



part. The Picture Transfer Protocol accused devices do not meet the “customary in a host device” limitation because they identify themselves to a computer as still image capture devices (scanners) that could not be found inside computers at the time of the invention. In contrast, the Mass Storage Class accused devices meet the “customary in a host device” limitation because they identify themselves as mass storage devices (hard drives) that were commonly found inside computers at the relevant time. Summary judgment of noninfringement will be granted with regard to the Picture Transfer Protocol accused devices only.

## I. FACTS<sup>2</sup>

### A. The Invention

The invention at issue is a “Flexible Interface for Communication Between a Host and an Analog I/O Device Connected to the Interface Regardless of the Type of the I/O Device.” 399 Patent, Title; 449 Patent, Title. An I/O device is an input/output device, repeatedly referred to as a “data transmit/receive device” in the Patents. *See, e.g.*, 399 Patent 3:43-44 & 13:1-2; 449 Patent 4:6-7 & 11:63-64.<sup>3</sup> The 449 Patent is a continuation or divisional patent<sup>4</sup> that is quite similar to the 399 Patent. They share the same block diagram drawings, Figures 1 and 2. *See, e.g.*, 399 Patent 9:15-16 (“Figure 2 shows a detailed block diagram of an interface device, according to the present invention”); 449 Patent 8:15-16 (same). The 399 and 449 Patents also share much of the same specification.

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<sup>2</sup> This motion is one of eight filed by the Camera Manufacturers. In the interest of timely disposition of all, the Court does not recite the full background and assumes familiarity with its prior rulings. *See, e.g.*, Modified Claims Construction Op. [Dkt. 336]; Sanctions Op. [Dkt. 429].

<sup>3</sup> Citations to the Patents are to “column number: line number.”

<sup>4</sup> The 399 Patent was issued on October 22, 2002, with an application date of March 3, 1998; the 449 Patent was issued on May 17, 2005, with an application date of August 15, 2002. Because it is a continuation patent, Papst asserts that the 449 Patent has priority dating back to the 399 Patent.

The “interface device” is designed to provide data transfer between a data transmit/receive device and a computer without the need for special software; this is accomplished by telling the computer that the interface device is a transmit/receive device already known to the computer (and for which the computer already has drivers, i.e., software), regardless of what kind of data transmit/receive device actually is attached to the interface device. 399 Patent, Abstract; 449 Patent, Abstract. The specification describes communication between the interface device and a computer, explaining that in response to a query from the computer, the interface device sends a signal to the computer indicating that, for example, a hard disk drive is attached to the interface device:

Preferably, the interface device according to the present invention simulates a hard disk with a root directory whose entries are “virtual” files which can be created for the most varied functions. When the host device system with which the interface device according to the present invention is connected is booted and a data transmit/receive device is also attached to the interface device 10, usual BIOS routines or multi-purpose interface programs issue an instruction, known by those skilled in the art as the INQUIRY instruction, to the input/output interfaces in the host device. The digital signal processor 13 receives this inquiry instruction via the first connecting device and generates a signal which is sent to the host device (not shown) again via the first connecting device 12 and the host line 11. This signal indicates to the host device that, for example, a hard disk drive is attached at the interface to which the INQUIRY instruction was sent. . . .

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.*<sup>5</sup>

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<sup>5</sup> The specification often refers to Figures 1 and 2 by identifying numbered elements as they appear in the Figures, such as the references to “the output line 16” and “the digital signal processor 13.”

399 Patent 5:67 & 6:1-22 (emphasis added); 449 Patent 4:66-67 & 5:1-22 (same). In other words, when a computer receives a signal from the interface device that the interface device is, for example, a hard disk drive, the computer communicates with the interface device using its customary software for a hard disk drive.

By fooling the computer into communicating using its own customary software, the interface device can fulfill its purpose—to provide “communication between a host device and a data transmit/receive device whose use is host device-independent and which delivers a high data transfer rate.” 399 Patent 3:24-27; 449 Patent 3:20-23 (same); *see* Claims Constr. Op. at 22 (the purpose of the invention is “to allow fast communication between dissimilar data transmit/receive devices and computers, without the need for special software drivers”); 399 Patent 4:23-27 (the Patents are “based on the finding that both a high data transfer rate and host device-independent use can be achieved if a driver for an input/output device customary in a host device, normally present in most commercially available host devices, is utilized,” instead of special driver software); 449 Patent 3:27-31 (same).

#### **B. “Customary in a Host Device” Claim Limitation**

Each of the asserted Patent Claims includes the “customary in a host device” claim limitation. That is, every independent claim of the 399 Patent requires the interface device to identify itself to the host device (computer) as an “input/output device customary in a host device,” and every independent claim of the 449 Patent requires the interface device to identify itself to the computer as a “storage device customary in a host device.” For example, Claim One of the 399 Patent states:

What is claimed is:

1. An interface device for communication between a host device, which comprises drivers for input/output devices customary in a host device and a multi-purpose interface, and a data

transmit/receive device, the data transmit/receive device being arranged for providing analog data, comprising:

a processor;

a memory;

a first connecting device for interfacing the host device with the interface device via the multi-purpose interface of the host device; and

a second connecting device for interfacing the interface device with the data transmit/receive device, the second connecting device including a sampling circuit for sampling the analog data provided by the data transmit/receive device and an analog-to-digital converter for converting data sampled by the sampling circuit into digital data,

wherein the interface device is configured by the processor and the memory to include a first command interpreter and a second command interpreter,

wherein the first command interpreter is configured in such a way that the command interpreter, when receiving an inquiry from the host device as to a type of a device attached to the multi-purpose interface of the host device, sends a signal, regardless of the type of the data transmit/receive device attached to the second connecting device of the interface device, to the host device *which signals to the host device that it is an input/output device customary in a host device*, whereupon the host device communicates with the interface device by means of the driver for the input/output device customary in a host device, and

wherein the second command interpreter is configured to interpret a data request command from the host device to the type of input/output device signaled by the first command interpreter as a data transfer command for initiating a transfer of the digital data to the host device.

399 Patent, Claim 1, 12:64-67, 13:1-13 (emphasis added). Claim One of the 449 Patent is similar; the emphasized language is identical, except that the term “storage device” is substituted for the term “input/output device.” See 449 Patent, Claim 1, 11:45-67 & 12:1-6.<sup>6</sup> Each of the

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<sup>6</sup> Claim One of the 449 Patent provides:

asserted independent Claims contains similar language, indicating that the interface device identifies itself to the computer as an input/output or storage device customary in a computer and that the computer communicates with the interface device via drivers (software) for the identified input/output or storage device. *See* 399 Patent, Claims 1, 11, and 14; 449 Patent, Claims 1, 17, and 18.

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What is claimed is:

1. An interface device for communication between a host device, which comprises drivers for input/output devices customary in a host device and a multi-purpose interface, and a data transmit/receive device comprising the following features:

a processor;

a memory;

a first connecting device for interfacing the host device with the interface device via the multi-purpose interface of the host device;  
and

a second connecting device for interfacing the interface device with the data transmit/receive device,

wherein the interface device is configured by the processor and the memory in such a way that the interface device, when receiving an inquiry from the host device as to the type of a device attached to the multi-purpose interface of the host device, sends a signal, regardless of the type of the data transmit/receive device attached to the second connecting device of the interface device, to the host device *which signals to the host device that it is a storage device customary in a host device*, whereupon the host device communicates with the interface device by means of the driver for the storage device customary in a host device, and

wherein the interface device is arranged for simulating a virtual file system to the host, the virtual file system including a directory structure.

449 Patent, Claim 1, 11:45-67 & 12:1-6 (emphasis added).

The Court construed the contested claims of the 399 and 449 Patents,<sup>7</sup> finding that the phrase “an input/output device customary in a host device” in the 399 Patent means a “data input/output device that was normally present within the chassis of most commercially available computers at the time of the invention.”<sup>8</sup> Modified Claims Construction Op. [Dkt. 336] (Claims Constr. Op.) at 59; *see also* Order [Dkt. 337] at 3-4. Thus, “a storage device customary in a host device” in the 449 Patent was construed to mean a “storage device that was normally present within the chassis of most commercially available computers at the time of the invention.” Claims Constr. Op. at 59. The Court interpreted the phrase “customary in a host device” as including a temporal limitation:

A court must interpret the words of a contested claim from the perspective of one skilled in the art at the time of invention. *See Phillips [v. AWH Corp.]*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). The word “customary” is time-dependent, like the word “conventional” construed by the court in *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1326 (Fed. Cir. 2008). There, the court determined that “conventional” when modifying the term “internet browser” meant web browsers in existence at the time of the invention. *See id.*; *accord PC Connector Solutions LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1363-64 (Fed. Cir. 2005) (input/output port “normally” connectible to a computer port meant technology existing at the time of the invention). A claim cannot be interpreted to have different meanings at different times. *See PC Connector*, 406 F.3d at 1363. The word “customary” means customary in a host computer at the time of the invention.

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<sup>7</sup> Pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), a court is required to construe the contested claims of the patents before a jury can determine whether the accused products infringe. In claims construction, a court must interpret the words of each contested claim from the perspective of one skilled in the art at the time of invention, in light of the patent documents and the prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005).

<sup>8</sup> The Court also defined the “the driver for the input/output [storage] device customary in a host device” as “the customary driver(s) in a host device used to communicate with customary internal and external input/output device(s), which driver(s) were normally present within the chassis of most commercially available computers at the time of the invention.” Claims Constr. Op. at 59.

*Id.* at 55-56. “At the time of the invention” means as of March 3, 1998 when inventor Michael Tasler applied for the 399 Patent. *Id.* at 55.<sup>9</sup>

Also, the Court interpreted the “customary in a host device” claim limitation to reflect a location restriction—that “in” a host device meant “inside the chassis of a computer.”

The Court reached this conclusion as follows:

[T]he word “in” should be construed in accordance with its ordinary meaning to mean “within,” not “with respect to” as Papst proposes. Papst’s construction ignores the word “in,” rendering it superfluous, and such a construction is disfavored. *See Merck [ & Co., Inc. v. Teva Pharmaceuticals USA, Inc., 395 F.3d 1364, 1372 (Fed. Cir. 2005)]* (a construction that gives meaning to all the terms of the claim is preferred over one that does not).

*Id.* at 58.

### **C. Papst’s Allegations**

The immediate motion for summary judgment is based on the “customary in a host device” claim limitation. Papst alleges that certain accused devices manufactured and/or sold by the Camera Manufacturers are “interface devices” that infringe Claims 1-3, 5, 7, 11, and 14-15 of the 399 Patent and Claims 1-2, 6-9, 12-13, and 15-18 of the 449 Patent. The accused products include digital cameras, camcorders, and digital voice recorders.<sup>10</sup> Specifically, Papst’s Final Infringement Contentions assert that (1) the Mass Storage Class (MSC) accused devices listed on Table 12 infringe the 399 Patent; (2) the MSC accused devices listed on Table 13 infringe the 449 Patent; and (3) the Picture Transfer Protocol (PTP) accused devices listed on Table 14 infringe the 399 Patent. *See* Final Infringement Contentions (FICs) [Dkt. 416], Tables

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<sup>9</sup> Mr. Tasler invented and patented the “interface device” and later sold the Patents to Papst. The invention was never produced or used.

<sup>10</sup> Papst was not granted leave to add cell phones and MP3 players to this litigation. *See* Sanctions Op. at 12.



12 & 13 (MSC Accused Devices) & Table 14 (PTP Accused Devices).<sup>11</sup> PTP and MSC relate to how a device is recognized by a computer. When a user connects an accused device to a computer, depending on the mode setting for the device, the computer will recognize the device as a PTP device or as a MSC device.

The Camera Manufacturers seek summary judgment of noninfringement, arguing that the MSC Accused Devices and the PTP Accused Devices do not identify themselves as data input/output or storage devices that were normally present within the chassis of most commercially available computers at the time of the invention, *i.e.*, in 1998. *See* Mot. for Summ. J. Re “Customary in a Host Device” Limitation [Dkt. 449]; Reply [Dkt. 501]. The Camera Manufacturers argue that the PTP Accused Devices identify themselves as USB still image capture devices and the MSC Accused Devices identify themselves as USB Mass Storage Class devices, both of which are found outside the computer chassis and which did not exist in 1998. In this motion for summary judgment, the Camera Manufacturers seek judgment as to every device accused in this case—they seek a ruling that the PTP Accused Devices do not infringe the 399 Patent and that the MSC Accused Devices do not infringe the 399 or the 449 Patents.<sup>12</sup> Papst opposes. *See* Opp’n [Dkt. 474].

## II. LEGAL STANDARD

Under Rule 56 of the Federal Rules of Civil Procedure, summary judgment shall be granted “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *accord Anderson v.*

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<sup>11</sup> Some accused products are alleged to operate in both MSC mode and PTP mode. *See, e.g.*, FICs, Table 12 (asserting that Fujifilm model V10 is MSC-capable); *id.*, Table 14 (asserting that Fujifilm model V10 is PTP-capable).

<sup>12</sup> Papst never alleged that the PTP Accused Devices infringe the 449 Patent.

*Liberty Lobby, Inc.*, 477 U.S. 242, 247 (1986). On summary judgment, the burden on a moving party who does not bear the ultimate burden of proof in the case may be satisfied by making an initial showing that there is an absence of evidence to support the nonmoving party's case.

*Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986). This burden “may be discharged by ‘showing’—that is, pointing out to the district court—that there is an absence of evidence to support the nonmoving party's case.” *Id.*

The burden then shifts to the nonmovant to demonstrate the existence of a genuine issue of material fact. The nonmovant may not rest on mere allegations or denials, but must instead by affidavit or otherwise, present specific facts showing that there is a genuine issue for trial. *See* Fed. R. Civ. P. 56(c); *Celotex*, 477 U.S. at 324; *see also Greene v. Dalton*, 164 F.3d 671, 675 (D.C. Cir. 1999) (nonmovant must present specific facts that would enable a reasonable jury to find in its favor).

In ruling on a motion for summary judgment, the court must draw all justifiable inferences in the nonmoving party's favor. *Anderson*, 477 U.S. at 255. A nonmoving party, however, must establish more than “the mere existence of a scintilla of evidence” in support of its position. *Id.* at 252. In addition, if the evidence “is merely colorable, or is not significantly probative, summary judgment may be granted.” *Anderson*, 477 U.S. at 249-50 (citations omitted). Summary judgment is properly granted against a party who “after adequate time for discovery and upon motion . . . fails to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial.” *Celotex*, 477 U.S. at 322.

Summary judgment can be granted in a patent case if there is no dispute over the structure of the accused products, at which point the question of infringement “collapses” into

the question of claim construction and may be resolved by the court. *Desper Prods. Inc. v. QSound Labs Inc.*, 157 F.3d 1325, 1332-33 (Fed. Cir. 1998). The burden of proving infringement rests on the patent holder. *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1095 (Fed. Cir. 2008).

### III. ANALYSIS

#### A. Literal Infringement and the Doctrine of Equivalents

To determine whether a patent has been infringed, a court must (1) construe the patent and (2) compare the devices accused of infringing to the construed patent claims. *Mars, Inc. v. H.J. Heinz Co., LP*, 377 F.3d 1369, 1373 (Fed. Cir. 2004). The party alleging infringement bears the burden of proof. *Jazz Photo Corp. v. Int'l Trade Comm'n*, 264 F.3d 1094, 1102 (Fed. Cir. 2001). Since this Court already has interpreted the Patents, the Court now proceeds to step two, a comparison of the accused cameras to the allegedly infringed Claims.

Patent infringement can be either (1) literal infringement or (2) infringement under the doctrine of equivalents. To prove literal infringement, a patentee must prove that the accused product satisfies each and every limitation of a claim. *Warner-Jenkinson Co. v. Hilton-Davis Chem. Co.*, 520 U.S. 17, 29 (1997); *Rohm & Haas v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997). A patent is literally infringed “when each of the claim limitations reads on, or in other words is found in, the accused device.” *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1345 (Fed. Cir. 2002). If a device does not infringe an independent claim of a patent, the device cannot infringe a claim dependent on that independent claim.<sup>13</sup> *Wahpeton Canvas Co., Inc. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n.9 (Fed. Cir. 1989).

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<sup>13</sup> A claim in “dependent form” incorporates by reference all the limitations of the claim on which it depends and adds something new, giving it a narrower scope than the claim from which it depends. See 35 U.S.C. § 112; *Phillips*, 415 F.3d at 1315.

Alternatively, a plaintiff can show infringement under the doctrine of equivalents. The essential inquiry in determining whether there has been infringement under this doctrine is whether “the accused product or process contains elements identical or equivalent to each claimed element of the patented invention.” *Am. Calcar, Inc. v. Am. Honda Motor Co.*, 651 F.3d 1318, 1338 (Fed. Cir. 2011) (quoting *Warner-Jenkinson*, 520 U.S. at 40). An element in an accused product is deemed to be equivalent to a claim limitation if the difference between the two is “insubstantial” to a person of ordinary skill in the art. *Wavetronix v. EIS Elec. Integrated Sys.*, 573 F.3d 1343, 1360 (Fed. Cir. 2009). In order to assess insubstantiality, a court considers whether an element of the accused product “performs substantially the same function in substantially the same way to obtain the same result” as the patented invention. *Am. Calcar*, 651 F.3d at 1338. This is often referred to as the “function/way/result test.” *Id.* A patentee alleging infringement under the doctrine of equivalents must submit particularized evidence of equivalence and must explain specifically why the difference between what the claims literally require and what the accused products actually do is “insubstantial.” *Id.*

#### **B. PTP Accused Devices**

Papst alleges that PTP Accused Devices infringe the 399 Patent. However, Papst has admitted that a device in PTP mode will be recognized as an “image class device, such as a scanner.” FICs at 38. Because a still image capture device, such as a scanner, was not ordinarily present within the chassis of a computer at the time of the invention, Papst has conceded that the PTP Accused Devices do not literally infringe the 399 Patent. FICs at 4.

Instead, Papst alleges that the PTP Accused Devices infringe the 399 Patent under the doctrine of equivalents. *Id.* Papst argues that although a PTP Accused Device identifies itself as a USB still image capture device found *outside* a computer, such a response to the

inquiry is the equivalent of identifying itself as a device located *inside* a computer because the Patent really means “in a computer system” and not “inside the chassis of a computer.” During claims construction, the Court rejected this precise argument:

The Camera Manufacturers again assert that “in” means “within the chassis of the host computer.” CMs’ *Markman* Br. 29. Papst suggests that an input/output device “in” a computer should be construed more broadly to mean “with respect to,” as in “a hardware device that inputs or outputs data with respect to a host computer.” Papst’s App. at 4. “We don’t read in as requiring it to be inside. It means part of the system.” Tr. 2:80 (Papst).

The parties’ conflicting interpretations arise from the garbled language of the Claims. The specification clarifies that drivers must be internal to the host device: “[d]rivers for I/O devices customary in a host device which are found in practically all host devices.” 399 Patent, col. 4:27-30; 449 Patent, col. 3:31-34. But in describing such drivers, the specification refers to drivers for printers. The parties agree that printers are not inside a computer. Tr. 2:80 (Papst); Tr. 2:87 (CMs).

The specification expressly defines “drivers customary in a host device” in relation to the devices that such drivers direct. Those devices described are both inside and outside a computer. However, the interface device “signals to the host device that it is an input/output device customary in a host device.” The phrase “customary in a host device” refers to the immediately antecedent noun “device;” there is no other antecedent word that the phrase reasonably could modify. Thus, the input/output [device] must be “customary in a computer.” And the word “in” should be construed in accordance with its ordinary meaning to mean “within,” not “with respect to” as Papst proposes. Papst’s construction ignores the word “in,” rendering it superfluous, and such a construction is disfavored. *See Merck*, 395 F.3d at 1372 (a construction that gives meaning to all the terms of the claim is preferred over one that does not). Papst’s assertion—that the Patent must mean input/output devices customary in a *computer system* because the specification refers to drivers for devices both inside and outside the chassis of the computer—might be what the inventor meant to say when he wrote his Patent. But the Patent does not say that the interface device “signals to the host device that it is an input/output device *for which the host device has drivers that are* customary in a host device.” The Court must construe the claims of the Patent as they are written.

Claims Constr. Op. at 58-59. Accordingly, the Court held that “an input/output [storage] device customary in a host device” means a “data input/output [storage] device that was normally present within the chassis of most commercially available computers at the time of the invention,” specifically finding that the phrase did *not* mean an input/output [storage] device normally present within a computer system.<sup>14</sup>

In making its doctrine of equivalents argument, Papst again ignores the word “in,” arguing that the PTP Accused Devices operate in the same manner as the invention, whether they identify themselves as devices customarily found inside or outside the chassis of a computer. The problem with Papst’s argument is that the doctrine of equivalents cannot be used in a way that completely vitiates a claim limitation. “An element of an accused product or process is not, as a matter of law, equivalent to a limitation of the claimed invention if such a finding would entirely vitiate the claim.” *Freedman Seating Co. v. Am. Seating Co.*, 420 F.3d 1350, 1358 (Fed. Cir. 2005). Equivalence must be assessed on a limitation-by-limitation basis. *Id.* Because every element of a patent claim is material to defining the scope of the invention, the doctrine of equivalents “must be applied to individual elements of the claim, not to the invention as a whole. It is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety.” *Warner-Jenkinson*, 520 U.S. at 29-30. Further, “the doctrine of equivalents cannot be used to erase meaningful structural and functional limitations of the claim on which the public is entitled to

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<sup>14</sup> By asserting that “in a host device” means “within a computer system as a whole” Papst essentially seeks reconsideration of claims construction. Papst fails to meet the standard for reconsideration. *See Singh v. George Wash. Univ.*, 383 F. Supp. 2d 99, 101 (D.D.C. 2005) (reconsideration may be permitted when a court has patently misunderstood a party, has made a decision outside the adversarial issues presented to the court by the parties, has made an error not of reasoning but of apprehension, or where a controlling or significant change in the law or facts has occurred since the submission of the issue to the court.)

rely in avoiding infringement.” *Conopco, Inc. v. May Dep’t Stores Co.*, 46 F.3d 1556, 1562 (Fed. Cir. 1994).

The doctrine of equivalents does not apply where the accused device contains the “antithesis of the claimed structure.” *Planet Bingo LLC v. GameTech Int’l, Inc.*, 472 F.3d 1338, 1345 (Fed. Cir. 2006). The Federal Circuit repeatedly has rejected equivalence arguments such as the one Papst makes here. *See, e.g., Planet Bingo*, 472 F.3d at 1344-45 (rejecting doctrine of equivalents analysis asserting that “before” was the equivalent of “after”); *Asyst Techs., Inc. v. Emtrak Inc.*, 402 F.3d 1188, 1195 (Fed. Cir. 2005) (finding that an “unmounted” microcomputer is not the equivalent of a “mounted” microcomputer); *Seachange Int’l, Inc. v. C-COR Inv.*, 413 F.3d 1361, 1378 (Fed. Cir. 2005) (“indirect” connections between processors are not the equivalent of “direct” connections). Specifically, limitations on location must be met by an equivalent. For example, in *Cooper Cameron Corp. v. Kvaerner Oilfield Prods., Inc.*, 291 F.3d 1317 (Fed. Cir. 2002), the Federal Circuit refused to find infringement under the doctrine of equivalents where the accused structure (a “workover port”) was located “above” two plugs and the patent claim term specified that the workover port was “between” two plugs. Similarly, the Federal Circuit found no infringement under the doctrine of equivalents in *Sage Prods., Inc. v. Devon, Indus., Inc.*, 126 F.3d 1420, 1425-26 (Fed. Cir. 1997), because the accused product had an elongated slot “within,” instead of “on top of,” the claimed container.

Papst insists that its doctrine of equivalents claim is viable under *Voda v. Cordis Corp.*, 536 F.3d 1311 (Fed. Cir. 2008) and *Cordis Corp. v. Boston Scientific Corp.*, 561 F.3d 1319 (Fed. Cir. 2009), but in those cases the application of the doctrine of equivalents did not negate the claim limitation. In *Voda*, the accused products were catheters used by cardiologists. The alleged infringer asserted that the catheters, which were slightly curved, could not meet the

“straight portion” limitation in the asserted patent claims. 536 F.3d at 1326-27. The Federal Circuit upheld the lower court’s finding of infringement by equivalents because an expert had testified that the difference in shape between the curved portion of the accused catheters and the straight portion of the patented device was so insubstantial that “cardiologists would have difficulty distinguishing the two during use.” *Id.* at 1327. The court found that the difference between the characteristic of the accused device (curved) and the claim limitation (straight) was insubstantial. The equivalence argument did not vitiate the claim limitation; instead, the court determined that the accused product met the claim limitation. In *Boston Scientific*, the alleged infringer argued that the accused devices (stents) did not infringe the “corners” limitation of the patent because the stents had “circular arcs.” 561 F.3d at 1323, 1329-31. The Federal Circuit determined that the “circular arcs” in the accused products were actually “rounded corners” that met the claim limitation under the doctrine of equivalents. *Id.* at 1330. As in *Voda*, the equivalence argument did not nullify the claim limitation. *Id.* (the equivalence theory that the “circular arcs” are “corners” did not render the claim limitation meaningless).

In contrast to *Voda* and *Boston Scientific*, Papst’s equivalence theory here eviscerates the “customary *in* a host device” claim limitation. Under Papst’s argument, “in” means “outside,” and thus *any* input/output [storage] device would satisfy the claim limitation. The Court must reject Papst’s equivalence argument because it renders meaningless the claim term “in.”

Papst’s equivalency argument also conflicts with the Court’s interpretation of the term “host device.” Papst contends that the Patents have “an expansive view of what comprises a ‘host device,’” such that a “host device” is really a computer system, including all the peripherals that might be attached to a computer, such as a mouse, a printer, and a scanner.



Opp'n at 16-18.<sup>15</sup> Papst argues that “components normally outside the chassis may be equivalents of components normally inside the chassis.” *Id.* at 17. However, “host device” was defined during claims construction as “a general purpose computer that connects to and directs the operation of peripherals . . . .” Claims Constr. Op. at 27. The Court rejected Papst’s expansive view, adopting the definition provided in the specification, that the “host device” is a computer. *See id.* at 24-25 (citing 399 Patent 1:9-11 (“The present invention relates 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 . . . .”) (emphasis added); 449 Patent 1:13-15 (same)).

Papst further insists that the “customary in a host device” claim limitation really deals with “the signals sent by the PTP [Accused] Devices in response to an inquiry instruction, not whether any particular input/output devices are inside the chassis or outside.” Opp’n [Dkt. 474] at 18. This argument is based on what Papst wishes the Patents said, not on the actual language of the Patents. The Court’s claim construction was based on the text of the claims, the specifications, and the prosecution history. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (patent claim must be construed from the viewpoint of one skilled in the art at the time of invention and in light of the patent documents and the prosecution history). The Court did not and cannot construe the Patents to say what Papst wishes they said; instead, the Court must construe the claims of the Patents as they are written. The phrase “customary in a host device” modifies the word “device” and thus the input/output device must be “customary in

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<sup>15</sup> Papst has been inconsistent in its position. In the Final Infringement Contentions, Papst noted that a printer would not be considered a “host device,” and instead would be considered a “data transmit/receive device.” FICs at 25. In opposition to summary judgment on this claim limitation, Papst now claims that a printer is part of a host device. Opp’n at 17.

a computer.” Claims Constr. Op. at 58. The Court rejects Papst’s attempt, again, to read the “customary in a host device” phrase out of the Patents. *See Merck & Co., Inc. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (a construction that gives meaning to all the terms of the claim is preferred over one that does not).

In response to an inquiry from a computer, the PTP Accused Devices identify themselves as still image capture devices, like scanners. Because such devices could not be found inside the chassis of computers at the time of the invention, the PTP Accused Devices fail to meet the “customary in a host device” claim limitation. *See Celotex*, 477 U.S. at 325 (the burden on a moving party who does not bear the burden of proof may be discharged by pointing out that there is an absence of evidence to support the nonmoving party’s case). The burden shifts to Papst to show a genuine dispute of material fact by presenting some evidence that still image capture devices could be found within the chassis of a computer in 1998.<sup>16</sup> Because Papst has failed to do so, the motion for summary judgment of noninfringement will be granted in favor of the Camera Manufacturers with regard to the PTP Accused Devices.<sup>17</sup> *See id.* at 322

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<sup>16</sup> Papst notes that some of the PTP Accused Devices record video and sound as well as still images and objects to the Camera Manufacturers’ characterization of a still image capture device as one that produces digital still images like a camera or a scanner. *See* Opp’n at 25 (criticizing Berg. Decl. [Dkt. 449-3] ¶ 20)). The Camera Manufacturers do not dispute that PTP Accused Devices such as camcorders capture video and sound in addition to still images. The point is not relevant to the issue before the Court—which is whether a still image capture device could be found inside a computer in 1998, and thus whether the PTP Accused Devices on Table 14 (devices that identify themselves as still image capture devices) meet the “customary in a host device” limitation.

<sup>17</sup> The Camera Manufacturers also argue that USB still image capture devices did not exist at the time of the invention and the USB protocol for still image capture devices did not yet exist. Because the Court holds that the PTP Accused Devices do not meet the “customary in a host device” limitation (since they identify themselves as a scanner-type device, not found inside the chassis of a computer at the relevant time), the Court does not reach this argument.

(summary judgment can be granted against a party who fails to make a showing sufficient to establish an element essential to the party's case, on which he bears the burden of proof).

### **C. MSC Accused Devices**

Papst alleges that the MSC Accused Devices infringe the 399 and 449 Patents. Papst further allege that the MSC Accused Devices meet the “customary in a host device” claim limitation because a device operating in MSC mode will be recognized by a computer as a “mass storage class device, such as a disk drive.” FICs at 36. The Patents expressly identify hard disk drives as the preferred input/output devices that are emulated by the interface device. *See* 399 Patent 5:6-9 (“The interface device according to the present invention therefore simulates, both in terms of hardware and software, the way in which a conventional input/output device functions, preferably that of a hard disk drive.”); 449 Patent 4:10-13 (same).

The Camera Manufacturers agree “that the general category of mass storage devices, such as hard drives, were [sic] available at the time of the invention, and that they were often found within the chassis of computers at that time (as they are now).” Reply [Dkt. 501] at 13. However, the Camera Manufacturers contend that an MSC Accused Device does not identify itself to a host computer simply as a “disk drive”—instead, it identifies itself as a USB Mass Storage Class device,<sup>18</sup> which is a peripheral typically found *outside* the chassis of computers and which did not exist until *after* the time of the invention. Reply at 14. Because USB Mass Storage Class devices did not exist at the time of the invention and thus could not be found inside the chassis of a computer at that time, the Camera Manufacturers argue that the MSC Accused Devices do not meet the “customary in a host device” claim limitation.

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<sup>18</sup> The Camera Manufacturer's expert, Paul Berg, states only that the MSC Accused Devices identify themselves as “Mass Storage Class” devices. Berg Decl. ¶ 29 (an MSC device will respond with a value that corresponds to Mass Storage Class); *id.*, Ex. 12 at 11, “Table 4.5 – Bulk-Only Data Interface Descriptor.”

Papst agrees that USB Mass Storage Class devices were not available in 1998 and that the MSC Accused Devices communicate using the Mass Storage Class specification. Even so, Papst avers that the MSC Accused Devices meet the “customary in a host device” limitation by identifying themselves *generally* as mass storage devices (hard drives), which were commonly found inside computers in 1998.

Papst has the better part of this argument. A hard disk drive does not become some other type of device just because it is attached to, or communicates with, a computer using a USB connection and USB protocol. The Patents require only that the interface device identify itself to a computer as a “device” that is customary in a host device (preferably a hard disk drive). The Patents do not claim that the interface device has a “connector” that is customary in a host device or that the interface device uses a “protocol for communication” that is customary in a host device.

More specifically, the Patents do not require that the multipurpose interface of the host computer be “customary” or that it be any particular type of connector. The Patents refer to the attachment of the interface device to a host device via a multi-purpose interface as follows:

wherein the [interface device] . . . when receiving an inquiry from the host device as to a type of a device attached to the *multi-purpose interface* of the host device, sends a signal, regardless of the type of the data transmit/receive device attached to the second connecting device of the interface device, to the host device which signals to the host device that it is an input/output device customary in a host device.

399 Patent 12:64-67, 13:1-5: (emphasis added); 449 Patent 11:60-67 (same, except substituting “storage device” for “input/output device”). The Court defined “multi-purpose interface” as “a communication interface designed for use with multiple devices that can have different functions from each other.” Claims Constr. Op. at 33. This definition is sufficiently broad to include any type of connector, including a USB connector.

Similarly, the Patents do not require that the interface device communicate with the computer using a particular communication protocol. With regard to a preferred embodiment of the invention, the specifications describe an interface device that communicates with a computer as follows:

(1) When the interface device is connected to a computer and a data transmit/receive device and the computer is booted up, the normal BIOS (Basic Input/Output System) routines or multi-purpose interface programs of the computer issue an INQUIRY instruction. *See* 399 Patent 6:3-10; 449 Patent 5:2-9.

(2) The interface device's digital signal processor receives this instruction and generates a signal to the computer, indicating that, for example, a hard disk drive is attached. 399 Patent 6:10-15; 449 Patent 5:9-15.

(3) Upon receiving this response, the computer asks to read the boot sequence of a customary hard disk drive, and the interface device sends a virtual boot sequence, including the drive type, the starting position and the length of the file allocation table, and the number of sectors. 399 Patent 6:22-32; 449 Patent 5:22-32. Once the computer has received this data, it assumes that the interface device is a hard disk drive. 399 Patent 6:32-35; 449 Patent 5:32-35.

The Camera Manufacturers' expert, Paul Berg, and Papst's expert, Dr. C.

Douglass Locke, agree that when an MSC Accused Device is attached to a computer, the computer sends an inquiry called a "Get\_Descriptor" command, seeking information concerning the type of device attached to the computer. Berg. Decl. [Dkt. 449-3] ¶ 39; Lock Third Decl. ¶ 586. In response to the "Get\_Descriptor" command, an MSC Accused Device will send descriptor values. In the MSC specification, these descriptors are the bInterfaceClass descriptor, the bInterfaceSubClass descriptor, and the bInterfaceProtocol descriptor. Berg Decl. ¶ 29; Locke Third Decl. ¶ 587. An MSC Accused Device will respond with a value of 08h for the bInterfaceClass field, which corresponds to "Mass Storage Class." Berg Decl. ¶ 29; Locke Third Decl. ¶ 588. The drivers that the computer then uses to communicate with the MSC Accused

Devices are the drivers that the computer would use to communicate with a hard disk drive. Locke Third Decl. ¶ 590; FICs 36-38 (in response to the inquiry command from the computer, the MSC Accused Devices respond with descriptors that identify themselves as hard disk drives).

Papst has presented a genuine dispute of material fact regarding whether the MSC Accused Devices meet the “customary in a host device” claim limitation because a device operating in MSC mode will be recognized by a computer as a mass storage class device, such as a disk drive. The fact that the MSC Accused Devices use a USB connector does not preclude Papst’s claim of infringement. The Camera Manufacturers’ motion will be denied on this ground.

#### **D. New Theory of Infringement**

Papst also asserts a new theory of infringement, arguing that in addition to identifying themselves as Mass Storage Class devices, MSC Accused Devices also identify themselves as SCSI Direct Access devices.<sup>19</sup> See Opp’n at 8-10. However, Papst failed to allege infringement based on this theory in its Final Infringement Contentions, and it is too late to do so now. The Court ordered Papst to file final infringement contentions in compliance with detailed requirements. See Mot. for Sanctions [Dkt. 388], Ex. A (Tr. of Aug. 31, 2010 Hearing); Sixth Prac. & Pro. Order (Sixth PPO) [Dkt. 372]. Because Papst filed Final Infringement Contentions that failed to comply with Court’s orders, the Court barred Papst from advancing any arguments

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<sup>19</sup> “SCSI” stands for “small computer system interface.” In alleging that the MSC Accused Devices infringe the “customary in a host device” limitation, the Final Infringement Contentions allege three examples: (1) the Panasonic DMC-LXI Digital Camera signals that it is “a disk drive compatible with a SCSI command set”; (2) an MSC Accused Device identifies itself as a “disk drive compatible with a ATAPI command set”; and (3) when an MSC Accused Device is attached to an Apple Macintosh using the OS X Snow Leopard operating system, the computer loads three drivers (IOUSBMassStorageClass, IOCSIBlockCommandsDevice, and filesystems.msdosfs) which are used when an actual hard disk drive is attached to the interface of an Apple Macintosh computer. FICs at 37-38. The FICs do not accuse any devices of infringement because they identify themselves as SCSI Direct Access devices.

for infringement (or against claims of noninfringement) that either (1) are not based solely on this Court’s constructions of the Patents or (2) are not already set forth specifically and explicitly in Papst’s Final Infringement Contentions. *See* Sanctions Op. [Dkt. 429] at 13; Sanctions Order [Dkt. 430] at 2. Accordingly, Papst is barred from asserting this new theory of infringement.<sup>20</sup>

#### **E. Additional Discovery**

At one time, Papst sought more discovery regarding the “input/output [storage] device customary in a host device” claim limitation. *See* Mot. for 56(d) Disc. [Dkt. 479] at 23-31. Papst later withdrew the request for more discovery as to this claim limitation. Papst Reply [Dkt. 515]. Thus, Papst’s request for more discovery regarding the “customary in a host device” claim limitation will be denied as moot.

#### **IV. CONCLUSION**

The Camera Manufacturers’ motion for summary judgment of noninfringement with respect to the “input/output [storage] device customary in a host device” claim limitation [Dkt. 449] will be granted in part and denied in part.<sup>21</sup> Summary judgment of noninfringement of the 399 Patent will be granted in favor of the Camera Manufacturers with respect to the PTP Accused Devices, as they do not meet the “customary in a host device” claim limitation. Summary judgment of noninfringement will be denied with respect to the MSC Accused

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<sup>20</sup> Papst had not alleged that the MSC Accused Devices infringe under the doctrine of equivalents. Papst is barred from now making such a claim. *See* Sanctions Op. [Dkt. 429] at 13; Sanctions Order [Dkt. 430] at 2.

<sup>21</sup> As it has in each of the eight motions for summary judgment in this case, Papst moved to file a surreply in opposition to the Camera Manufacturers’ motion for summary judgment with respect to the “input/output [storage] device customary in a host device” claim limitation. *See* Mot. for Leave to File Surreply [Dkt. 514]. Because surreplies are disfavored in this District and because the Camera Manufacturers’ Reply [Dkt. 501] did not raise new issues, Papst’s motion to file a surreply will be denied. *See Crummey v. Social Security Admin.*, 794 F. Supp. 2d 46, 62 (D.D.C. 2011).

