UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

Papst Licensing GmbH & Co. KG
Bahnhofstrasse 33
78112 St. Georgen, Germany

Plaintiff,

v.

Sanyo Electric Co., Ltd.
5-5 Keihan-Hondori
2-Chome, Moriguchi City
Osaka 570-8677, Japan

and

Sanyo North America Corp.
2055 Sanyo Avenue
San Diego, California 93154

Defendants.

Case No. 1:09-cv-00530 (RMC)

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff, Papst Licensing GmbH & Co. KG ("Papst Licensing"), by and through counsel, for its Complaint against defendants Sanyo Electric Co., Ltd. ("Sanyo"), and Sanyo North America Corporation ("Sanyo America"), (collectively "the Sanyo Defendants"), states as follows:

JURISDICTION AND VENUE

1. This Court has subject matter jurisdiction of Papst Licensing's patent infringement claims pursuant to 28 U.S.C. § 1331 and 1338(a) because this is a civil action for patent infringement, 35 U.S.C. § 281, arising under the patent laws of the United States. 35 U.S.C. §§ 1-376.

2. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391(b), (c), and (d) and § 1400(b).

3. Papst Licensing is a company existing under the laws of The Federal Republic of Germany with its principal place of business headquartered at Bahnhofstrasse 33, 78112 St. Georgen, Germany.

4. Sanyo is located at 5-5, Keihan-Hondori 2-Chome, Moriguchi City, Osaka 570-8677, Japan.

5. Sanyo is a multinational corporation having an established and on-going business throughout the United States, and regularly transacts business in this district through Sanyo America. Sanyo America's headquarters are located at 2055 Sanyo Avenue, San Diego, CA 93154.

6. Sanyo is the ultimate parent company to Sanyo America.

7. This action is related to Papst Licensing v. Sanyo Elec. Co., Ltd., 08-cv-1405 (No. 08-cv-3608, N.D. Ill.), which was dismissed without prejudice. See Memorandum Opinion (Dkt. No. 273) and Order (Dkt No. 274), In Re Papst Licensing & Co. KG Litigation, 1:07-mc-00493-RMC, MDL Docket No. 1880 (D. D.C.). Papst was granted leave to file a new complaint against the Sanyo parties no later than March 16, 2009. Id. On information and belief, Panasonic Corporation has acquired Sanyo. Panasonic Corporation was formerly known as Matsushita Electric Industrial Co., Ltd., and is the Declaratory Judgment plaintiff in Matsushita Electric Industrial Co., Ltd. Et Al v. Papst Licensing GmbH & Co. KG, 1:07-cv-01222-RMC (D. D.C.).

FACTS GIVING RISE TO THIS ACTION

8. Unless otherwise specified, the patents listed in Paragraphs Nos. 9 and 10 below are collectively referred to hereinafter as the "Patents in Suit." Papst Licensing is the lawful owner,

by assignment, of the entire right, title, and interest in and to each and every one of the Patents in Suit.

9. United States Patent No. 6,470,399 B1 (the '399 patent) duly and legally issued on October 22, 2002.

10. United States Patent No. 6,895,449 B2 (the '449 patent) duly and legally issued on May 17, 2005.

11. As set forth in more detail below, the Sanyo Defendants have each infringed and are still infringing the patents in suit by making, using, offering to sell, and selling in the United States or importing into the United States devices that embody the patented inventions or have components or software which have no substantial non-infringing use, or are inducing others to do so, and will continue to do so unless enjoined by this court.

12. The term "Sanyo Devices," as used herein, refers to Sanyo-branded devices sold in the U.S. and to Sanyo-manufactured devices which are sold in the U.S. under other brand names.[1] Sanyo Devices include digital still cameras, digital video cameras, digital voice recorders, and cellular telephones including digital camera functions. Sanyo Devices that infringe the Patents in Suit include those devices identified below and additional devices that operate in a manner similar to those identified devices, as described more fully below.

13. Sanyo Devices which include circuitry and executable code so that the devices operate as USB Mass Storage devices and as USB Picture Transfer Protocol (PTP) devices

[1] The identification of specific brand names and models of cameras manufactured by Sanyo on an OEM basis and sold under another brand name may comprise confidential information. An identification of such brands and devices is being provided in a confidential appendix to be filed under seal.

include, but are not limited to, the Sanyo VPC-S6, Sanyo VPC-C6, Sanyo VPC-CA6, Sanyo VPC-CG65, Sanyo VPC-E6, Sanyo VPC-E60 and Sanyo VPC-S60.

14. Sanyo Devices which include circuitry and executable code so that the devices operate as USB Mass Storage devices include, but are not limited to, the Sanyo ICR-S250RM and Sanyo ICR-S700RM digital voice recorders and Sanyo SCP-8500 digital camera-equipped cellular telephone.

15. Without limiting the scope of the claims to the language in the preambles of the claims of the Patents in Suit, the preamble of claim 1 of the '399 patent recites, "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 . . ." The preamble of claim 1 of the '499 patent recites, "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 Sanyo Devices include an interface device as claimed in the '399 patent and the '449 patent, as set forth in more detail in the following paragraphs.

16. The interface device portion of the Sanyo Devices include circuitry and executable code for communication with a host device, such as a host personal computer, which includes a multipurpose interface, such as a USB interface, and drivers, including drivers for input/output devices such as disk drives and scanners, and for the multipurpose interface. The interface portion also includes circuitry for interfacing with analog data transmit/receive devices, such as an image sensor and/or a microphone. The interface devices enable images captured by

the image sensors, or sound captured by the microphones, to be communicated to the host computer in accordance with the invention as claimed in the Patents in Suit.

17. Claim 1 of the '399 patent and Claim 1 of the '449 patent recite, "a processor." The Sanyo Devices include a processor.

18. Claim 1 of the '399 patent and Claim 1 of the '449 patent recite, "a memory." The Sanyo Devices include a memory. For example, the Sanyo Devices include volatile memory (e.g., Random Access Memory, or RAM) and non-volatile memory (e.g., Electronically Erasable Programmable Read Only Memory, or EEPROM). In addition, the Sanyo Devices comprising digital still cameras and digital video cameras are configured to accept additional memory in the form of a memory card.

19. Claim 1 of the '399 patent and Claim 1 of the '449 patent recite, "a first connecting device for interfacing the host device with the interface device via the multi-purpose interface of the host device." Sanyo Devices include a first connecting device including circuitry and software for interfacing analog data collected from an analog image sensor and/or an analog microphone to a host computer via a USB interface.

20. Claim 1 of the '399 patent recites, "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." Claim 1 of the '449 patent recites, "a second connecting device for interfacing the interface device with the data transmit/receive device"

21. Sanyo Devices which comprise digital cameras include a second connecting device for interfacing the interface device with an analog image sensor (i.e., a data transmit

receive device). Typically, the analog image sensor comprises a Charge Coupled Device (CCD). A sampling circuit and an analog-to-digital converter are included in the Sanyo Device for interfacing the processor of the Sanyo Device to the analog image sensor. The analog to digital converter is for converting data sampled by the sampling circuit into digital data.

22. Sanyo Devices which include sound-processing functions (e.g., digital voice recorders, digital video cameras and digital still cameras which record sound) include a second connecting device for interfacing the interface device with an analog microphone (i.e., a data transmit receive device). A sampling circuit and an analog-to-digital converter are included in these Sanyo Devices for interfacing the processor of the Sanyo Device to the analog microphone. The analog to digital converter is for converting data sampled by the sampling circuit into digital data.

23. Claim 1 of the '399 patent recites that, "the interface device is configured by the processor and the memory to include a first command interpreter and a second command interpreter."

24. Several Sanyo Devices include a processor and executable code stored in memory sufficient to cause the Sanyo Devices to operate in more than one USB mode. For example, the Sanyo CG65 a processor and executable code stored in memory such that the Sanyo CG65 operates as a Mass Storage Class device, a Media Transfer Protocol (MTP) device, or as a video class device. A Sanyo Device that operates as a MTP device meets the requirements of a Picture Transfer Protocol (PTP) device. When operating either as a Mass Storage Class device or as a PTP/MTP device, the Sanyo Devices include an interface device which is configured by the processor and the memory to include a first command interpreter (e.g., a USB command

interpreter) and a second command interpreter (e.g., a mass storage device command interpreter and/or an imaging device command interpreter).

25. Additional Sanyo Devices include a processor and executable code stored in memory sufficient to cause the Sanyo Devices to operate as a Mass Storage Class device. For example, the Sanyo ICR-S250RM operates as a Mass Storage Class device. These Mass Storage Class Sanyo Devices include an interface device which is configured by a processor and a memory to include a first command interpreter (e.g., a USB command interpreter) and a second command interpreter (e.g., a storage device command interpreter).

26. Claim 1 of the '399 patent recites, "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." Claim 1 of the '449 patent recites, 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."

27. When a Sanyo Device is connected to a multipurpose USB interface on a host computer which is configured with the Windows XP operating system, the Sanyo Device will receive, among other communications, one or more "Get_Descriptor" USB commands. A "Get_Descriptor" USB command is a type of inquiry command from the host PC.

28. A USB command interpreter of the Sanyo Device (e.g., a first command interpreter), when operating as a Mass Storage Class device, interprets the "Get_Descriptor" USB inquiry command and causes the Sanyo Device to send a signal to the Host PC, regardless of the analog image sensor or analog microphone(s) that are be attached to the interface device, that the Sanyo Device is a Mass Storage Class device.

29. In particular, a Sanyo Device, when operating as a Mass Storage Class device, returns an Interface Descriptor which identifies the Sanyo Device as having a bInterfaceClass = 0x08, a bInterfaceSubClass = 0x06, and a bInterfaceProtocol = 0x50.

30. An Interface Descriptor having the information set forth in the preceding paragraph does not identify the interface device of Sanyo Device as being attached to a data transmit/receive device such as an analog image sensor or an analog microphone. Instead, the Interface Descriptor information set forth above signals to the host computer that the Sanyo Device is a disk drive compatible with a SCSI Block Command set. The SCSI Block Command set is a set of commands typically used with hard disk drives.

31. A hard disk drive is an Input Output (I/O) device which has been customary in a host computer for many years. A host computer receiving the above Interface Descriptor information would recognize the Sanyo Device as a disk drive compatible with the SCSI Block Command set. When the Sanyo Device is connected, the host computer automatically loads standard software drivers, such as usbstor.sys, disk.sys and PartMgr.sys, and the host computer

communicates with the interface device of the Sanyo Device by means of such drivers. The host computer also uses the disk.sys and PartMgr.sys drivers to communicate with conventional hard disk drives.

32. The interface device of a Sanyo Device, when operating as a Mass Storage Class device, has a second command interpreter which is configured to interpret commands from Windows XP drivers such as usbstor.sys, disk.sys and PartMgr.sys. Digital camera-specific drivers are not necessary to communicate with the Sanyo Devices operating as Mass Storage Class devices. The disk.sys and PartMgr.sys drivers are drivers for I/O devices customary in a host device because the host computer also uses those drivers to communicate with hard disk drives. A host computer also uses usbstor.sys to communicate with hard disk drives that are attached to the USB port.

33. The second command interpreter of the Sanyo Device, when operating as a Mass Storage Class device, is configured to interpret data request commands for disk drives. For example, the second command interpreter is configured to interpret SCSI Block Commands. This second command interpreter, for example, interprets the READ(10) command (Operation code 28h). The Sanyo Device interprets this data request command and provides the requested sectors of information, including data representing images acquired by, for example, a CCD sensor and digitized by the second connecting device.

34. In addition to the Sanyo Devices comprising digital cameras, additional Sanyo Devices comprise voice recorders, such as model nos. ICR-S250RM and ICR-S700RM. Both of these Sanyo Devices have USB interfaces and respond to inquiries from a host computer as Mass Storage Class devices as set forth above. Instead of an image sensor, the voice recorders include

an analog microphone. The digital voice recorders also include a jack for connecting an external analog microphone.

35. When in "MTP" mode, the USB command interpreter (e.g., the first command interpreter) of the Sanyo Devices interprets the "Get_Descriptor" command and, regardless of the image sensor or microphone(s), provides descriptor information such that the Sanyo Device appears to be an imaging device, such as a scanner, which is believed to be an I/O device customary in a host PC.

36. For example, when operating as a MTP device, a Sanyo Device returns an Interface Descriptor which identifies the Sanyo Device as having a bInterfaceClass = 0x06. An Interface Descriptor having bInterfaceClass = 0x06 signals to the host computer that the Sanyo Device is an I/O imaging device such as a scanner. The host computer, in response to this Interface Descriptor, loads and communicates with the interface device of the camera by means of Microsoft standard software drivers, such as usbscan.sys. The host computer uses the usbscan.sys driver to communicate with imaging devices such as scanners.

37. The Sanyo Devices, when operating as a MTP devices, include a PIMA command interpreter (a second command interpreter) which interprets, for example, certain operation codes specified in PIMA 15740 (the PTP specification). For example, a Sanyo Device, in PTP or MTP mode interprets and responds to the operation code for the GetObject command (PIMA 15740, 10.4.9). The Sanyo Device interprets this data request command and provides the requested object, including data representing images acquired by, for example, a CCD sensor and digitized by the second connecting device.

38. Claim 1 of the '449 patent recites, "wherein the interface device is arranged for simulating a virtual file system to the host, the virtual file system including a directory structure."

39. Sanyo Devices which comprise digital cameras, when operating as a Mass Storage Class device, simulate a virtual file system because, in part, the Sanyo Devices comply the Design Rule for Camera File System (DCF). The DCF requires a root directory, and for files of images to be placed in certain locations in the directory tree. The Sanyo Devices implement this file system in solid-state non-volatile memory, not in rotating magnetic media.

40. The Sanyo digital voice recorders have a root directory in their virtual file system which included four directories, ALARM, DATA_IC, MUSIC_IC, and VOICE_IC. The solid state memory of these devices is formatted to simulate disk drive having a FAT file system.

41. The interface portion of the Sanyo Devices further simulate a virtual file system by providing a master boot record, a boot sector and a sequence of sectors comprising at least one file allocation table, at least one directory, and files, as would be found on a disk drive having rotating media. Some of the files are used for transferring data from the data transmit/receive device to the host device.

42. Additional dependent claims of the patents in suit are infringed by the Sanyo Devices. For example, claim 6 of the '449 patent recites, "An interface device in accordance with claim 1 [of the '449 patent] wherein, in response to a request from the host to read a boot sequence, the processor is arranged to send a virtual boot sequence to the host." Claim 7 of the '449 patent recites, "An interface device in accordance with claim 6 wherein the virtual boot sequence includes a starting position and a length of a file allocation table, an indication of a type of the storage device or a number of sectors of the storage device."

43. When operating as a Mass Storage Class device, in response to a request from the host computer to read the first sector on the simulated disk drive (a typical location for a master boot record), the processor of the Sanyo Device is arranged to send a virtual boot sequence to the host computer. For example, in response to the request for the first sector, the Sanyo Devices provide 512 bytes of data which contain the information typically found in a master boot record (MBR), including information for at least one partition. The Sanyo Devices provide information consistent with a file structure as would be found on rotating magnetic media, including a FAT file system, including a starting location and a length of a File Allocation Table. The Sanyo Devices provide the file allocation table when the Host computer seeks to determine the directory structure or read or write a file.

44. Papst Licensing has given written notice of infringement to the Sanyo Defendants.

45. The Sanyo Defendants have committed said infringements willfully.

46. The Sanyo Defendants have been and still are committing the acts of infringement described herein and will continue to do so unless enjoined by this Court.

DEMAND FOR JURY TRIAL

Plaintiff demands a trial by jury on all issues triable by jury as of right.

REQUESTED RELIEF

WHEREFORE, Papst Licensing respectfully requests the following relief:

1. The entry of judgment in favor of Papst Licensing, and against the Sanyo Defendants, finding that the Sanyo Defendants have infringed the Patents in Suit;

2. The entry of judgment in favor of Papst Licensing, and against the Sanyo Defendants, awarding Papst Licensing damages adequate to compensate it for the Sanyo Defendants' acts of infringement;

3. The entry of judgment in favor of Papst Licensing, and against the Sanyo Defendants, awarding Papst Licensing all applicable interest (including pre-judgment and postjudgment interest), costs, an increase of damages to three times the amount of damages found or assessed, and attorneys' fees;

4. The entry of a permanent injunction enjoining the Sanyo Defendants, and all those acting in concert with them, from further acts of infringement; and such other and further relief as the Court deems just and proper.

Dated: March 27, 2008

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