

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

IN RE PAPST LICENSING GMBH & CO. KG LITIGATION)	
)	
This document relates to)	Misc. Action No. 07-493 (RMC)
)	
ALL CASES)	MDL No. 1880
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**OPINION RE: CAMERA MANUFACTURERS’ MOTION FOR SUMMARY
JUDGMENT OF NONINFRINGEMENT OF THE 449 PATENT
 (“SIMULATING A VIRTUAL FILE SYSTEM”)**

Papst Licensing GmbH & Co. KG, a German company, sues multiple manufacturers of digital cameras for alleged infringement of two patents owned by Papst: U.S. Patent Number 6,470,399 (399 Patent) and U.S. Patent Number 6,895,449 (449 Patent). The Camera Manufacturers¹ have moved for summary judgment of noninfringement with respect to the 449 Patent because the accused products do not meet the “simulating a virtual file system” claim limitation. The motion will be granted.

¹ This Multi District Litigation (MDL) currently consists of First and Second Wave Cases. The “First Wave Cases” are: *Fujifilm Corp. v. Papst*, 07-cv-1118; *Matsushita Elec. Indus. Co., Ltd. v. Papst*, 07-cv-1222; *Papst v. Olympus Corp.*, 07-cv-2086; *Papst v. Samsung Techwin Co.*, 07-cv-2088; *Hewlett-Packard Co. v. Papst*, 08-cv-865; and *Papst v. Nikon Corp.*, 08-cv-985. The “Second Wave Cases” currently are: *Papst v. Canon*, 08-cv-1406; *Papst v. Sanyo*, 09-cv-530. The Camera Manufacturers (CMs) seeking summary judgment here are parties in the First Wave Cases; they are: Fujifilm Corporation; Fujifilm U.S.A., Inc.; Fujifilm Japan; Panasonic Corporation (f/k/a as Matsushita Electric Industrial Co., Ltd.); Victor Company of Japan, Ltd.; Olympus Corporation; Olympus Imaging America Inc.; Samsung Techwin Co., Ltd.; Samsung Opto-Electronics America, Inc.; Panasonic Corporation of North America; JVC Company of America; Hewlett-Packard Company (HP); Nikon Corporation; and Nikon, Inc. Papst’s infringement contentions against HP have been stricken and discovery has been stayed.

I. FACTS²

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. Michael Tasler invented and patented the “interface device” and later sold the Patents to Papst. The invention was never produced or used.

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 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; *see also* 399 Patent 5:67 & 6:1-22; 449 Patent 4:66-67 & 5:1-22.³

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. As support for hard disks is implemented as standard in all commercially available host systems, the simulation of a hard disk, for example, can provide host device-independent use. The interface device according to the present invention therefore no longer communicates with the host device or computer by means of a specially designed driver but by means of a program which is present in the BIOS system (Basic Input/Output System) and is normally precisely matched to the specific computer system on which it is installed, or by means of a specific program for the multi-purpose interface.

² This motion is one of eight filed by the Camera Manufacturers. In the interest of timely disposition, 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].

³ The Patents are cited by a column number, then a colon, then the line number.

399 Patent 5:5-20; 449 Patent 4:9-24 (same). By directing the computer to communicate using customary software already in the computer, the interface device fulfills 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).

B. The 449 Patent and the “Virtual File System” Limitation

The immediate motion for summary judgment is based on the “simulating a virtual file system” claim limitation of the 449 Patent. The products that Papst accuses of infringement are digital cameras, camcorders, and voice recorders manufactured and/or sold by the Camera Manufacturers in the United States. Papst alleges that these accused products are “interface devices” that infringe the following Claims of the 449 Patent: independent Claims 1, 17, and 18 and dependent Claims 2, 6, 7, 8, 9, 12, 13, 15, and 16. All of these asserted Claims include the limitation “wherein the interface device is arranged for simulating a virtual file system to the host.”⁴ For example, Claim One of the 449 Patent provides:

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

⁴ Dependent Claims 2, 6, 7, 8, 9, 12, 13, and 15 each incorporate, by reference, all of the limitations of Claim 1 and therefore include the “simulating a virtual file system” limitation.

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 11:45-67 & 12:1-6 (emphasis added). In other words, once the interface device signals that it is a customary storage device already known to the host computer, the computer communicates with the interface device using the driver, *i.e.*, software, for the customary storage device, and the interface device simulates a “virtual file system” to the computer. *Id.* 12:1-6.

The specification does not add much more detail regarding the simulation of a virtual file system; it merely describes the communication between the host computer and the interface device and explains that, in its preferred embodiment, the interface device signals to the computer that “a hard disk drive is attached” and the interface “simulates a hard disk with a root directory⁵ whose entries are ‘virtual’ files which can be created for the most varied functions.” *Id.* 4:66-67 & 5:1-15; *see id.* 4:9-13 (“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.”); *id.* 5:58-59 (“As described above, the interface device appears to the host device as a hard disk.”)

⁵ During claims construction, the parties agreed that a “root directory” is “a directory that is not in another directory.”

As relevant to the present motion, the invented interface device receives data from a data transmit/receive device and makes the data appear to the computer as an ordinary file stored on a storage device such as a hard drive. The specification explains that after receiving a “read file xy” message from the computer, the interface device begins to transfer data from the transmit/receive device to the computer:

The second command interpreter of the digital signal processor [within the interface device] now interprets the read command of the host processor as a data transfer command, by decoding whether “xy” denotes, for example, a “real-time input” file, a “configuration” file or an executable file, whereby the same *begins to transfer data* from the data transmit/receive device via the second connecting device to the first connecting device and via the line 11 to the host device.

See id. 5:59-67 (emphasis added). In the preferred embodiment of the invention, the interface device allows the computer to “read” a virtual “real time input” file:

Preferably, the volume of data to be acquired by a data transmit/receive device is specified in a configuration file described in the following [sic] by the user specifying in the said configuration file that a measurement is to last, for example, five minutes. To the host device the “real time input” file then appears as a file whose length corresponds to the anticipated volume of data in those five minutes. Those skilled in the art know that communication between a processor and a hard disk consists of the processor transferring to the hard disk the numbers of the blocks or clusters or sectors whose contents it wishes to read. By reference to the FAT [File Allocation Table] the processor knows which information is contained in which block. In this case, communication between the host device and the interface device according to the present invention therefore consists of the very fast transfer of block numbers and preferably of block number ranges because a virtual “real time input” file will not be fragmented. If the host device now wants to read the “real time input” file, it transfers a range of block numbers to the interface device, whereupon data commences to be received via the second connecting device and data commences to be sent to the host device via the first connecting device.

Id. 6:1-22.

In light of the language of the 449 Patent and the specification, the Court found that a “virtual file system” is:⁶

[O]ne that is “not physically existing as such but made by software to appear to do so.” Oxford English Dictionary at 674 (defining “virtual” in the context of computers) (attached to CMs’ *Markman* Br. as Ex. P); *accord* New IEEE Dictionary at 1461 (“virtual record” is a record that “appears to be but is not physically stored”) (attached to CMs’ *Markman* Br. as Ex. G).

Modified Claims Construction Op. [Dkt. 336] (Claims Constr. Op.) at 68. Thus, the Court defined the phrase “simulating a virtual file system” as used in the 449 Patent to mean “appearing to be a system of files, including a directory structure, that is *not physically stored*; rather, it is constructed or derived from existing data when its contents are requested by an application program so that it appears to exist as a system of files from the point of view of the host device.” *Id.* at 68-69 (emphasis added); *see also* Claims Construction Order [Dkt. 337] at 5. Likewise, the Court construed the term “virtual files” as “files that appear to be but are not physically stored; rather, they are constructed or derived from existing data when their contents are requested by an application program so that they appear to exist as files from the point of view of the host device.” Claims Constr. Op. at 67.⁷

⁶ 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).

⁷ The phrase “virtual file” is used in Claim Seven of the 399 Patent and does not appear in the 449 Patent. Because the Court construed the term “virtual file” immediately before, and consistently with, its construction of the phrase “virtual file system,” the Court’s construction of the term “virtual file” provides important context here.

C. Accused Products

The “Accused Products” are all of the digital cameras, camcorders, and voice recorders listed in the Final Infringement Contentions by make and model.⁸ *See generally* Final Infringement Contentions [Dkt. 416] (FICs) at 220-306 (Tables 12-14). All of the products accused of infringing the 449 Patent are Mass Storage Class (MSC) devices. *See* FICs at 261-286 (Table 13). MSC devices communicate using the “MSC” specification, which means that when an MSC device is connected to a computer and the computer inquires as to what type of device it is, the MSC device identifies itself as a mass storage class device such as a hard disk drive. *See* FICs 36-38.

It is uncontested that the Accused Products physically store actual files, such as image files, movie files, and/or audio files in standard file formats. *See* Mot. for Summ. J. Regarding 449 Patent (MSJ Re 449 Patent) [Dkt. 452], Decls. of CMs Representatives [Dkt. 452-5]⁹; FICs at 49 (the accused MSC devices “all store files in solid state memory”); Opp. at 10 (“All of the data that appears in the file system is stored in the memory chips as blocks of boot sequence, FAT, directory structure, and files data.”). The Accused Products store files in one or both of two types of non-volatile memory: (1) removable memory such as memory cards; and/or (2) non-removable, internal memory. Decls. of CMs Representatives [Dkt. 452-5].¹⁰ The files stored in the Accused Products’ non-volatile memory can be accessed and downloaded when the

⁸ Papst was not granted leave to add cell phones and MP3 players to this litigation. *See* Sanctions Op. [Dkt. 388] at 12.

⁹ *See* Declarations of CMs Representatives: Suzuki (Olympus) Decl. ¶ 4; Miura (Olympus) Decl. ¶ 4; Takashima (Panasonic) Decl. ¶ 4; Higaki (Panasonic) ¶ 4; Otsuka (JVC) Decl. ¶ 4; Lim (STW) Decl. ¶ 4; Tamayama (Fujifilm) Decl. ¶ 5. “STW” is Samsung Techwin Co., Ltd. and Samsung Opto-Electronics America, Inc., collectively.

¹⁰ *See* Suzuki (Olympus) Decl. ¶ 5; Miura (Olympus) Decl. ¶ 5; Takashima (Panasonic) Decl. ¶ 5; Higaki (Panasonic) ¶ 5; Otsuka (JVC) Decl. ¶ 5; Lim (STW) Decl. ¶ 5; Tamayama (Fujifilm) Decl. ¶ 6.

Accused Products are connected to a computer or when their memory cards are inserted into the memory card slot of a computer. *Id.*¹¹

Further, the Accused Products' non-volatile memory complies with the FAT (File Allocation Table) file system specification. *Id.*¹² Papst does not dispute that the Accused Products use a common FAT file system. *See* MSJ Re 449 Patent at 12; Opp'n at 5-6 [Dkt. 471]. FAT is a well-known and widely-used file system that originated in the late 1970s and early 1980s. *See* Reply [Dkt. 503], FAT Specification [Dkt. 452-2] at 1.

Arguing that the Accused Products store real physical files and do not simulate a "virtual file system," the Camera Manufacturers move for summary judgment of noninfringement of the 449 Patent. *See* MSJ Re 449 Patent [Dkt. 452]; Reply [Dkt. 503]. Papst opposes. *See* Opp'n [Dkt. 471].

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. 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.

¹¹ *See* Suzuki (Olympus) Decl. ¶¶ 7, 9; Miura (Olympus) Decl. ¶¶ 7, 9; Takashima (Panasonic) Decl. ¶¶ 7, 9; Higaki (Panasonic) ¶¶ 7, 9; Otsuka (JVC) Decl. ¶¶ 7, 9; Lim (STW) Decl. ¶¶ 7, 9; Tamayama (Fujifilm) Decl. ¶¶ 8, 10.

¹² *See* Suzuki (Olympus) Decl. ¶ 11; Miura (Olympus) Decl. ¶ 11; Takashima (Panasonic) Decl. ¶ 11; Higaki (Panasonic) ¶ 11; Otsuka (JVC) Decl. ¶ 11; Lim (STW) Decl. ¶ 11; Tamayama (Fujifilm) Decl. ¶ 12. The FAT system is governed by a specification produced by the Microsoft Corporation called the "Microsoft Extensible Firmware Initiative: FAT32 File System Specification."

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 “[t]he 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). Thus, on summary judgment the Camera Manufacturers bear the burden of making an initial showing that there is an absence of evidence to support Papst's claim of infringement, and Papst bears the burden of presenting specific facts showing that there is a genuine dispute of material fact for trial.

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). That is, if even a single claim limitation is absent in the accused device, there is no infringement. *Phonometrics, Inc. v. N. Telecom Inc.*, 133 F.3d 1459, 1467 (Fed. Cir. 1998). If a device does not infringe an independent claim of a patent, the device

cannot infringe a claim dependent on that independent claim.¹³ *Wahpeton Canvas Co., Inc. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n.9 (Fed. Cir. 1989).

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). 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.” *Am. Calcar*, 651 F.3d at 1338.

With respect to the present the “virtual file system” limitation, Papst’s Final Infringement Contentions allege actual infringement and do not allege infringement pursuant to the doctrine of equivalents.

B. Comparison of the Accused Products to the “Simulating a Virtual File System” Limitation

The premise of the 449 Patent is that the interface device responds to an inquiry from the host computer by signaling that the interface device is a customary storage device (preferably a hard disk drive) from which the computer can read data using the same software that the computer would use to read a hard disk drive. *See, e.g.*, 449 Patent 4:9-24, 5:58-59. The interface device connects to a data transmit/receive device (where the data to be read originates) and separately connects to the host computer. 449 Patent, FIGS. 1&2; 4:48-49, 55-58

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

(interface device connected to host device at one end by host line 11 and to data transmit/receive device at other end by output line 16). The interface device “fools” the host computer into accepting it as a customary device for which the computer already has drivers. *See* 449 Patent 4:9-24. The purpose of the interface device is to allow data transfer between numerous kinds of data transmit/receive devices and a computer without the need for separate drivers in the computer for each kind of data transmit/receive device. *Id.*; 449 Patent 3:20-23. Thus, the invention is exactly as it is titled: an *interface* for communication between a source of data, a data transmit/receive device, and a computer. 449 Patent, Title & Abstract.

The “files” that the host computer reads are not physically stored on the interface device. Rather, the interface device “simulates a virtual file system” that appears to show data, originating from the data transmit/receive device, in a format known to, and easily read by, the computer. *See* 449 Patent 6:1-22 & 12:4-5. A “virtual file” is “not physically stored” but is “constructed or derived from existing data” when its contents are requested so that it appears to the computer to be a physical file. Claims Constr. Op. at 68-69. A virtual file system does not actually exist, but software creates it in way that makes it appear to exist. *Id.* at 68. The software on the interface device makes the host computer believe that a customary data file is present when, in fact, there is no such file.

In contrast, the Accused Products have memory cards and internal memory that physically store real files in real file systems. Digital cameras, camcorders, and voice recorders physically store photographs, movies, and sound files. For example, when a user wants to see a photograph, he can connect his digital camera to a computer or insert the camera’s removable memory card into the computer’s memory card slot to view or download the image file as often as he wants, each time viewing/downloading the very same physical file. The files actually

exist; they are real and not virtual. Papst admits the critical fact—that the Accused Products physically store files. FICs at 49 (the accused MSC devices “all store files in solid state memory”); *see also* Opp. at 10 (“All of the data that appears in the file system is stored in the memory chips as blocks of boot sequence, FAT, directory structure, and files data.”); *id.* at 9 (“ . . . the FAT, directory structure, and files are physically stored on memory chips”); *id.* at 12 (“All the data that appears in the files is stored in the memory chips as blocks of file data.”); *id.* at 8 (“[T]he file system that appears to the host computer must be assembled from the blocks of FAT, directory structure, and file data stored in the memory chips”); *id.* at 7 (referring to “blocks of FAT, directory structure and file data stored in the memory chips”).

These admissions are fatal to Papst’s opposition here. Because the Accused Products physically store real files and the invention simulates virtual files on a virtual file system, the Accused Products do not literally infringe the 449 Patent.

C. Papst’s Request for Reconsideration

Although conceding that the Accused Product all store physical files, Papst does not concede that they do not infringe the 449 Patent. Papst’s Final Infringement Contentions object to the Court’s construction of “virtual files” and “virtual file system.” Ignoring the Court’s *Markman* opinion, Papst asserts first that virtual files “should be construed to mean files which appear to be present on an emulated disk drive, yet which are not actually on a rotating magnetic disk. There is nothing in the use of the word ‘virtual’ to preclude a real, stored file underlying the virtual representation of the file.” *Id.* at 49. Second, Papst asserts that a “‘virtual file system’ may include an actual file system under a layer of abstraction.” *Id.* at 50. Papst made, and lost, this argument during claims construction. Explaining that what is stored on the interface device is software that directs the interface device to present data *as if* it were in real

files, the Court held that “virtual files” and “virtual file systems” are “not physically stored; rather, they are constructed or derived from existing data when their contents are requested by an application program” Claims Constr. Op. at 67 (defining “virtual files”); *id.* at 68 (defining “virtual file system”).

Repeating its argument here, Papst essentially seeks reconsideration of claims construction. It 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.) The request for reconsideration will be denied.

D. Papst’s New Theory of Infringement

Under the ruse that it is merely interpreting the Court’s claims construction, Papst presents a new theory of infringement in opposition to the Camera Manufacturers’ motion. *See, e.g.*, Opp’n at 8-14, 21-22. Papst is barred from arguing this new theory as it ignores the Court’s Claims Construction Opinion and Sanction Order (discussed below). Further, its arguments are erroneous.

Papst argues that the Accused Products infringe the “simulating a virtual file system” limitation because the system of files that appears to the host computer is “organized differently” than the manner in which data is physically stored. Papst explains its new theory at great length:

[T]he system of files that appears to the host computer in the MSC Accused Products is “not physically stored” because *the physical address for the data of the files and system of files that appear to the host computer must be constructed for each of the blocks of*

FAT, directory structure, and file data that are stored in a scattered fashion in the memory chips. The host computer can only request blocks of FAT, directory structure and file data stored in the memory chips using their logical block addresses [LBAs]. In order for the host computer to determine which blocks of data correspond to any particular file, the host computer attached to the MSC Accused Products must first obtain the blocks of FAT and directory structure data from the memory chips using LBAs, which are then translated in the interface device into the physical memory addresses of the memory chips, where the blocks of data corresponding to the FAT and directory structure are stored. The host computer must then determine the LBAs for the blocks of data that correspond to a particular file and request blocks of data corresponding to those LBAs to be sent to the computer. The MSC Accused Products then translate the LBAs to physical memory addresses where the blocks of file data are stored in the memory chips. The translation of LBAs to physical addresses occurs in the MSC Accused Products, independently of the attached host computer.

Opp'n at 6-7 (emphases added) (citing Papst's Notice of Filing Documents [Dkt. 475], Third Locke Decl. [Dkt. 475-1] ¶¶ 231-58). The main points, according to Papst's current arguments, are that: (1) files on the Accused Products "are not physically stored in the same form in which they appear to the host, because the blocks of data that make up the file system and files are stored in a scattered fashion on the memory chips," *id.* at 11, and (2) the process is "virtual" because it "translat[es] the logical block addresses from the host device into physical addresses of the solid-state memory," *id.* at 15 (citing Third Locke Decl. ¶ 315g(5) & (6)).

Papst's new definition of a "virtual file system" is so broad that it would include most, if not all, standard file systems. As Papst acknowledges, the Accused Products use a FAT file system. Opp. at 6. FAT was introduced by Microsoft in the 1970s and was first used in the Microsoft MS-DOS operating system. *See* FAT Specification [Dkt. 452-2]. In the world of computing, it has existed almost since the beginning of time. FAT is now one of the most widely-used file systems in the world. Reply at 6-7. The FAT file system organizes data by storing it in "logical sectors," called "logical block addresses," which the FAT driver translates

into physical locations for retrieval when data is requested. *Id.* Papst argues that the process of translating logical block addresses into physical addresses where data is stored in real memory constitutes a virtual file system because data is “scattered” in a FAT file system and yet presented upon request in a different fashion. Opp. at 5 (“The data from the memory chips, once located, can then be sent to the host computer, which would ‘view’ the scattered data as files or systems of files whose data is organized differently than how the data is stored in memory chips.”) The use of logical sectors to locate an electronic physical address does not create a “virtual” file system, as Papst would have it. Despite Papst’s best efforts to confuse, the Accused Products store data in real files that are not at all virtual. Papst’s interpretation of “virtual file system” would render the term meaningless because it would subsume most real *and* virtual file systems, including those long established before Mr. Tasler’s invention. *See Modine Mfg. Co. v. U.S. Int’l Trade Comm’n*, 75 F.3d 1545, 1557 (Fed. Cir. 1996), (“When claims are amenable to more than one construction, they should when reasonably possible be interpreted so as to preserve their validity”).

Papst’s remaining arguments are not worthy of long discussion. Papst asserts that “the Court acknowledged that the data making up the file system would be present, but would be stored in a different way than what the host sees.” Opp’n at 21. Papst relies on the Court’s use of the phrase “as such”: the Court defined “virtual file system” to be a file system that is “not physically existing *as such* but made by software to appear to do so.” Papst contends that the phrase “as such” means that the data that make up a virtual file *is* physically stored, but it is just stored in a different way than what the host computer can see. *Id.* (citing Claims Constr. Op. at 68 (emphasis added)). The words “as such” do not undermine the clear message of the Claims Construction Opinion: “virtual file system” and “virtual files” are “not physically existing” and “not physically stored.” Claims Constr. Op. at 66-68.

In the same vein, Papst argues that, while a virtual file system is not physically stored, underlying “existing data” may be physically stored. Opp’n at 1. The point is accurate but irrelevant. The Court’s definition of virtual file system refers to “existing data” as follows—“appearing to be a system of files . . . that is not physically stored; rather, it is constructed or derived from existing data when its contents are requested” Claims Constr. Op. at 68. Papst over reads the term “existing data” to refer to data that is physically stored on the interface device. As is clear from the 449 Patent and its specification, *see* 449 Patent 1:35-48, the data transmit/receive device might store, generate, and/or stream data (“existing data”) that the interface device then presents as a virtual file to the host computer so that it can be read.

Finally, Papst argues that the definition of “virtual file system” should be the same as the definition of “virtual memory,” which “does not mean that something does not exist at all. Rather, it exists but in a form different from the observed form.” Opp. at 22. In essence, this is another request for reconsideration of the Claims Construction Opinion and, for the reasons outlined above, the Court again denies it. In any event, the definition of “virtual memory” is inapposite. As Papst explains it, the concept of “virtual memory” is that “external data storage that actually exists is made to look like internal computer memory that actually exists.” Opp’n at 22. Papst reasons, that “in this specific example, ‘virtual’ does not mean that something does not exist at all. Rather, it exists but in a form difference from the observed form.” *Id.* “Virtual memory” is a separate and distinct concept from that of “virtual file system.” As discussed above, a “virtual file system” is a software construct used to present data when a “file” is requested.

E. Papst is Barred from Modifying Its Final Infringement Contentions

Papst is precluded from asserting any new theories of infringement pursuant to a sanction. To understand how Papst came to be sanctioned, some history is needed.

Papst had filed imprecise infringement contentions before the Court construed the Patents. *See* Infringement Contentions [Dkt. 110]. After claims construction, the Court ordered Papst to file final revised infringement contentions that (1) would conform to the Court's interpretation of the Patents as set forth in the Claims Construction Opinion and Order and (2) would enable the parties to engage in focused discovery.

The need for final contentions from Papst became evident at a discovery status conference in August 2010, three years into the litigation. Papst had submitted extraordinarily broad discovery to the Camera Manufacturers, and the Court ordered Papst to redefine its asserted claims and infringement contentions in light of the claims construction opinion so that discovery could be more focused, as previously ordered:

I said focused discovery and what I got was a shotgun shell. I mean, everything. I do not consider that focused and I don't think that it fulfills my obligation to get this done quickly and with the least expense possible under the circumstances. So what I think we need to start with is the concept that Papst filed infringement contentions . . . and hasn't changed them, hasn't indicated it wants to change them, hasn't indicated it plans or needs to change them but now says [it] need[s] a ton of discovery. I'm not sure that all of your contentions can stand in light of the claims construction decision which I appreciate you don't like, it's okay. But nobody knows what they're fighting about now. Nobody can tell and you don't want to tell them, and we're not going to do it that way. I mean, you're the plaintiff. You have allegations, you need to say what they are. So the first thing is I'm going to direct Papst to refile its claims contentions, its infringement contentions. . . . File that, then we'll know what we're arguing about. Only then can we figure out what discovery is really needed.

See Mot. for Sanctions [Dkt. 388], Ex. A (Tr. of Aug. 31, 2010 Hearing) at 18-19.

The Court further directed, “[Y]ou have got to bring your infringement contentions up to date. People have to know what they're litigating about. And only when you do can you then say okay, this is the discovery we need for these reasons.” *Id.* at 32. The Court told Papst that its asserted claims and infringement contentions needed to be clear cut:

First you have to decide what your infringement contentions are. Only when you know what, what camera you're asserting [infringes] what claim and for what reason[,] can you possibly figure out what discovery you might need that you don't already have.

Id. at 33-34.

As a result of the status conference, the Court issued its Sixth Practice and Procedure Order (PPO) requiring Papst to file final contentions with specificity as to each alleged infringer, each alleged infringing product, and each Patent Claim allegedly infringed.

The Sixth PPO provided:

2. No later than October 13, 2010, Papst shall file its Final Disclosure of Asserted Claims and Infringement Contentions. Separately for each opposing party, this Final Disclosure shall contain the following information:

a. Each claim of each patent in suit that is allegedly infringed by each opposing party, including for each claim the applicable statutory subsections of 35 U.S.C. § 271 asserted;

b. Separately for each asserted claim, each accused apparatus, product, device, process, method, act or other instrumentality ("Accused Instrumentality") of each opposing party of which Papst is aware. This identification shall be as specific as possible. Each product, device, and apparatus shall be identified by name or model number, if known. Each method or process shall be identified by name, if known or by any product, device or apparatus which, when used, allegedly results in the practice of the claimed method or process;

c. *A chart identifying specifically where each limitation of each asserted claim is found within each Accused Instrumentality, including for each limitation that such party contends is governed by 35 U.S.C. § 112(6), the identity of the structure(s), act(s), or material(s) in the Accused Instrumentality that performs the claimed function.*

d. For each claim which is alleged to have been indirectly infringed, an identification of any direct infringement and a description of the acts of the alleged indirect infringer that contribute to or are inducing that direct infringement. Insofar as

alleged direct infringement is based on joint acts of multiple parties, the role of each such party in the direct infringement must be described;

e. Whether each limitation of each asserted claim is alleged to be literally present or present under the doctrine of equivalents in the Accused Instrumentality; and

f. For any patent that claims priority to an earlier application, the priority date to which each asserted claim allegedly is entitled.

Sixth PPO [Dkt. 372] ¶ 2 (adopting provisions of Rule 3-1 (N.D. Cal. Patent Local Rules))
(emphasis added).

The Sixth PPO adopted the requirements set forth in Northern District of California Patent Rule 3-1 because that Rule was designed to “make the parties more efficient, to streamline the litigation process, and to articulate with specificity the claims and theory of a plaintiff’s infringement claims.” *Bender v. Micrel Inc.*, Civ. No. 09-1144, 2010 WL 520513, at *2 (N.D. Cal. Feb. 6, 2010). Rule 3-1 was intended to prevent cases from “stagger[ing] for months without clear direction” by “focusing discovery on building precise final infringement or invalidity contentions and narrowing issues for *Markman*, summary judgment trial, and beyond.” *Connectel, LLC v. Cisco Sys., Inc.*, 391 F. Supp. 2d 526, 527 (E.D. Tex. 2005). Via the language of Rule 3-1, this Court required Papst to “crystallize its theory of the case and patent claims.”¹⁴ *See InterTrust Tech. Corp. v. Microsoft Corp.*, Civ. No. 01-1640, 2003 WL 23120174, at *3 (N.D. Cal. Dec. 1, 2003) (characterizing Rule 3-1). In sum, the Court ordered Papst to file contentions that comported with the Court’s claims constructions and that were *sufficiently precise and detailed for the purpose of streamlining this already protracted litigation.*

¹⁴ A plaintiff in the Northern District of California is expected to articulate its infringement contentions no later than 14 days after the initial case management conference, a much earlier stage than was required in this MDL. N.D. Cal. Patent Rule 3-1. Papst was required to crystallize its theories only after claims construction.

Papst filed Final Infringement Contentions,¹⁵ but many contentions remained vague and uninformative. Through its experienced patent lawyers, Papst blatantly disregarded the Sixth PPO. The Court took Papst to task for obfuscating its infringement theories, finding that Papst had done so intentionally as part of its strategy to extend this litigation excessively, since Papst's business *is* litigation. Sanctions Op. [Dkt. 429] at 7-8. In addition to concealing its infringement theories, Papst purposely disregarded the Modified Claims Construction Opinion and Order. The Sanctions Opinion explained:

[T]he Final [Infringement] Contentions additionally lack the requisite specificity because they repeatedly reiterate Papst's version of previously rejected claims constructions and then advance theories based on such rejected constructions. *See, e.g.*, [FICs] at 33 (asserting that "second connecting device" means a device for interfacing and not "a physical plug or socket for permitting a user readily to attach and detach . . ." as construed by the Court). In this same vein, Papst also attempts to incorporate and reassert its original contentions filed May 28, 2008, before claims construction. *Id.* at 2. Such an approach bespeaks a total lack of respect for Court orders and the timely resolution of this case, but it is consistent with Papst's approach from the beginning.¹⁶

Id. at 10. Papst's failure to detail its infringement claims properly was not an innocent error; it was part of a calculated strategy.

For this astounding and brash failure to follow direct court orders, the Court imposed a reasonable sanction against Papst—requiring Papst “to live with its Final [Infringement] Contentions as they stand without further modification.” Sanctions Op. at 7. The

¹⁵ Papst filed the infringement contentions on October 13, 2010, Dkt. 379, and filed revised infringement contentions on January 21, 2011, Dkt. 416. It is the revised contentions that the Court refers to as Papst's “Final Infringement Contentions.”

¹⁶ *See, e.g.*, Mem. Op. [Dkt. 82] (sanctioning Papst for failure to comply with a direct discovery order), *modified in part by* Mem. Op. [Dkt. 123]. Papst's petition for writ of mandamus, *see* Dkt. 167, was denied by the Federal Circuit. *In re Papst Licensing GmbH & Co. KG*, Misc. No. 877, 314 F. App'x 295 (Fed. Cir. 2008).

Court barred Papst from modifying the Final Infringement Contentions and barred Papst from advancing any arguments 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 the Final Infringement Contentions. *See* Sanctions Order [Dkt. 430] 2.

In sum, pursuant to the Sanctions Opinion and Order, Papst’s Final Infringement Contentions are just that—final. “[T]hey stand without further modification.” Sanctions Op. at 7. To permit amendment of the Final Infringement Contentions to set forth a new theory of infringement regarding the “simulating a virtual file system” limitation in opposition to a motion for summary judgment would negate the sanction and allow repeated and total disregard of this Court’s orders.

Papst pretends that its theory is “consistent with” a theory presented in the Final Infringement Contentions and legitimate because Final Infringement Contentions are only required to give notice, not to present a prima facie case. Opp’n at 23. The Court specifically ordered that Papst’s Final Infringement Contentions could not be modified further. Papst’s argument is without merit and is rejected. In no way did the Final Infringement Contentions provide notice of Papst’s current infringement theory.

Having made no arguments that meet the construction of the Patents in the Claims Construction Opinion, Papst cannot demonstrate the existence of a genuine issue of material fact with regard to infringement, *Celotex*, 477 U.S. at 324, nor present specific facts that would enable a reasonable jury to find in its favor. *See Greene*, 164 F.3d at 675. Accordingly, summary judgment will be granted to the Camera Manufacturers. The Accused Products do not literally infringe the 449 Patent.

F. Additional Discovery

At one point, Papst moved for more discovery on a “virtual file system,” *see* Mot. for Rule 56(d) Discovery [Dkt. 479], but later withdrew that portion of its motion regarding the “virtual file system” claim limitation. *See* Reply in Support of Mot. for Rule 56(d) Discovery [Dkt. 515] at 1. The request for more discovery regarding the “simulating a virtual file system” limitation will be denied as moot.

IV. CONCLUSION

The Camera Manufacturers’ motion for summary judgment with respect to the “simulating a virtual file system” limitation in the 449 Patent [Dkt. 452] will be granted.¹⁷ A memorializing Order accompanies this Opinion.

Date: October 4, 2013

/s/
ROSEMARY M. COLLYER
United States District Judge

¹⁷ As it has automatically on every motion for summary judgment, Papst moved to file a surreply. *See* Mot. for Leave to File Surreply [Dkt. 512]. Because the Camera Manufacturers’ Reply [Dkt. 503] did not raise new issues and surreplies are disfavored in this District, Papst’s motion will be denied. *See Crummey v. Social Sec. Admin.*, 794 F. Supp. 2d 46, 62 (D.D.C. 2011).