and from the CaTbox. Ex. 1001 ¶¶ 99–100. The devices use the Logical Unit Number 0 (LUN 0) to communicate the READ and WRITE requests, which *enable* the file transfer to occur. *Id.* at ¶ 118. There is no evidence in the record that the CATSYNC driver is needed for the INQUIRY, READ, or WRITE commands, and, therefore, CATSYNC is not file transfer enabling software. In short, we credit Dr. Reynolds' testimony on how the SCSI protocol is involved in *enabling* file transfer with the CaTbox. We find that these SCSI commands do not need the CATSYNC driver in order for the file transfer to be enabled. Although the CATSYNC driver may provide additional file transfer features that ensure reliability or accuracy, the fact that the CaTbox performs file transfer using the SCSI commands means that no further file transfer enabling software is required to be loaded by any user.

The testimony of Patent Owner's expert, Mr. Gafford does not persuade us otherwise. Mr. Gafford testifies that the CATSYNC driver is needed for synchronization and cache-disabling functions, and that it would not have been obvious to remove CATSYNC. *See* Ex. 2005 ¶¶ 37–45, 54, 57–61. In particular, Mr. Gafford testifies that if CATSYNC were not installed, the CaTbox would be inoperable due to unreliability from lack of synchronization. Ex. 2006 ¶ 41; PO Resp. 26 ("CaTbox would not reliably respond to requests from the host PC to transfer files"). Because the claim only speaks of allowing the file transfer without requiring additional software, this testimony is irrelevant. No further features of synchronization or reliability are required by the claim. Further, we do not see the testimony

of Mr. Gafford as addressing whether a person of ordinary skill in the art would understand Aytac as *requiring* CATSYNC simply *to enable file transfer*. That is, although CATSYNC provides additional file transfer features, Patent Owner's evidence fails to show that CATSYNC *is required for enabling file transfer* in the CaTbox.[12] As stated above, we have determined that Aytac uses the SCSI protocol to enable the file transfer.

The argument that Aytac would be rendered inoperable because of lack of synchronization is also not pertinent for the same reasons. The inquiry is not whether Aytac is modified to remove CATSYNC. The issue is whether Aytac's CATSYNC driver is file transfer enabling software that is required to be installed by a user. We have found CATSYNC is neither file transfer enabling software nor a requirement to enable file transfer. Furthermore, the theory of obviousness we evaluate is what Petitioner proposed, that *regardless* of whether CATSYNC is installed, the file transfer is enabled by the SCSI commands, and nothing else. Reply 11–12.

Finally, Patent Owner argues that Dr. Reynolds' testimony regarding the already-installed ASPI drivers is conclusory and unsupported testimony. PO Resp. 30. We do not agree. As we stated above, we have credited Dr. Reynolds' testimony regarding the operation of the SCSI commands and their operation in enabling file transfer. The testimony of Dr. Reynolds at paragraphs 67–69 fairly describes that Aytac implements the SCSI

[12] On this point, we find compelling Mr. Gafford's testimony that the CaTbox would operate as a "remote hard disk for the PC" if Aytac were not using CATSYNC.VXD. Ex. 2006 ¶ 60. This is consistent with the '746 patent: "the interface device according to the present invention therefore initially behaves passively as a virtual hard disk and then, as required and using the driver software for the multi-purpose interface, actively on the same SCSI bus." Ex. 1001, 11:14–18.

Specification with regard to how the CaTbox functions as a hard disk and that this operation includes the use of a software driver. Ex. 1001 ¶¶ 67–69. In particular, Dr. Reynolds explains the MASPI.SYS device driver in Aytac as the driver capable of presenting a SCSI disk drive compliant interface on the SCSI interface. *Id.* ¶ 69 (citing Ex. 1004, 11:65–12:3). And Dr. Reynolds also explains that the driver interacts with the host to implement the SCSI disk drive operations, including the INQUIRY information request exchanges, such that they are automatic. *Id.* ¶¶ 69, 89. The knowledge of whether computers utilized device drivers was part of the knowledge of a person of ordinary skill in the art at the time of the invention. *Id.* ¶ 39. And Dr. Reynolds opines, and we agree, that the device drivers for disk drives were often included in BIOS or already installed such that when an end user started using a host computer, the device driver for the computer disk drive would have been installed already. *Id.* ¶ 116. Dr. Reynolds reasons that the ASPI driver for a SCSI interface would have also been installed beforehand. *Id.* ¶ 117; *see also* Ex. 1013, 44:9–13 (Gafford testifying that "at the time the Tasler patents were filed ASPI drivers, or SCSI interfaces, were normally included by the manufacturer of the SCSI interface"). We find that the testimony is supported sufficiently and provides reasoning why a person of ordinary skill would understand Aytac to teach that the ASPI driver for the SCSI interface would not need to be installed by a user. We find this testimony also supported by the applicant's admissions in the Specification, which provides that SCSI interfaces were present on most host devices or laptops, and SCSI drivers were "normally included by the manufacturer of the multi-purpose interface." *Id.* at 8:39–41, 10:23–24.

ii. Additional Limitations of Claim 1

Claim 1 recites limitations not recited in claims 31 and 34. For these claim 1 limitations, Petitioner shows that Aytac discloses the recited "program memory" (RAM 203, BIOS EPROM 222, and CaTdisc 301)[13] and the "analog signal acquisition channel for receiving a signal from an analog source" (inputs to CaTbox from microphone 125, receiver 107, handset 105, scanner 104, and telephone network 123 connecting fax machines and telephones via phone lines 116, 118, 120, 122, and modems 308-311).[14] We adopt Petitioner's evidence and arguments and find that Aytac discloses these further limitations of claim 1.

b. Dependent Claim 6

Claim 6 depends from claim 1, and requires interfacing the processor with the multi-purpose interface with a cable. Pet. 65. Petitioner relies on Aytac's disclosure that "CaTbox would look like a PC and it would be attached via cable." *Id.* (citing Ex. 1004, 4:49–50). We are persuaded by Petitioner's evidence that Aytac teaches the further limitations of claim 6.

c. Dependent Claim 15

Claim 15 depends from claim 1, and requires being responsive to a SCSI inquiry command. *Id.* Petitioner relies on Aytac's disclosure of communications via SCSI bus 113 and that "CaTbox look[s] like a SCSI disk to the PC." *Id.* (citing Ex. 1001 ¶ 109 and Ex. 1004, 4:50–51). As stated above with regard to the independent claims, Petitioner has presented evidence that the SCSI protocol includes the INQUIRY command and a response thereto. We are persuaded by Petitioner's evidence that Aytac teaches the further limitations of claim 15.

[13] Pet. 62.
[14] Pet. 63.

d. Dependent Claim 17

Claim 17 depends from claim 1, and requires the automatic sending of analog data file system information after the parameter has been sent, without, at any time: (i) the end user loading software; and (ii) interacting with the computer to set up a file system. Pet. 66. For these further limitations, Petitioner asserts that Aytac and the SCSI Specification disclose them, and that the subject matter was well-known in 1997. Pet. 66. In particular, Petitioner asserts that CaTbox and the interfaced host follow an "automated SCSI protocol," and that the file system information is sent to the host in response to a boot sector read from the host. *Id.* at 66–67 (citing the Reynolds Declaration, Ex. 1001 ¶¶ 56–57, 68, 71, 85–87, 110–115). Petitioner further argues that there is no need for the end user to load or install any drivers or other software because the SCSI protocol and drivers "would have been installed prior to the use of the computer by the end user." *Id.* at 68 (citing Ex. 1001 ¶¶ 117–118). Finally, Petitioner asserts that there is no need for any end user to interact with the computer to set up a file system because the CaTbox uses the MS-DOS operating system, which provides its own file system. *Id.* at 68–69 (citing Ex. 1001 ¶¶ 119–120, Ex. 1004, 12:9–12). We agree with, and adopt, Petitioner's arguments and evidence in this regard.

Further, we have discussed above, with regard to the independent claims, the arguments and evidence concerning the limitation of no loading of software by the end-user. We reiterate here, that Petitioner has shown persuasive evidence that Aytac's CaTbox responds automatically to the INQUIRY command and enables file transfer without the user loading any software. Further, to the limitation concerning setting up a file system, we

agree with Petitioner that the CaTbox uses the MS-DOS operating system, which provides its own file system, and therefore, there is no need for any user to interact with CaTbox to set up a file system. *Id.* at 68–69 (citing Ex. 1001 ¶¶ 119–120, Ex. 1004, 12:9–12).

e. Dependent Claim 18

Claim 18 depends from claim 17, and further requires an indication of a file system type that is used to store the digitized analog data. Pet. 69. Petitioner argues that CaTdisc 301 uses a DOS-FAT file system and that CaTbox sends such file system information to the host in response to a boot sector read. *Id.* (citing Ex. 1001 ¶¶ 38, 121; Ex. 1004, 12:9–12). We are persuaded by Petitioner's evidence that Aytac teaches the further limitations of claim 18.

III. CONCLUSION

We have reviewed the arguments and evidence of record presented by the parties. For the foregoing reasons, we conclude that Petitioner *has shown* by a preponderance of the evidence that claims 1, 6, 15, 17, 18, 31, and 34 of the '746 patent are unpatentable as obvious over Aytac, the Admitted Prior Art, and the SCSI Specification.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1, 6, 15, 17, 18, 31, and 34 of the '746 patent are unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

PETITIONER:

For PETITIONER:
T. Vann Pearce
Christopher Higgins
Christopher Siebens
John Inge
TVPPTABDocket@orrick.com
0CHPTABDocket@orrick.com
29CPTABDocket@orrick.com
JRIPTABDocket@orrick.com
ORRICK, HERRINGTON & SUTCLIFFE LLP

David Maiorana
F. Drexel Feeling
Matthew Johnson
David Witcoff
Marc Blackman
dmaiorana@JonesDay.com
f.dfeeling@jonesday.com
mwjohnson@jonesday.com
dlwitcoff@jonesday.com
msblackman@jonesday.com
JONES DAY

Dion Bregman
dion.bregman@morganlewis.com
MORGAN, LEWIS & BOCKIUS LLP

Gregory Cordrey
gcordrey@jmbm.com
JEFFER MANGELS BUTLER & MITCHELL LLP

Brian Rupp
Carrie Beyer
Nikola Colic
Brian.Rupp@dbr.com
Carrie.Beyer@dbr.com
Nick.Colic@dbr.com

DRINKR BIDDLE & REATH LLP

PATENT OWNER:

Nicholas T. Peters
Paul Henkelmann
ntpete@fitcheven.com
phenkelmann@fitcheven.com
FITCH, EVEN, TABIN & FLANNERY LLP

Anthony Meola
info@themeolafirm.com
THE MEOLA FIRM, PLLC