

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

IN RE PAPST LICENSING GMBH & CO.
KG LITIGATION

Misc. Action No. 07-493 (RMC)

This Document Relates To:
Casio v. Papst, 06-cv-1751

MDL Docket No. 1880

**PAPST'S MEMORANDUM IN OPPOSITION TO CASIO'S SUPPLEMENTAL
SUBMISSION TO CASIO'S MOTION FOR RULE 37 SANCTIONS FOR PAPST'S NON-
COMPLIANCE WITH THIS COURT'S ORDERS**

In its Motion for Rule 37 Sanctions, Casio complains that Papst did not initially provide enough detail in its infringement contentions that were served on June 11, 2007. [Docket # 37] Casio's complaint is unfounded, however, because Papst provided Casio with 15 pages of detailed claim charts and 6 detailed schematic drawings fully demonstrating which Casio products infringe; which specific patent claims they infringe; how they infringe; and how each element of each patent claim should be interpreted. (Ex. A, pp. 3-18.) For example, Papst provided the following details with respect to the "host device" claim element:

**a host device, which comprises drivers for input/output devices
customary in a host device and a multi-purpose interface, and**

Interpretation

A "host device" reads on, for example, a personal computer that utilizes Windows XP, Version 2002 with Service Pack 2 ("PC").

A "driver for input/output devices customary in a host device" reads on, for example, a software driver that is a part of an operating system of a personal computer when the personal computer is sold to an end user.

A "multi-purpose interface" reads on, for example, a port of a personal computer that can

be used for two or more different purposes.

Application

The Casio Infringing Products can be connected to, for example, a personal computer that utilizes Windows XP, Version 2002 with Service Pack 2 (“PC”) and that forms a “host device.” The files disk.sys and PartMgr.sys, as well as usbscan.sys, ptpusb.dll and ptpusd.dll, are included as standard programs in Windows XP, Version 2002 with Service Pack 2. Disk.sys and PartMgr.sys form a software driver for input/output devices customary in a host device. The files usbscan.sys, ptpusb.dll and ptpusd.dll also form a software driver for input/output devices customary in a host device. The PC has at least one USB port, which is a multi-purpose interface.

(Ex. A, pp. 4-5).

Papst was able to provide these detailed infringement contentions based upon the public information known to Papst at that time even though it was Casio who prematurely initiated this declaratory judgment action after only two meetings with Papst’s representatives. Papst also provided this information even though Casio refused at that time to provide any confidential information demonstrating how its cameras operate on the bases of (1) a disqualification of counsel theory that has since been rejected by this Court and (2) any overly broad “prosecution bar limitation” which has since been limited in scope by this Court.

Casio’s disclosure of confidential information will be highly relevant to Papst’s infringement contentions. For example, Papst’s current Interrogatory Nos. 2 and 4 ask specific questions concerning what are called “identifiers.” These are part of the computer code in each of Casio’s cameras that would describe how each camera uses an important feature of the patents-in-suit, i.e., how the Casio cameras communicate with personal computers connected to the Casio cameras. Casio currently refuses to answer these interrogatories.

Nonetheless, even without Casio confidential information, Papst was able to diligently investigate, obtain and understand additional public information concerning highly complex Casio products during the nearly nine month time period in which this MDL action was requested, and eventually granted. Then, on May 9, 2008, Papst provided Casio with the benefit of seventy-four more pages of detailed infringement contentions in accordance with Rule 26(e). (Ex. B, pp. 2-76).

Casio's assertion that the lack of confidential Casio technical information is the *only* reason Papst could not provide additional infringement details in June of 2007 is misleading. Papst specifically informed Casio on June 11, 2007 that Papst would be supplementing its infringement contentions in the future based upon further factual investigation:

Papst Licensing has not completed its investigation of the facts relating to this action. Accordingly, with respect to all of the Interrogatories, Papst Licensing reserves the right to amend and/or supplement its responses, if necessary, with additional information based upon further investigation and discovery, and to rely upon such information in the course of this action and at trial.

(Ex. A, pp. 1-2.) Thus, Papst has simply done what it promised to do by supplementing based upon further factual investigation.

Casio's suggestion that Papst limited its initial infringement contentions to only six Casio products also is misleading. Papst specifically informed Casio on June 11, 2007 that its infringement contentions were broader in scope than the initial six products identified:

Papst Licensing's infringement charges are not limited to above-noted Casio digital still cameras. Rather, the infringement charges are intended to include all Casio products (*e.g.*, digital video cameras and digital sound

recorders) that, from an infringement standpoint, have a construction that is similar to that of the above-noted digital still cameras.

(Ex. A, pp. 3-4.) Because no one understands better than Casio how its other products “have a construction that is similar” to the initially identified six products, Casio was provided sufficient and reasonable notice as to the scope of Papst’s infringement contentions at the time.

Finally, the fact that Papst supplemented its infringement positions based upon further factual investigation is consistent with Casio’s own actions in this case. On May 13, 2008, Casio also provided Papst with its own nineteen page supplemental response concerning Casio’s infringement positions based upon its own further factual investigation. (Ex. C.) Because Rule 26(e) permits and indeed requires parties to supplement based upon further factual investigation, Casio’s Motion should be denied in its entirety.

Dated: May 16, 2008

/s/ Joseph E. Cwik

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EXHIBIT A

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

CASIO INC.

Plaintiff,

v.

PAPST LICENSING GMBH & CO. KG
Defendant.

Civil Action No. 1:06 CV 01751

Judge: Gladys Kessler

PAPST LICENSING GMBH & CO. KG

Counter-Plaintiff

v.

CASIO INC. and
CASIO COMPUTER CO., LTD.

Counter-Defendants

**DEFENDANT PAPST LICENSING GMBH & CO. KG'S FIRST SUPPLEMENTAL
ANSWERS TO PLAINTIFF CASIO INC.'S FIRST SET OF
INTERROGATORIES (NOS. 1-6)**

Pursuant to Rule 33 of the Federal Rules of Civil Procedure, Defendant Papst Licensing GmbH & Co. KG ("Papst Licensing"), supplements its answers Casio Inc.'s First Set of Interrogatories as follows:

PRELIMINARY STATEMENTS

1. These answers are a supplement to Papst Licensing's Answers to Plaintiff Casio Inc.'s First Set of Interrogatories (Nos. 1-6) served on May 30, 2007.
2. Papst Licensing has not completed its investigation of the facts relating to

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this action. Accordingly, with respect to all of the Interrogatories, Papst Licensing reserves the right to amend and/or supplement its responses, if necessary, with additional information based upon further investigation and discovery, and to rely upon such information in the course of this action and at trial.

3. In those instances where the responses to Casio Inc.'s interrogatories can be derived from the business records of Papst Licensing or from an examination, audit or inspection of such business records, and the burden of deriving or ascertaining the answer is substantially the same for Casio Inc. and Papst Licensing, Papst Licensing will specify the records from which an answer may be ascertained and afford Casio Inc.'s counsel a reasonable opportunity to audit, inspect and copy such records or provide categorized copies of such records in accordance with Federal Rule of Civil Procedure 33(d).

4. Pending before this Court is Papst Licensing's Motion for Clarification which requests the Court to clarify whether Papst Licensing should disclose its information that is protected by the work product doctrine, the attorney-client privilege or any other privilege recognized by law. Until such time as the Court rules on the Motion for Clarification, Papst Licensing cannot disclose such information that is protected by the work product doctrine, the attorney-client privilege or any other privilege recognized by law.

5. Pending before this Court is Papst Licensing's Motion for Clarification which requests the Court to clarify whether Papst Licensing should disclose confidential information that will be protected under a future Protective Order. Pursuant to agreement by the parties dated June 5, 2007, Papst Licensing will disclose its confidential information on an outside counsel only basis until the protective order issues are resolved

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by the Court.

6. Soon pending before this Court will be Papst Licensing's Objections to U.S. Magistrate Robinson's May 31, 2007 rulings on discovery issues. Should U.S. District Court Judge Kessler rule differently on those issues, Papst Licensing reserves the right to further supplement these answers accordingly.

ANSWERS TO INTERROGATORIES

INTERROGATORY NO. 1

Separately with respect to each claim of the patents-in-suit asserted by Papst to be infringed (directly or indirectly), and for each accused product, state in full and complete detail the bases for such charge of infringement including, but not limited to, how Papst contends that each element of each such claim should be interpreted and provide a detailed element-by-element comparison for each claim with each such product (identifying where in each accused product each element is allegedly found, or otherwise specifically identifying which feature of each accused product is alleged to meet each claim element). For each element allegedly met under the doctrine of equivalents, specifically state all reasons why Papst contends the element in the accused product is insubstantially different.

ANSWER:

U.S. Patent No. 6,470,399

Subject to the Preliminary Statements above which are incorporated herein and upon information and belief, Casio's digital still camera model nos. EX-P700, EX-S500, EX-Z60, EX-Z70, EX-Z110 and EX-Z600¹ ("Casio Infringing Products") literally infringe at least claim 1 of United States Patent No. 6,470,399. Each claim element is set

¹ Papst Licensing's infringement charges are not limited to the above-noted Casio digital still cameras. Rather, the infringement charges are intended to include all Casio products (*e.g.*, digital video cameras and digital sound recorders) that, from an infringement standpoint, have a construction that is similar to that of the

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forth hereinafter in bold and underlined typeface. Presented in underlined typeface below each claim element is Papst Licensing's position as to how each claim element should be interpreted, and how each claim element reads on the Casio Infringing Products.

1. An interface device for communication between

Interpretation

This claim element reads on, for example, electronic circuitry that allows a device from which analog data is to be obtained to be connected to a host device such as a personal computer, subject to the other features of the claim that describe the interface device.

Application

Six schematic, block diagrams are attached hereto as Exhibit A which show some of the components of each one of the above-referenced Casio digital still cameras. The Casio Infringing Products include an "interface device" that is formed by at least a portion of the CPU and the on-chip memory that are a part of the camera and audio chip.

**a host device, which comprises drivers for input/output devices
customary in a host device and a multi-purpose interface, and**

Interpretation

A "host device" reads on, for example, a personal computer that utilizes Windows XP, Version 2002 with Service Pack 2 ("PC").

A "driver for input/output devices customary in a host device" reads on, for example, a software driver that is a part of an operating system of a personal computer when the personal computer is sold to an end user.

A "multi-purpose interface" reads on, for example, a port of a personal computer

above-noted digital still cameras.

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that can be used for two or more different purposes.

Application

The Casio Infringing Products can be connected to, for example, a personal computer that utilizes Windows XP, Version 2002 with Service Pack 2 (“PC”) and that forms a “host device.” The files disk.sys and PartMgr.sys, as well as usbscan.sys, ptpusb.dll and ptpusd.dll, are included as standard programs in Windows XP, Version 2002 with Service Pack 2. Disk.sys and PartMgr.sys form a software driver for input/output devices customary in a host device. The files usbscan.sys, ptpusb.dll and ptpusd.dll also form a software driver for input/output devices customary in a host device. The PC has at least one USB port, which is a multi-purpose interface.

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

Interpretation

A “data transmit/receive device” reads on, for example, a device that is adapted to “receive” data by being exposed to an analog wave signal, the device being further adapted to “transmit” or provide analog data.

Application

The Casio Infringing Products include a first “data transmit/receive device” formed at least in part by a lens and the diode array formed in a CCD chip that converts light into analog data that is representative of an image.

The Casio Infringing Products include a second “data transmit/receive device” formed at least in part by a transducer inside of a microphone that converts sound waves into an analog sound signal.

a processor;

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Interpretation

A “processor” reads on, for example, circuitry that interprets and executes program instructions.

Application

The Casio Infringing Products include a camera and audio chip, at least a portion of which forms a "processor."

a memory;

Interpretation

A “memory” reads on, for example, circuitry that stores information in electronic form that is subject to recall.

Application

The Casio Infringing Products include an on-chip memory that is located on the camera and audio chip and a memory card that can be located in a socket. The on-chip memory forms at least a portion of the claimed "memory.”

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

Interpretation

The above-referenced claim element reads on, for example, circuitry that allows the above-referenced interface device to be electrically connected to a multi-purpose user interface of a personal computer such as a USB port.

Application

The Casio Infringing Products include a USB socket that can be connected to a USB port of a personal computer by a USB cable. The Casio Infringing Products also include a USB interface that is located on the camera and audio chip. The "first

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connecting device" is formed by at least the USB socket, the USB interface on the camera and audio chip, and the electrical connections between the two.

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

Interpretation

The above-quoted claim element reads on, for example, circuitry that connects the above-referenced data transmit/receive device to the above-referenced interface device, subject to the other features of the claim that describe the second connecting device.

Application

The Casio Infringing Products include a CCD chip having a gates and registers block, as well as a CCD controller chip that includes an a/d converter and a CCD controller. At least the a/d converter, the gates and registers block, and the CCD controller form at least a portion of a first "second connecting device."

The Casio Infringing Products include a camera and audio chip having a sample and hold circuit and an a/d converter that receives an analog sound signal from a microphone. At least the transducer in the microphone, as well as the a/d converter and the sample and hold circuit on the camera and audio chip, form at least a portion of a second "second connecting device."

the second connecting device including a sampling circuit for sampling the analog data provided by the data transmit/receive device and

Interpretation

The above-referenced claim element reads on, for example, circuitry that couples a device that generates analog data that is representative of an analog wave signal (*e.g.*, light or sound waves) to an analog to digital converter.

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Application

The Casio Infringing Products include a gates and registers block that forms a part of a CCD chip and a CCD controller that forms a part of a CCD controller chip. At least the gates and registers block and the CCD controller form at least a portion of a first "sampling circuit."

The Casio Infringing Products include a camera and audio chip that has a sample and hold circuit. The sample and hold circuit samples and holds the analog sound signal provided by the transducer of the microphone, and forms at least a portion of a second "sampling circuit."

an analog-to-digital converter for converting data sampled by the sampling circuit into digital data,

Interpretation

This claim element reads on, for example, circuitry that converts an analog signal into a digital signal.

Application

The Casio Infringing Products include an a/d converter that forms a part of the CCD controller chip. The a/d converter converts the analog data supplied to it from the gates and registers block into digital data that is representative of an image.

The Casio Infringing Products include a second a/d converter that forms a part of the camera and audio chip. The second a/d converter converts the analog data supplied to it from the transducer of the microphone into digital data that is representative of a sound signal.

wherein the interface device is configured by the processor and the memory

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to include a first command interpreter and a second command interpreter,

Interpretation

This claim element reads on, for example, a set of program instructions that is stored in a memory of a device in accordance with the other claim elements that are executed by a processor of the device to cause the device to operate in a certain way as described later in the claim.

Application

An instruction set is programmed into the on-chip memory of the camera and audio chip of the Casio Infringing Products. At least a portion of the instruction set forms 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,

Interpretation

This claim element reads on, for example, a set of program instructions that is adapted to cause the device under control of the processor, after an inquiry signal from a multi-purpose interface of a personal computer is received and processed, to automatically and without user intervention send a response signal to the personal computer's multi-purpose interface. The set of program instructions causes the response signal to contain data that, when received and processed by the personal computer, allows the personal computer to automatically and without user intervention understand how to communicate with and receive data from a peripheral device.

Application

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The USB socket of the Casio Infringing Products is adapted to receive inquiry signals that the PC sends to its USB port to determine when something is operatively coupled thereto. The "first command interpreter" is adapted to cause the CPU on the camera and audio chip to send, after the USB socket is coupled to the PC's USB port, and after an inquiry signal has been received and processed, a response signal comprising data stored in the on-chip memory defined in the camera and audio chip to the PC's USB port.

When the Casio Infringing Products are in Mass Storage mode, the response signal contains information that, when received and processed by the PC, causes the PC to recognize that it can communicate with the "interface device" by means of a software driver that is formed by disk.sys and PartMgr.sys.

When the Casio Infringing Products are in PTP mode, the response signal contains information that, when received and processed by the PC, causes the PC to recognize that it can communicate with the "interface device" by means of a software driver that is formed by usbscan.sys, ptpusb.dll and ptpusd.dll.

**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**

Interpretation

This claim element reads on, for example, the above-referenced interface device that communicates with and transmits data to a personal computer by means of a software driver for an input/output device customary in a host device.

Application

When the Casio Infringing Products are in Mass Storage mode, the instruction set stored in the on-chip memory of the Casio Infringing Products is adapted to utilize a

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software driver formed by disk.sys and PartMgr.sys to allow the “interface device” to communicate with the PC.

When the Casio Infringing Products are in PTP mode, the instruction set stored in the on-chip memory of the Casio Infringing Products is adapted to utilize a software driver formed by usbscan.sys, ptpusb.dll and ptpusd.dll to allow the “interface device” to communicate with the PC.

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.

Interpretation

This claim element reads on, for example, a set of program instructions that is adapted to interpret a data request command from a multi-purpose interface of a personal computer as being a command to transfer digitized analog data stored in the above-referenced memory.

Application

The USB socket and USB interface of the Casio Infringing Products is adapted to receive data request commands that the PC sends through the USB port. The "second command interpreter" is adapted to cause the CPU to interpret a data request command from the PC as being a command to initiate a transfer of digital data to the PC. The digital data can include digitized still pictures, digitized video, and digitized sound files.

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U.S. Patent No. 6,895,449

Subject to the Preliminary Statements above which are incorporated herein and upon information and belief, Casio's digital still camera model nos. EX-P700, EX-S500, EX-Z60, EX-Z70, EX-Z110 and EX-Z600² ("Casio Infringing Products") literally infringe at least claim 1 of United States Patent No. 6,895,449. Each claim element is set forth hereinafter in bold and underlined typeface. Presented in underlined typeface below each claim element is Papst Licensing's position as to how each claim element should be interpreted, and how each claim element reads on the Casio Infringing Products.

1. An interface device for communication betweenInterpretation

This claim element reads on, for example, electronic circuitry that allows a device from which analog data is to be obtained to be connected to a host device such as a personal computer, subject to the other features of the claim that describe the interface device.

Application

Six schematic, block diagrams are attached hereto as Exhibit A which show some of the components of each one of the above-referenced Casio digital still cameras. The Casio Infringing Products include an "interface device" that is formed by at least a portion of the CPU and the on-chip memory that are a part of the camera and audio chip.

² Papst Licensing's infringement charges are not limited to the above-noted Casio digital still cameras. Rather, the infringement charges are intended to include all Casio products (*e.g.*, digital video cameras and digital sound recorders) that, from an infringement standpoint, have a construction that is similar to that of the above-noted digital still cameras.

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a host device, which comprises drivers for input/output devices customary in a host device and a multi-purpose interface, and

Interpretation

A “host device” reads on, for example, a personal computer that utilizes Windows XP, Version 2002 with Service Pack 2 (“PC”).

A “driver for input/output devices customary in a host device” reads on, for example, a software driver that is a part of an operating system of a personal computer when the personal computer is sold to an end user.

A “multi-purpose interface” reads on, for example, a port of a personal computer that can be used for two or more different purposes.

Application

The Casio Infringing Products can be connected to, for example, a personal computer that utilizes Windows XP, Version 2002 with Service Pack 2 (“PC”) and that forms a “host device.” The files disk.sys and PartMgr.sys, as well as usbscan.sys, ptpusb.dll and ptpusd.dll, are included as standard programs in Windows XP, Version 2002 with Service Pack 2. Disk.sys and PartMgr.sys form a software driver for input/output devices customary in a host device. The files usbscan.sys, ptpusb.dll and ptpusd.dll also form a software driver for input/output devices customary in a host device. The PC has at least one USB port, which is a multi-purpose interface.

a data transmit/receive device comprising the following features:

Interpretation

A “data transmit/receive device” reads on, for example, a device that is adapted to “receive” data by being exposed to an analog wave signal, the device being further adapted to “transmit” or provide analog data.

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Application

The Casio Infringing Products include a first "data transmit/receive device" formed at least in part by a lens and the diode array formed in a CCD chip that converts light into analog data that is representative of an image.

The Casio Infringing Products include a second "data transmit/receive device" formed at least in part by a transducer inside of a microphone that converts sound waves into an analog sound signal.

a processor;

Interpretation

A "processor" reads on, for example, circuitry that interprets and executes program instructions.

Application

The Casio Infringing Products include a camera and audio chip, at least a portion of which forms a "processor."

a memory;

Interpretation

A "memory" reads on, for example, circuitry that stores information in electronic form that is subject to recall.

Application

The Casio Infringing Products include an on-chip memory that is located on the camera and audio chip and a memory card that can be located in a socket. The on-chip memory forms at least a portion of the claimed "memory."

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

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Interpretation

The above-referenced claim element reads on, for example, circuitry that allows the above-referenced interface device to be electrically connected to a multi-purpose user interface of a personal computer such as a USB port.

Application

The Casio Infringing Products include a USB socket that can be connected to a USB port of a personal computer by a USB cable. The Casio Infringing Products also include a USB interface that is located on the camera and audio chip. The "first connecting device" is formed by at least the USB socket, the USB interface on the camera and audio chip, and the electrical connections between the two.

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

Interpretation

The above-quoted claim element reads on, for example, circuitry that connects the above-referenced data transmit/receive device to the above-referenced interface device and converts the analog data from the data transmit/receive device to digital data.

Application

The Casio Infringing Products include a CCD chip having a gates and registers block, as well as a CCD controller chip that includes an a/d converter and a CCD controller. At least the a/d converter, the gates and registers block, and the CCD controller form at least a portion of a first "second connecting device."

The Casio Infringing Products include a camera and audio chip having a sample and hold circuit and an a/d converter that receives an analog sound signal from a microphone. At least the transducer in the microphone, as well as the a/d converter and

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the sample and hold circuit on the camera and audio chip, form at least a portion of a second “second connecting 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,

Interpretation

This claim element reads on, for example, a set of program instructions that is adapted to cause the device under control of the processor, after an inquiry signal from a multi-purpose interface of a personal computer is received and processed, to automatically and without user intervention send a response signal to the personal computer’s multi-purpose interface. The set of program instructions causes the response signal to contain data that, when received and processed by the personal computer, allows the personal computer to automatically and without user intervention understand how to communicate with and receive data from a peripheral device.

Application

The USB socket of the Casio Infringing Products is adapted to receive inquiry signals that the PC sends to its USB port to determine when something is operatively coupled thereto.

An instruction set is programmed into the on-chip memory of the camera and audio chip of the Casio Infringing Products. The instruction set is adapted to cause the CPU on the camera and audio chip to send, after the USB socket is coupled to the PC's USB port, and after an inquiry signal has been received and processed, a response signal

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comprising data stored in the on-chip memory defined in the camera and audio chip to the PC's USB port.

When the Casio Infringing Products are in Mass Storage mode, the response signal contains information that, when received and processed by the PC, causes the PC to recognize that it can communicate with the "interface device" by means of a software driver that is formed by disk.sys and PartMgr.sys.

When the Casio Infringing Products are in PTP mode, the response signal contains information that, when received and processed by the PC, causes the PC to recognize that it can communicate with the "interface device" by means of a software driver that is formed by usbscan.sys, ptpusb.dll and ptpusd.dll.

whereupon the host device communicates with the interface device by means of the driver for the storage device customary in a host device, and

Interpretation

This claim element reads on, for example, the above-referenced interface device that communicates with and transmits data to a personal computer by means of a software driver for an input/output device customary in a host device.

Application

When the Casio Infringing Products are in Mass Storage mode, the instruction set stored in the on-chip memory of the Casio Infringing Products is adapted to utilize a software driver formed by disk.sys and PartMgr.sys to allow the "interface device" to communicate with the PC.

When the Casio Infringing Products are in PTP mode, the instruction set stored in the on-chip memory of the Casio Infringing Products is adapted to utilize a software driver formed by usbscan.sys, ptpusb.dll and ptpusd.dll to allow the "interface device" to

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communicate with the PC.

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

Interpretation

This claim element reads on, for example, the memory of the above-referenced “interface device” that is adapted to simulate a virtual file system by containing therein “virtual” data. The data is virtual in the sense that it is representative of something else.

This claim element also reads on, for example, an interface device that sends a signal to a personal computer that informs the personal computer that the interface device has a rotatable disk memory when, in actuality, the interface device has an integrated circuit memory. By doing so, the interface device is simulating a virtual file system.

Application

The instruction set stored in the on-chip memory of the Casio Infringing Products is adapted to store pictures in a file system and a directory structure defined in its memory. The file system is “virtual” in the sense that the data stored therein is “virtual” – the digitized data digitized still pictures, digitized video, and digitized sound files being representative of images, moving images and sound waves. After the USB socket of the Casio Infringing Products is coupled to a USB port on a PC, a representation of all of the digitized analog data that are stored in memory is shown on the screen of the PC as being contained in a file folder.

The Casio Infringing Products simulate a virtual file system for an additional reason. When in mass storage mode, each Casio Infringing Product is adapted to inform a personal computer that each Casio Infringing Product contains a rotatable disk memory when, in actuality, each Casio Infringing Product contains an integrated circuit memory.

EXHIBIT A**INTERROGATORY NO. 2**

Identify all prior art, including but not limited to prior art that has been asserted by others relating to one or both patents-in-suit.

ANSWER:

Subject to the Preliminary Statements above which are incorporated herein, the following references have been identified by others as potential prior art to the patents-in-suit. To the extent this Interrogatory requests details concerning each reference, the references will be produced under Rule 33(d) and the references will disclose details to the extent Papst Licensing is aware of them. Papst Licensing will identify those documents by Bates number in a letter after Papst Licensing produces the documents.

US Patents

3,714,635; 3,805,245; 3,976,979; 4,509,113; 4,642,759; 4,680,732; 4,888,680; 4,901,275; 4,972,470; 5,070,474; 5,088,033; 5,131,089; 5,197,128; 5,214,761; 5,291,584; 5,296,611; 5,297,124; 5,379,382; 5,430,855; 5,444,644; 5,487,154; 5,493,335; 5,499,378; 5,506,692; 5,508,821; 5,510,774; 5,524,047; 5,528,765; 5,532,825; 5,548,782; 5,548,783; 5,581,741; 5,614,948; 5,639,606; 5,712,682; 5,724,574; 5,748,924; 5,765,027; 5,778,205; 5,784,581; 5,812,879; 5,841,471; 5,844,961; 5,871,368; 5,875,415; 5,884,103; 5,914,748; 5,915,106; 5,920,709; 5,923,193; 5,926,208; 5,929,903; 5,969,750; 5,991,530; 5,995,080; 6,005,613; 6,012,113; 6,026,217; 6,081,856; 6,086,430; 6,088,532; 6,098,116; 6,101,276; 6,119,180; 6,131,125; 6,167,456; 6,182,145; 6,188,675; 6,286,073; 6,292,589; 6,298,388; 6,470,399; 6,545,775; 6,895,449; 7,051,281

Japanese Patents

EXHIBIT A

53145535 A; 61034652 A; 61060164 A; 01303554 A; 01293404 A; 02114351 A;
09016506 A; JP 8-191410

Other Documents

IEEE Standard for a High Performance Serial Bus, 1996. 392 pp. (IEEE Std 1394-1995); Digidesign 882/20 I/O Audio Interface Installation Guide, 14 pp.; Information Technology – Serial Bus Protocol 2 (SBP -2), T10 Project 1155D, Revision 4, 5/19/98, 107 pp.; An American National Standard, IEEE Standard for a Simple 32-Bit Backplane Bus: NuBus; 1998, 51 pp. (ANSI/IEEE 1196-1987); Polaroid Digital Camera PDC-2000 User Guide for Macintosh or Windows applications (142 pp.); apple-history.com, Macintosh Quadra 650 (with NuBus Slots), Apple Computer, Inc., (produce introduced 10/93) 11/29/05, 2 pp.; Wang, James www.sims.berkeley.edu Third Party NuBus AV (Audio-Video) Cards, 1993-1996 1 pg.; Accredited Standards Committee X3, Information Technology, John Lohmeyer, X3T10/96-202r1, Agenda and Results of Meeting, X3T10 SCSI Working Group Meeting, 07/24/96 (6 pp.); Intel Corporation, Universal Host Controller Interface Design Guide (UHCI), Revision 1.1, March 1996 (47 pp.); Twain Working Group Committee, Twain Toolkit Release V1.6, Twain Specification Release, 2/5/96 (367 pp.); Digidesign Website, www.digidesign.com, Tabular cross-reference "Pro Tools 4.0.1 NuBus Systems compatibility" as supported by Digidesign, Inc., Palo Alto, CA, 3 pp.; Twain Working Group, www.twain.org, About Twain, 4 pp.; Pournelle Alex, Jetsend Technology Allows Device connectivity with No Servers, Drivers, or Code, Computer Technology Review, 07/1999, Vol. 19, Iss. 7, Pg. 22, 4 pp.; Business Editors/Technology Writers, Salutation Port-of-Entry Software Lets Application Developers Control Network Peripherals from the Windows Desktop,

EXHIBIT A

Business Wire, 07/13/98, Pg. 1 (3 pp.); Wire Feed, HP Introduces JetSend for Pocket PC JetSend Solutions Now Compatible with Complete Range of Microsoft Windows CE- and Pocket PC-based Products, M2 Presswire, 4/26/2000, Pg. 1 (3 pp.); Stedman, John HP and TROY Group Extend JetSend Protocol to Simplify Printing Over Networks and the Internet; JetSend Protocol Expands Cutting-edge Capabilities to Non-HP Printers, HP Deskjet Printers, Legacy HP LaserJet Printers and Future Products, M2 Presswire, 2/10/2000, Pg. 1 (2 pp.); Business Editors, An Industry First, TROY Group's NetSend Makes Up to 9 Million HP Legacy Printers Internet-Ready, Business Wire, 11/16/99, Pg. 1 (3 pp.); Keele, Richard Designing Control Units that Interface Peripherals to the IBM I/O Channel, Computer Technology Review, Fall 1988; Vol. 8, Iss. 13, pg. 71 (1 page); Lang, Michael Optical Server Uses Network Protocol for Plug-and Play Integration, Computer Technology Review, 12/1993, Vol 13, Iss. 15, pg. 85 (3 pp.); Bursky, Dave Inter-System Communication Standard to Ease Clustered System Implementation, Electronic Design, 10/13/97, Vol. 45, Iss. 22, pg. 32 (3 pp.); Hadden, Thomas H., Tape Drive Without Backup Software? Wait No More, Computer Technology Review Los Angeles, 10/1995, Vol. 15 Iss. 10, p. 34 (4 pp.); Ferelli, Mark, 12-inch WORM becomes the key to document image processing Computer Technology Review Los Angeles, 3/1994, Vol. 14, Iss. 3, p. 1 (3 pp.); Nelson, Andy Catching a Direct Bus. InfoWorld, 6/17/96, Vol. 18, Iss. 25, pg. 129 (2 pp.); DeMonker, Judy 120 Moves Into Clustering, Storage Arenas, InfoWorld, 12/9/96, Vol. 18, Iss. 50, p. 37 (2 pp.); Krause, Reinhardt I/O Driver Spec to be Unveiled, Electronic News, 1/29/96, Vol. 42, Iss. 2101, pg. 1 (3 pp.); Microsoft Windows 95 README for MS-DOS Device Drivers, 08/95, pg. 1 (2 pp.); Lang, Michael Optical server uses network protocols for plug-and-play integration,

EXHIBIT A

Computer Technology Review: Special Fall Issue, Los Angeles, Dec. 1993, Vol. 13, Iss. 15 p. 85 (6 pp.); Universal Serial Bus Specification,” 1.0 Final Draft Revision, November 13, 1995; Universal Serial Bus Specification,” Revision 1.0, January 15, 1996

INTERROGATORY NO. 3

Identify all alleged secondary considerations or other objective evidence that defendant contends evidence non-obviousness of any one or more of the claims of the ‘449 and ‘399 patents, state all supporting facts including all evidence attributing the secondary considerations to the claims, identify all persons having knowledge or such facts, and identify all documents relating to, referring to, describing or constituting any response hereto.

ANSWER:

Subject to the Preliminary Statements above which are incorporated herein, the following is a list of secondary considerations that may support the non-obviousness of the at-issue claims of the ‘449 and ‘399 patents: commercial success, the failure of others to provide a solution to a long standing problem, the long felt need for the inventions disclosed in the ‘449 and ‘399 patents, future licenses to the ‘449 and ‘399 patents, the unexpected results of the inventions disclosed in the ‘449 and ‘399 patents, copying of the inventions disclosed in the ‘449 and ‘399 patents, skepticism about the merits of the inventions disclosed in the ‘449 and ‘399 patents, and skepticism about whether the inventions disclosed in the ‘449 and ‘399 patents would solve the problem presented.

Papst Licensing has not yet determined the remaining information requested in this Interrogatory. Accordingly, Papst Licensing plans to later amend and/or supplement its responses, if necessary, with additional information based upon further investigation and discovery, and to rely upon such information in the course of this action and at trial.

EXHIBIT A

INTERROGATORY NO. 4

Identify all persons with or to whom Papst or any other person, has discussed a license, offered a license, negotiated a license or agreed to a license under the patents-in-suit (or any claim thereof), including, but not limited to, the identity of each person communicated with, the date of such communication, the financial terms of such discussion, offer, negotiation or license, the identity of all documents and things concerning each such discussion, offer, negotiation or license, and the identity of persons most knowledgeable about each such discussion, offer, negotiation or license.

ANSWER:

Subject to the Preliminary Statements above which are incorporated herein, non-privileged communications with third-parties will be provided under Rule 33(d). To the extent this Interrogatory requests details concerning each person, the produced documents will disclose details to the extent Papst Licensing is aware of them. Papst Licensing will identify those documents by Bates number in a letter after Papst Licensing produces the documents. Papst Licensing has discussed a potential license to either U.S. Patent No. 6,895,449 or U.S. Patent No. 6,470,399, or both, with the following entities: Acer, Hewlett Packard, Samsung, Canon, Sony, Casio, Olympus, Nikon, Konica, Fujifilm, Kodak, Sanyo, Pentax, Ricoh, BenQ, Kyocera, Panasonic, Polaroid, VIVITAR, PREMIER, HON HAI, Sony Ericsson, Flextronics Int'l Ltd., Nokia, LG Electronics, Matsushita, Toshiba, Character Group LLC, JVC, AIPTEK, DXG, Mustek, MPIO, Creative, Jungsoft, RIM, Centon, Cowon, and Astone.

INTERROGATORY NO. 5

State the art area and level of ordinary skill in the art pertaining to the patents-in-suit and state in detail all bases for each such contention.

ANSWER:

Subject to the Preliminary Statements above which are incorporated herein, Papst

EXHIBIT A

Licensing has not yet determined the art area, the level of ordinary skill in the art, and all bases for any such contentions. Accordingly, Papst Licensing plans to later amend and/or supplement its responses, if necessary, with additional information based upon further investigation and discovery, and to rely upon such information in the course of this action and at trial.

INTERROGATORY NO. 6

Separately for each claim of the patents-in-suit that Papst asserts is infringed by Casio, describe in full and complete detail the facts concerning the conception and reduction to practice of the alleged invention. To be complete, your response should state the specific dates of such conception and reduction to practice, identify each person involved in such conception and reduction to practice, describe the location and circumstances of the conception and reduction to practice, and identify all documents and things tending to establish, refute or identify the dates, locations, individuals or circumstances sought in this interrogatory and any alleged corroboration.

ANSWER:

Subject to the Preliminary Statements above which are incorporated herein, non-privileged documents will be provided under Rule 33(d) relating to conception and reduction to practice information to the extent Papst Licensing is aware of it. Papst Licensing will identify those documents by Bates number in a letter after Papst Licensing produces the documents. Papst Licensing plans to later amend and/or supplement its responses, if necessary, with additional information based upon further investigation and discovery, and to rely upon such information in the course of this action and at trial.

EXHIBIT A

Dated: June 11, 2007

AS TO PRELIMINARY STATEMENTS:

/s/ Joseph E. Cwik
Jerold B. Schnayer
Joseph E. Cwik
WELSH & KATZ, LTD.
120 South Riverside Plaza • 22nd Floor
Chicago, Illinois 60606
(312) 655-1500

Campbell Killefer (Bar No. 268433)
VENABLE LLP
575 7th Street, N.W.
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(202) 344-4000
**Attorneys for Defendant/Counter-
Plaintiff Papst Licensing GmbH & Co.
KG**

EXHIBIT A

VERIFICATION UNDER 28 U.S.C. § 1746

The undersigned, hereby verifies, under penalty of perjury under the laws of the United States, that he has read the responses set forth above, and that he believes, on information and belief, including information known by him and information supplied by others, that the foregoing responses are true and correct.

Executed on: _____, 2007

Authorized Representative of Papst
Licensing GmbH & Co. KG

EXHIBIT A

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing DEFENDANT PAPST LICENSING GMBH & CO. KG'S SUPPLEMENTAL ANSWERS TO PLAINTIFF CASIO INC.'S FIRST SET OF INTERROGATORIES (NOS. 1-6) was served on this the 11th day of June, 2007 upon the attorneys for Casio Inc. as follows:

VIA E-MAIL

J. Kevin Fee
MORGAN, LEWIS & BOCKIUS LLP
1111 Pennsylvania Avenue, NW
Washington, D.C. 20004
jkfee@morganlewis.com

VIA E-MAIL

Jeffrey Gold
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VIA E-MAIL

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Suite 1102
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Counsel for Casio Inc. and Casio Computer Co., Ltd.

/s/ Joseph E. Cwik
Attorney for Papst Licensing GmbH & Co.
KG

EXHIBIT A

Casio EXILIM P700 Digital Still Camera

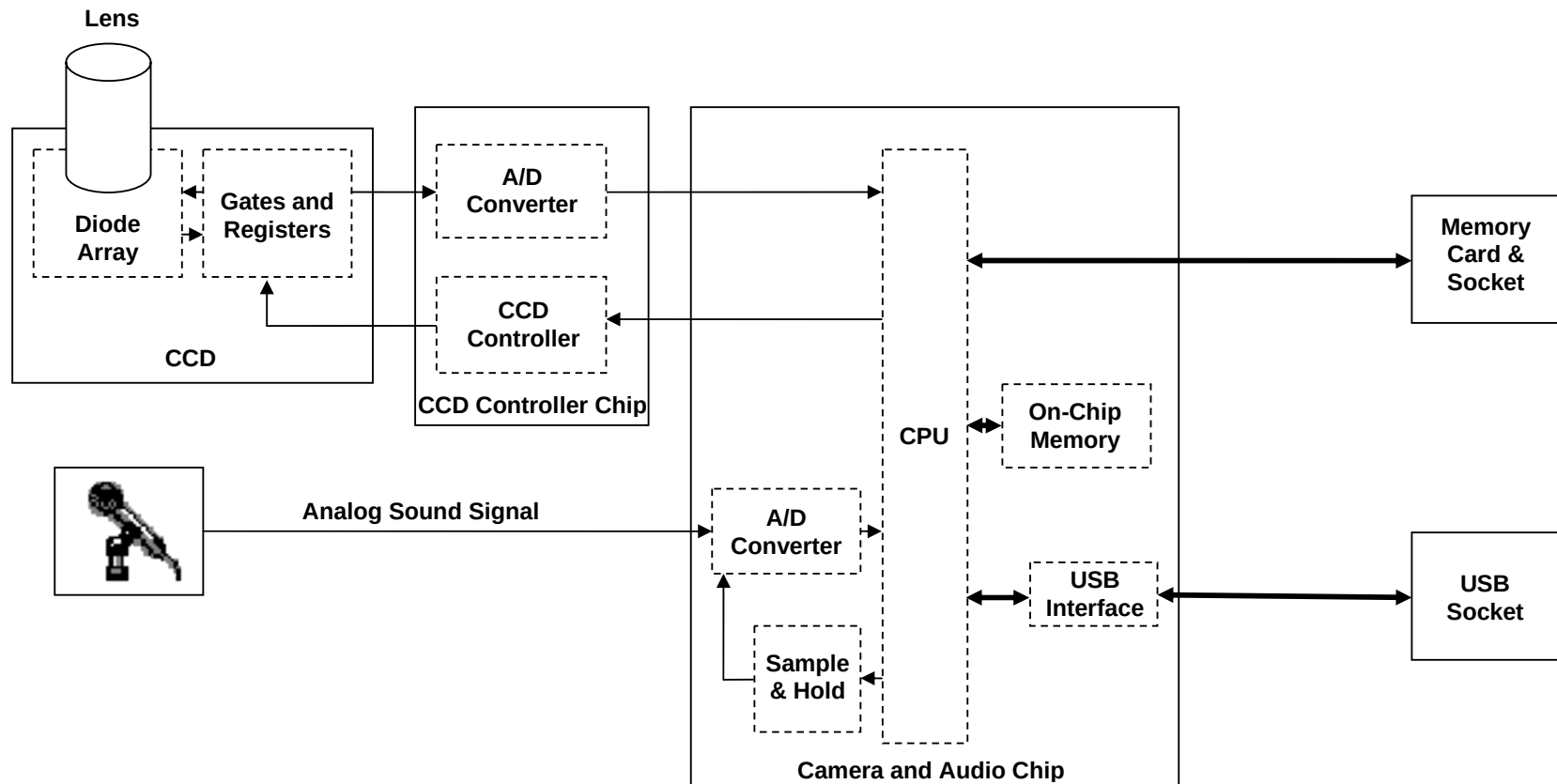


EXHIBIT A

Casio EXILIM S500 Digital Still Camera

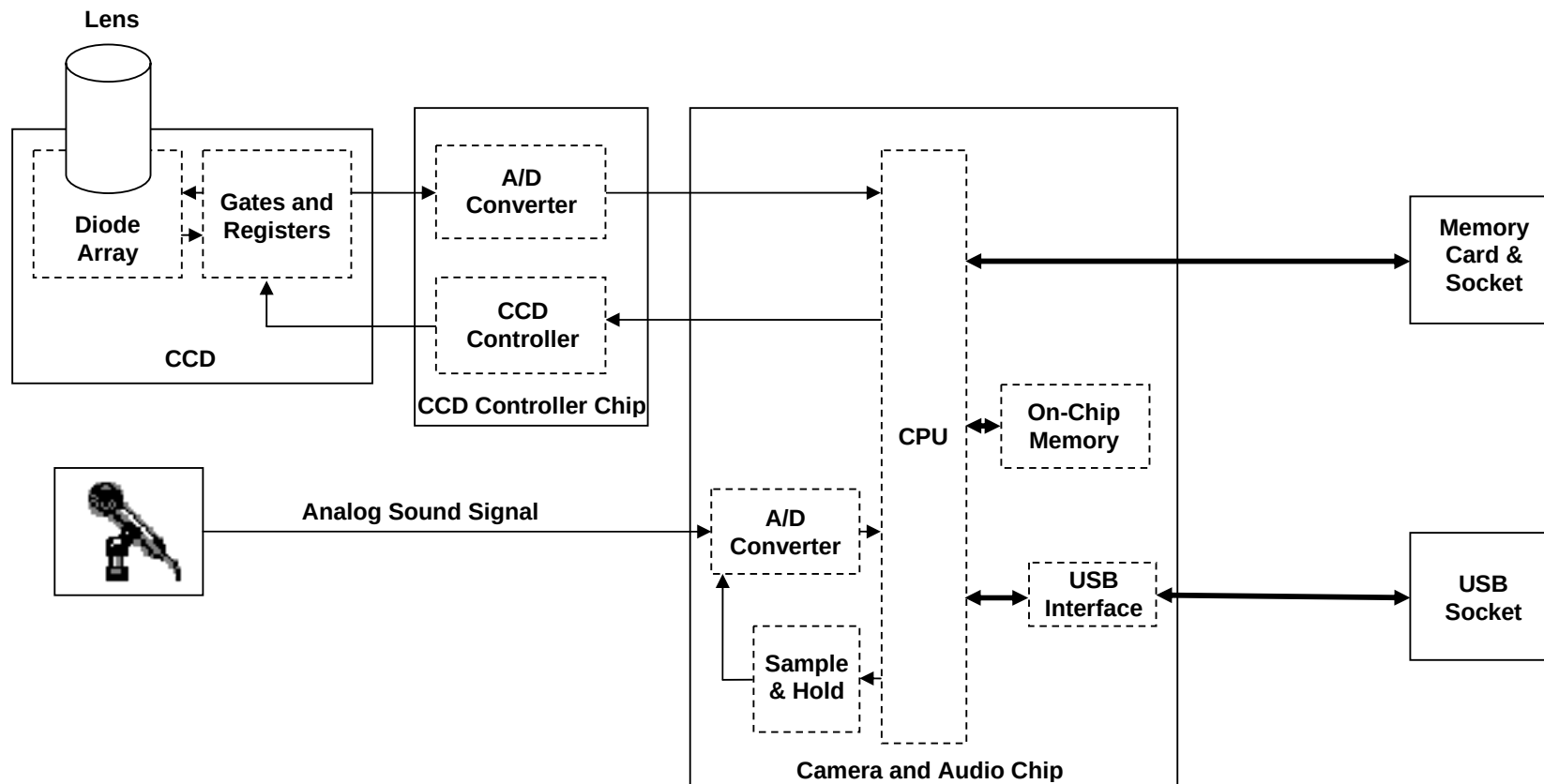


EXHIBIT A

Casio Exilim EX-Z70 Digital Still Camera

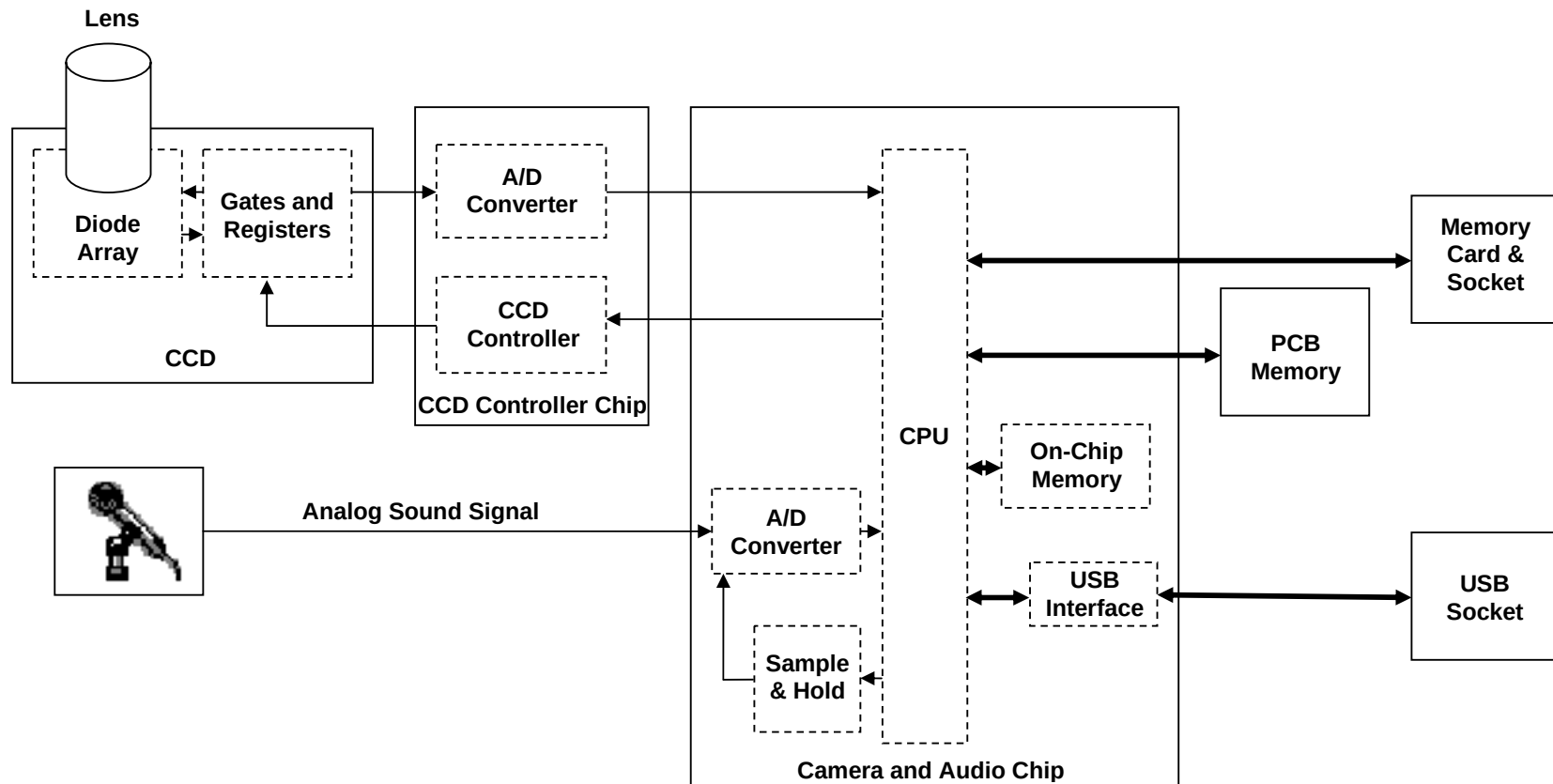


EXHIBIT A

Casio EXILIM Z600 Digital Still Camera

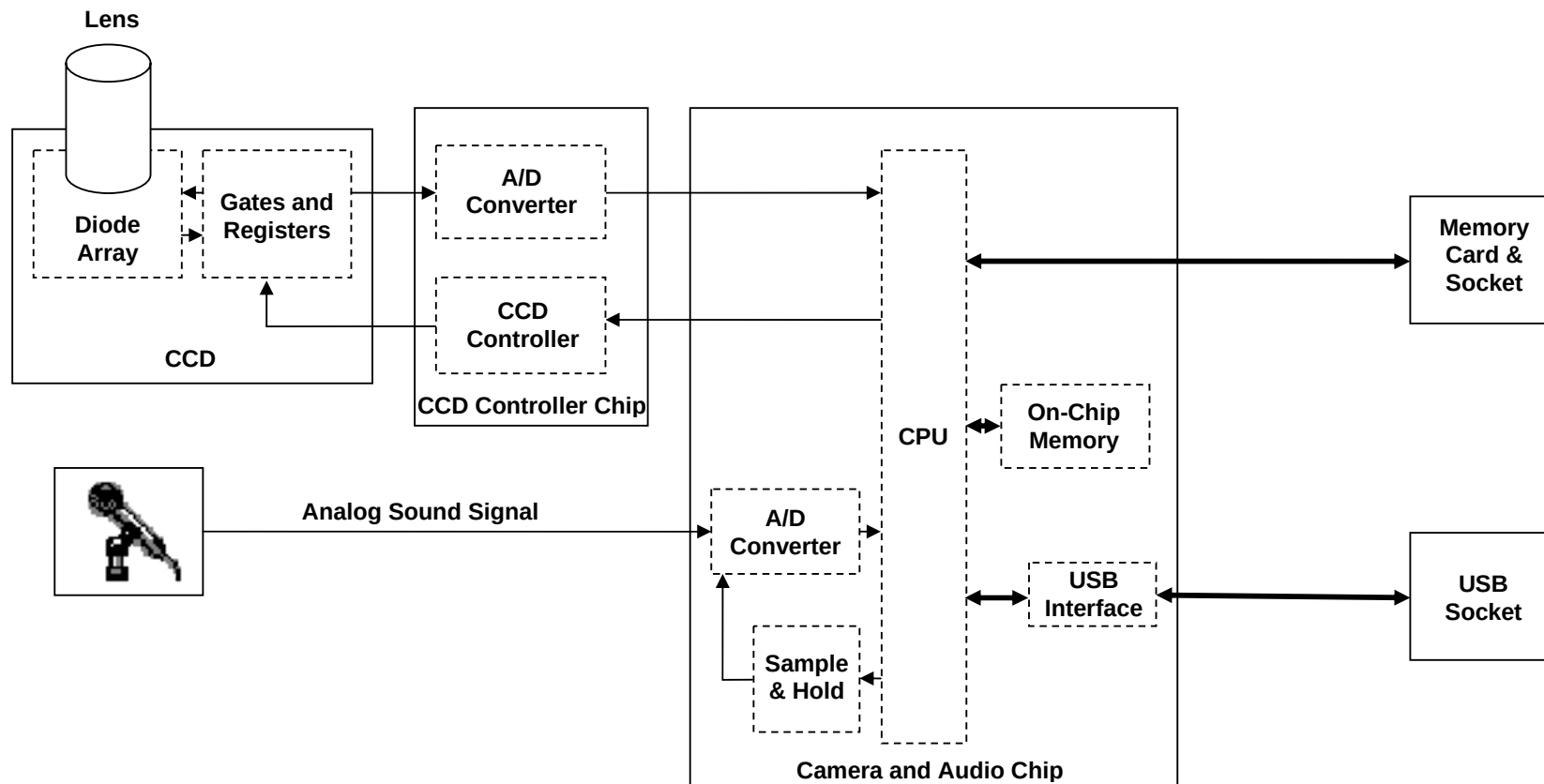


EXHIBIT A

Casio EXILIM Z110 Digital Still Camera

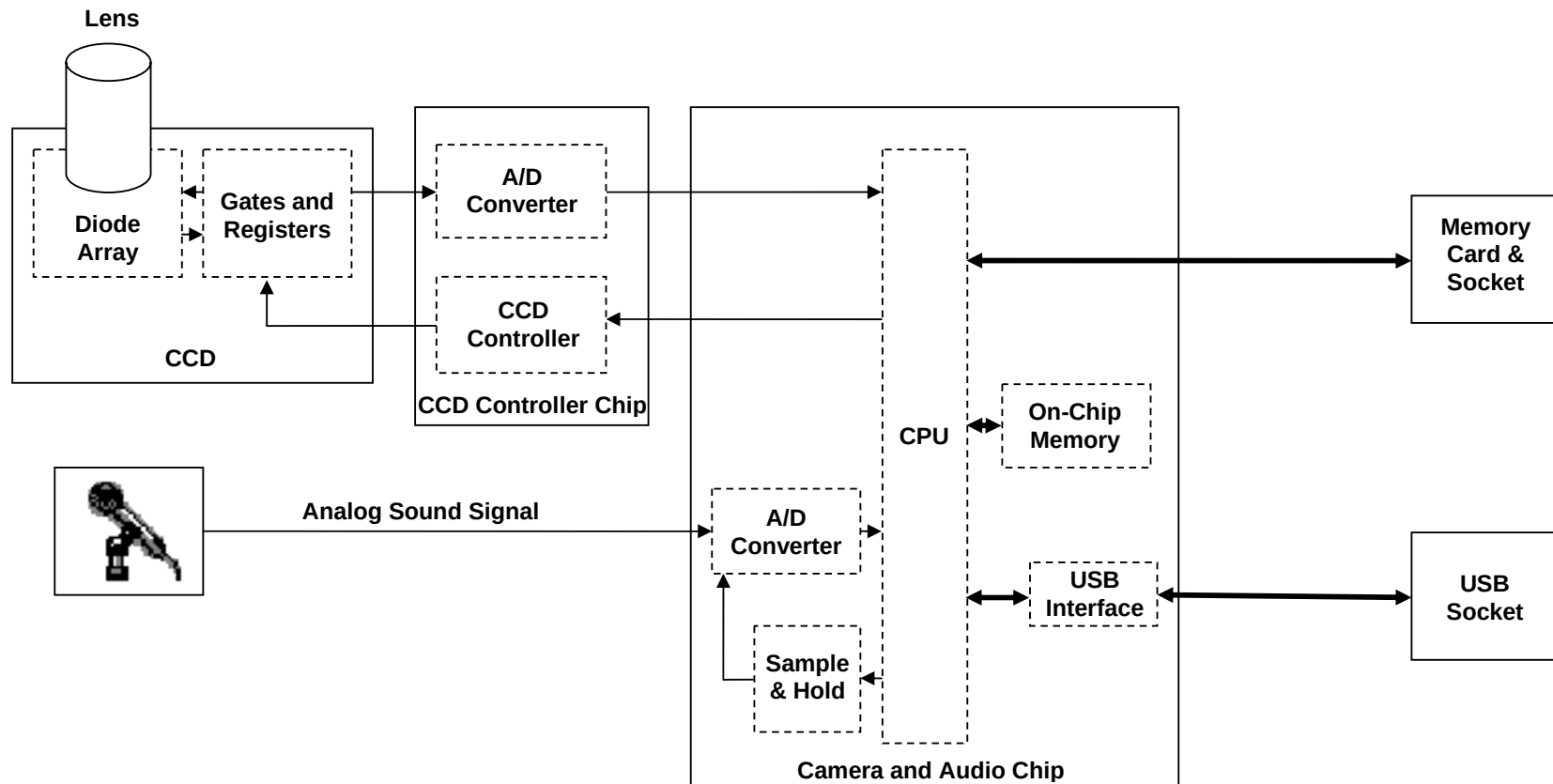


EXHIBIT A

Casio EXILIM Z60 Digital Still Camera

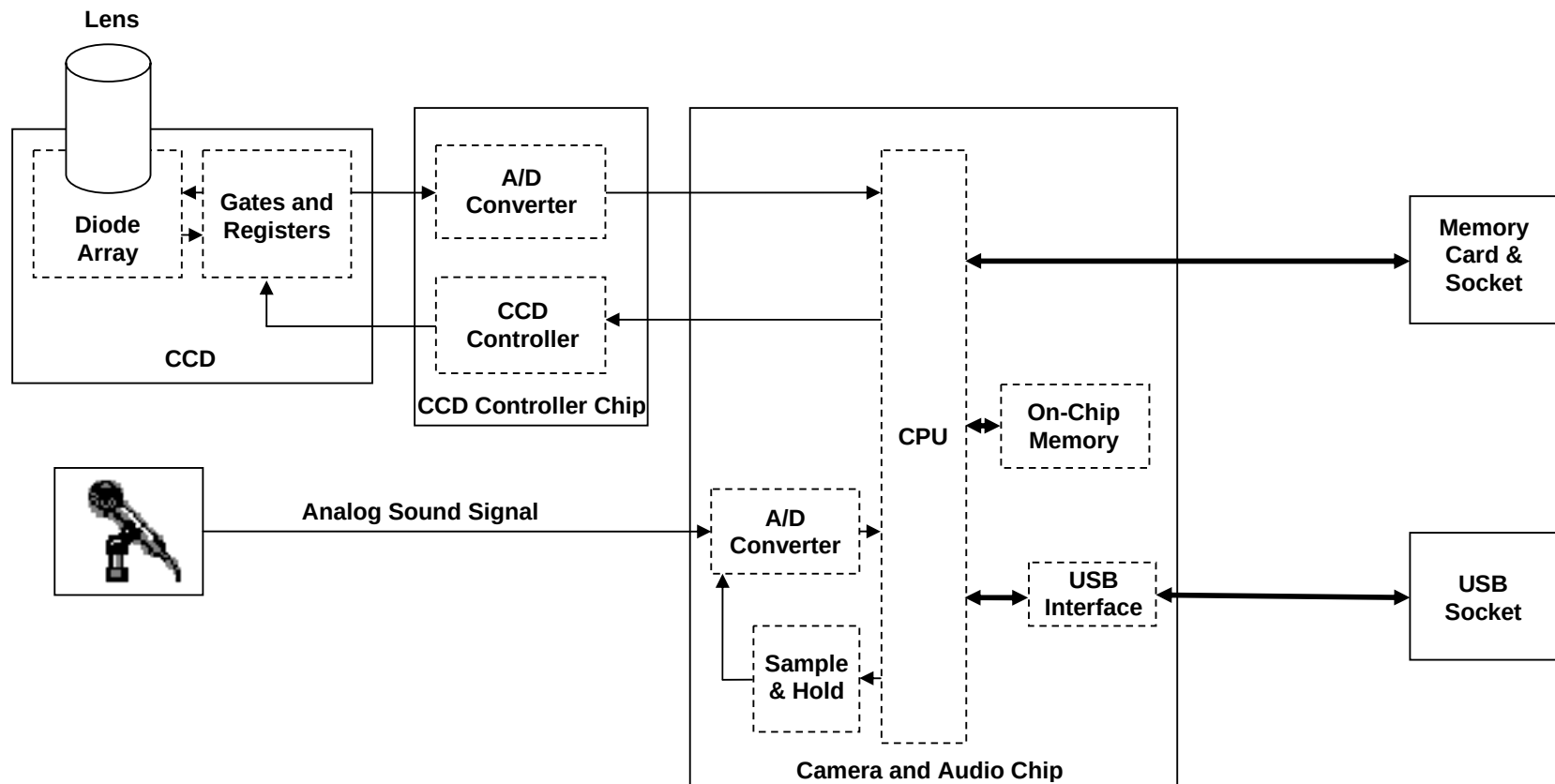


EXHIBIT B

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

IN RE PAPST LICENSING GMBH & CO.
KG LITIGATION

Misc. Action No. 07-493 (RMC)

This Document Relates To:
Casio v. Papst, No. 06-cv-1751

MDL Docket No. 1880

**MATERIAL
REDACTED**

***** CONTAINS HIGHLY CONFIDENTIAL – OUTSIDE COUNSEL ONLY
INFORMATION UNDER THE PROTECTIVE ORDER*****

**PAPST LICENSING GMBH & CO. KG'S SECOND SUPPLEMENTAL ANSWERS TO
CASIO INC.'S FIRST SET OF INTERROGATORIES (NOS. 1, 3, 4, 5 and 6)**

Pursuant to Rule 33 of the Federal Rules of Civil Procedure, Papst Licensing GmbH & Co. KG ("Papst"), supplements its answers to Casio Inc.'s ("Defendant" or "Camera Manufacturer") First Set of Interrogatories as follows:

PRELIMINARY STATEMENTS AND GENERAL OBJECTION

1. These answers are a supplement to Papst's Answers to Casio Inc.'s First Set of Interrogatories served on May 30, 2007, and Papst Licensing's Supplemental Answers to Casio's First Set of Interrogatories served on June 11, 2007.
2. Papst has not completed its investigation of the facts relating to this action. Accordingly, with respect to all of the Interrogatories, Papst reserves the right to amend and/or supplement its responses, if necessary, with additional information based upon further investigation and discovery, and to rely upon such information in the course of this action and at trial.
3. In those instances where the responses to Casio Inc.'s interrogatories can be derived from the business records of Papst or from an examination, audit or inspection

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of such business records, and the burden of deriving or ascertaining the answer is substantially the same for Casio Inc. and Papst, Papst will specify the records from which an answer may be ascertained and afford Casio Inc.'s counsel a reasonable opportunity to audit, inspect and copy such records or provide categorized copies of such records in accordance with Federal Rule of Civil Procedure 33(d).

4. In accordance with Judge Collyer's Order dated May 6, 2008, Papst objects to these interrogatories to the extent that they seek information not relevant to this action.

ANSWERS TO INTERROGATORIES

INTERROGATORY NO. 1

Separately with respect to each claim of the patents-in-suit asserted by Papst to be infringed (directly or indirectly), and for each accused product, state in full and complete detail the bases for such charge of infringement including, but not limited to, how Papst contends that each element of each such claim should be interpreted and provide a detailed element-by-element comparison for each claim with each such product (identifying where in each accused product each element is allegedly found, or otherwise specifically identifying which feature of each accused product is alleged to meet each claim element). For each element allegedly met under the doctrine of equivalents, specifically state all reasons why Papst contends the element in the accused product is insubstantially different.

ANSWER:

Subject to the Preliminary Statements and General Objection above which are incorporated herein, Papst first notes that this interrogatory seeks information and responses inconsistent with the dates set in the Second Practice and Procedure Order, Docket No. 36 (April 8, 2008) ("Order"). In the Order, at Paragraph 17, the Court orders that: "Papst shall file its asserted claims and infringement contentions no later than May 28, 2008." Papst reserves the right to present its asserted claims and infringement

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contentions at the time specified by the Order. Also, Papst reserves the right to amend or supplement the present response as the parties comply with the disclosure, briefing, and hearing schedule concerning claim construction as set forth in the Order. Papst further reserves the right to amend or supplement the present response after such time as the Court provides any rulings concerning the scope of the claims of the patents-in-suit.

Papst also notes that Papst served Papst Licensing GmbH & Co. KG's First Joint Set Of Interrogatories To Defendants on the Camera Manufacturers on April 9, 2008.

These interrogatories seek, among other things, information concerning USB descriptors and information regarding which SCSI Block Commands and which PTP Commands are supported by each device. Such information is relevant to the present responses. Papst does not expect responses from Camera Manufacturers, however, until after service of this interrogatory response. Papst just received over 60,000 pages of documents from Casio one day before the service of these answers, but Papst has not had an opportunity to review those documents yet and notes that many of the Casio documents are in Japanese. Nevertheless, Papst provides its responses below based on currently available information. Papst reserves the right to amend or supplement this response after it receives and evaluates any additional information as may become known as discovery progresses in this case.

Concerning the request to "state in full and complete detail the bases for such charge of infringement," Papst notes that, at the time of service of these answers, Papst has not had an opportunity to receive sufficient discovery from the Defendants concerning the individual models that the Defendants have made and/or sold, or the geographical locations of such manufacturing and sales. Nevertheless, and subject to

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further discovery in this case, according to Papst's best understanding at this time, devices which are believed to be configurable to operate as USB Mass Storage mode ("Mass Storage Class Digital Cameras," or "MSC Digital Cameras") and digital cameras configured to operate in PTP mode ("PTP Digital Cameras") include at least the following:

Camera Brand	Device Model
Casio	EXILIM EX-V7
	EXILIM EX-Z110
	EXILIM EX-Z60
	EXILIM EX-Z1050
	EXILIM EX-Z75
	EXILIM EX-S600
	EXILIM EX-Z700
	EXILIM EX-Z1000
	EXILIM Pro EX-P700
	EXILIM EX-Z600
	EXILIM EX-S500
	EXILIM EX-S770
Fujifilm	FINE PIX F10
	FINE PIX F650
	FINEPIX S9100
	FINE PIX A700
	FINE PIX S5600
	FINE PIX E900
	FINE PIX V10
HP	PHOTOSMART R827
	PHOTOSMART R817

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Camera Brand	Device Model
	PHOTOSMART M425
	PHOTOSMART M527
	PHOTOSMART E427
	PHOTOSMART R927
	PHOTOSMART R725
	PHOTOSMART M627
JVC	GZ-MG67E
	GZ-MG505E
	GZ-MG20E
Olympus	STYLUS 760
	STYLUS 730
	EVOLT E-410
	FE-250
	SP-510UZ
	Stylus 1000
	FE-190
	E-500
	STYLUS 710
	FE 120
	SP-500UZ
	mju Digital 600
	Stylus 720 SW
Panasonic	DMC-LZ5 EG
	DMC-LX1
	DMC-L1K
	PV-GS320
	HDC-SD1

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Camera Brand	Device Model
	VDR-D230
	DMC-FX07
	DMC-FX01
	DMC-FX8 EG
	DMC-TZ1 EG
	DMC-FZ7 EG
	DMC-LZ3
Samsung	Digimax L55W

Subject to the above Preliminary Statements and General Objection and subject to further discovery in this case, according to Papst's best understanding at this time, devices which are believed to be configurable to operate at least as MSC Digital Cameras include:

Camera Brand	Model
JVC	GZ-MG155U
Olympus	FE110
	Camedia C 4000
	Camedia C 370
	FE-170
Samsung	SGH-D900i
	SGH-D820
	Digimax V700
	Digimax I5
	Digimax A55W
	Digimax A40
	NV10

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Camera Brand	Model
	Digimax S800
	Digimax L85
	PRO815

Subject to the above Preliminary Statements and General Objection and subject to further discovery in this case, according to Papst's best understanding at this time, devices which are believed to be configurable to operate at least as PTP Digital Cameras include:

Camera Brand	Model
Fujifilm	FINEPIX A800
	FINEPIX F40FD
	FINEPIX Z5FD
	FINEPIX S700
	FINEPIX S5 PRO
	FINE PIX F31FD
	FINE PIX S6000FD
	FINE PIX F20

Subject to the above Preliminary Statements and General Objection and subject to further discovery in this case, according to Papst's best understanding at this time, devices identified in the following table are likely to be found to be configurable as a MSC Digital Camera, as a PTP Digital Camera, or both, after additional discovery or investigation:

Camera Brand	Model
--------------	-------

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Camera Brand	Model
Casio	EXILIM EX-Z80
	EXILIM EX-Z1200
	EXILIM EX-Z120
	EXILIM EX-Z50
	EXILIM EX-S100
	QV-R62
	EXILIM EX-P505
	EXILIM EX-Z750
	EXILIM EX-Z57
	EXILIM EX-Z55
	EXILIM EX-Z500
	EXILIM EX-Z200
	EXILIM EX-Z850
	EXILIM EX-Z1080
	EXILIM EX-V8
	EXILIM EX-Z100
	EXILIM EX-Z9
	QV-R4
	QV-R52
	QV-5700
	QV-R3
	EXILIM EX-S10
	QV-R61
	GV-20
	EXILIM EX-S2
	EXILIM EX-M2
	EXILIM EX-Z3

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Camera Brand	Model
	EXILIM EX-S3
	EXILIM EX-Z40
	EXILIM EX-Z4/EX-Z4U
	EXILIM EX-S20U
	EXILIM EX-M20U
	EXILIM EX-P600
	QV-R40
	Exilim EX-Z30
	QV-R51
	EXILIM EX-Z70
Fujifilm	FINEPIX E 550
	FINEPIX J10
	FinePix F30 ZOOM
	FinePix A600 ZOOM
	FinePix F470 ZOOM
	FinePix A500 ZOOM
	FinePix A400 ZOOM
	FinePix F460
	FinePix A345 ZOOM
	FinePix S9500/S9000
	FinePix Z1
	FinePix A350 ZOOM
	FinePix Z3
	FinePix F100fd
	FinePix S3100
	FinePix F11 ZOOM
	FinePix A610

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Camera Brand	Model
	FinePix A900
	FinePix A920
	FinePix F480
	FinePix F50fd
	FinePix S5800
	FinePix Z10fd
	FinePix J50
	FinePix S1000fd
	FinePix S8100fd
	FinePix Z20fd
	FinePix F455 ZOOM
	FinePix A820
	FinePix S8000fd
	FinePix S602Z PRO
	FinePix S5500 ZOOM / S5100
	FinePix S5700
	FinePix F401 ZOOM
	FinePix A202/A200
	FinePix A203
	FinePix A204/FinePix 2650
	FinePix A303
	FinePix S304/FinePix 3800
	FinePix M603
	FinePix F410 ZOOM
	FinePix F700
	FinePix A310 ZOOM
	FinePix A210 ZOOM

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Camera Brand	Model
	FinePix F450 ZOOM
	FinePix F810 ZOOM
	FinePix E510 ZOOM
	FinePix F402
	FinePix E500 ZOOM
	FinePix A205 ZOOM / A205S
	FinePix F440 ZOOM
	FinePix S3 PRO
	FinePix S20 PRO
	FinePix A330
	FinePix A120
	FinePix S3000 Z
	FinePix S7000 Z
	FinePix A340
	FinePix S5000 Z
	FINEPIX S100fs
HP	PHOTOSMART R717
	PHOTOSMART M517
	PHOTOSMART M23
	PHOTOSMART M525
	PHOTOSMART R507
	PHOTOSMART R607/R607V/R607XI
	PHOTOSMART M22
	PHOTOSMART R837
	PHOTOSMART R818
	PHOTOSMART M415

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Camera Brand	Model
	PHOTOSMART R967
	PHOTOSMART E327/E327V
	PHOTOSMART R727
	PHOTOSMART M417
	PHOTOSMART M407/M407V/M407XI
	PHOTOSMART E317/E317V/E317XI
	PHOTOSMART 620
	PHOTOSMART M307
	PHOTOSMART E217
	PHOTOSMART 320
	PHOTOSMART 720
	PHOTOSMART 850
	PHOTOSMART 733
	PHOTOSMART 735
	PHOTOSMART 935
	PHOTOSMART 435
	PHOTOSMART 635
	PHOTOSMART 945
	PHOTOSMART R707
	PHOTOSMART 120
	PHOTOSMART R937
JVC	GZ-HD5
	XA-F57P
	XA-F107A
	GC-A50
	GC-A55

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Camera Brand	Model
	GC-A70
	XA-C210
Olympus	LS-10
	WS-110
	SP-570UZ
	STYLUS 1200
	μ Mini S/Stylus Verve Mini S
	μ Mini Digital/Stylus Verve Digital
	C-765 UZ
	C-770 UZ
	C-160/D-395
	C-360 Zoom/D-575 Zoom
	C-60 ZOOM
	C-725 UZ
	C-70 Zoom/C-7000 ZOOM
	E-300 / EVOLT E-300
	C-470 Zoom/D-590 Zoom
	μ 500/Stylus 500
	C-170/D-425
	C-460 Zoom/D-580 Zoom
	C-7070 WideZoom
	C-740 UZ
	C-480 ZOOM/D-545 ZOOM
	C-500 Zoom/D-595 Zoom
	C55/C-5500 SPORT ZOOM
	μ 400/Stylus 400

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Camera Brand	Model
	IR-300
	C-120/D-380
	C-220 Zoom/D-520 Zoom
	C-300 Zoom/D-550 Zoom
	C-720 UZ
	C-5050 ZOOM
	C-50 ZOOM
	C-450 Zoom
	μ 300/Stylus 300
	C-310 Zoom/D-540 Zoom
	C-150/D-390
	C-350 Zoom/D-560 Zoom
	C-750 UZ
	E-1
	C-5000 ZOOM
	C-5060 ZOOM
	μ 410/Stylus 410
	C-730 UZ
	μ 1010/Stylus 1010
	μ 780/Stylus 780
	E-510
	FE-210
	μ 790 SW/Stylus 790 SW
	μ 820/Stylus 820
	μ 830/Stylus 830
	FE-270
	FE-280

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Camera Brand	Model
	SP-550 UZ
	E-3
	FE-290
	μ 1020/Stylus 1020
	μ 1030 SW/Stylus 1030 SW
	μ 840/Stylus 840
	μ 850 SW/Stylus 850 SW
	FE-340
	FE-350
	E-420
	C-8080 WideZoom
	FE-5500/D-630 Zoom
	FE-300
	μ 700/Stylus 700
	IR-500
	SP-560 UZ
	FE-240
	C-180/D-435
	FE-100
	SP-310
	SP-700
	μ 800/Stylus 800
	μ 810/Stylus 810
	E-330 / Evolt E-330
	FE-180
	FE-230
	μ 770/Stylus 770

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Camera Brand	Model
	SP-350
	FE-200
	FE-115
	μ 750/Stylus 750
	μ 740/Stylus 740
	SP-320
	FE-140
	FE-130
	DS-20
	FE-310
Panasonic	EB-VS3 / VS3
	DMC-FX100
	Lumix DMC-TZ3
	Lumix DMC-FZ50
	Lumix DMC-FX12
	Lumix DMC-FX30
	Lumix DMC-FZ8
	Lumix DMC-LS75
	Lumix DMC-LZ6
	Lumix DMC-LZ7
	Lumix DMC-LX2
	Lumix DMC-FX10
	Lumix DMC-TZ5
	Lumix DMC-FX55
	Lumix DMC-L10K
	Lumix DMC-FS20
	Lumix DMC-FS3

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Camera Brand	Model
	Lumix DMC-FS5
	Lumix DMC-FX35
	Lumix DMC-LZ10
	Lumix DMC-TZ4
	Lumix DMC-FX50
	Lumix DMC-FX33
	Lumix DMC-LZ8
	Lumix DMC-LC43
	Lumix DMC-FX3
	Lumix DMC-FZ18
	Lumix DMC-FZ1
	Lumix DMC-LC33
	Lumix DMC-FX5
	Lumix DMC-FZ10
	Lumix DMC-LC50
	Lumix DMC-LC70
	Lumix DMC-LC1
	Lumix DMC-FX7
	Lumix DMC-LZ2
	Lumix DMC-FZ30
	Lumix DMC-F1
	Lumix DMC-LS2
	Lumix DMC-FZ20
	Lumix DMC-FX9
	Lumix DMC-LZ1
	Lumix DMC-FZ5
	Lumix DMC-FZ4

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Camera Brand	Model
	Lumix DMC-FZ15
	Lumix DMC-LC80
	Lumix DMC-FZ3
	DMC-LS80
	HDC-SD9
	VDR-D50
	SDR-H18
	EXLIM CARD EX-F1
Ricoh	Caplio GR
	GR Digital
	Caplio RR120
	Caplio R5
	Caplio GX100
	Caplio R7
	Caplio GR Digital II
	Caplio R8
	Caplio RR630
Samsung	SC-HMX10C
	L73
	Digimax S600
	Digimax D53
	GX-10
	Digimax S700
	Digimax S1000
	L700
	NV7 OPS
	NV3

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Camera Brand	Model
	Digimax A503
	GX-1L
	Digimax S500
	GX-1S
	L74 wide
	L100
	Digimax L60
	S85
	i8
	S860
	NV40
	NV4
	NV30
	Digimax V6
	Digimax i85
	Digimax i6 PMP
	NV11
	L830
	L730
	Digimax L77
	S850
	S630
	S1050
	S730
	NV15
	Digimax 240
	Digimax A6

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Camera Brand	Model
	Digimax 301
	Digimax 202
	Digimax (Cyber) 530
	Digimax U-CA 3
	Digimax 420
	Digimax 401
	Digimax V4
	Digimax 430
	Digimax 201
	Digimax 340
	Digimax 410
	Digimax 350SE
	Digimax 230
	NV24 HD
	Digimax 360
	Digimax A5
	Digimax V800
	Digimax U-CA 5
	Digimax A50
	Digimax A402
	Digimax A7
	Digimax A4
	Digimax 370
	Digimax U-CA 505
	Digimax L50
	Digimax A400
	Digimax U-CA 4

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Camera Brand	Model
	Digimax 250
	Digimax V50
	Digimax V5
	Digimax U-CA 401
	Digimax V70
	NV20

Papst reserves the right to amend, add to, or otherwise revise the above lists of devices as its investigation proceeds and as discovery in this case proceeds.

Also, as set forth above, Papst has served discovery requests on the Camera Manufacturers, the responses to which are expected to be highly relevant to the preparation of claim charts, but are not available at the time of service of this response. Nevertheless, and without waiving its general objection, Papst provides claim charts for two representative devices: 1) digital cameras which are configurable to operate as MSC Digital Cameras; and 2) digital cameras which are configurable to operate in PTP mode.

The claim charts below provide the infringement analysis with respect to the MSC Digital Cameras identified above:

'399 Patent Claims	MSC Digital Cameras
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	Generally, a preamble is not limiting. This claim covers an interface device as defined in the body of the claim below, and does not expressly require or exclude a host device or a

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‘399 Patent Claims	MSC Digital Cameras
transmit/receive device being arranged for providing analog data, comprising:	data/transmit receive device. See the Claim Preamble section below for additional information.
a processor;	The interface portion of MSC Digital Cameras typically has a processor, such as a microprocessor or microcontroller.
a memory;	The interface portion of MSC Digital Cameras typically includes memory. Also, a socket is typically provided for adding a memory card.
a first connecting device for interfacing the host device with the interface device via the multi-purpose interface of the host device; and	The MSC Digital Cameras include a first connecting device comprising a Universal Serial Bus (USB) circuit for interfacing the interface device with a multipurpose USB interface on a host PC.
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	The MSC Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry

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‘399 Patent Claims	MSC Digital Cameras
provided by the data transmit/receive device and an analog-to-digital converter for converting data sampled by the sampling circuit into digital data,	interfaces analog data typically provided by a data transmit receive device (typically including a CCD image sensor) with the interface device. For example some MSC Digital Cameras use a Correlated Double Sampler (CDS).
wherein the interface device is configured by the processor and the memory to include a first command interpreter and a second command interpreter,	The interface device of MSC Digital Cameras is configured to include first and second command interpreters as set forth more fully below.
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	The first command interpreter may comprise, for example, a USB command interpreter. When a MSC Digital Camera is plugged in to a USB port on a host PC, the camera may receive a "Get_Descriptor" USB command. The "Get_Descriptor" USB command is an inquiry from the host PC. The first command interpreter of the MSC Digital Camera interprets the

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'399 Patent Claims	MSC Digital Cameras
customary in a host device,	"Get_Descriptor" USB command and returns the requested descriptor(s). MSC Digital Cameras are believed, for example, to send a signal to the Host PC, regardless of the image sensor, microphone, or other data transmit/receive device which may be attached to the interface device, that the MSC Digital Camera is a mass storage class device, such as a disk drive, which is an I/O device customary in a host PC. See "First Command Interpreter" and "Signals to the Host Device and Customary in a Host Device" sections below for additional information.
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	Upon receiving the information signaling the host computer that the MSC Digital Camera is a mass storage device, the host PC automatically communicates with the interface device of the MSC Digital Camera by

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'399 Patent Claims	MSC Digital Cameras
	means of one or more software drivers for disk drives customary in the host PC. The interface device is configured to respond to communications from one or more of these drivers. For example, when the host PC is configured with the Windows XP operating system, the host PC is believed to communicate with the interface device by means of disk.sys, PartMgr.sys and usbstor.sys. Digital camera-specific drivers are not necessary. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with hard disk drives, which are input/output devices customary in the host PC. The host PC also uses usbstor.sys to communicate with hard disk drives attached to the USB port.
wherein the second command interpreter is configured to interpret a data request	As set forth above, the first command interpreter signals to the host PC that

EXHIBIT B

'399 Patent Claims	MSC Digital Cameras
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.	the MSC Digital Camera is a mass storage device, such as a disk drive. The second command interpreter is configured to interpret data request commands for such disk drives. For example, the second command interpreter may be configured to interpret SCSI Block Commands (SBC) and/or ATAPI commands. This second command interpreter, for example, is believed to interpret the READ(10) command (Operation code 28h). MSC Digital Cameras are believed to interpret this data request command and provide the requested sectors of information, including data representing images acquired by, for example, a CCD sensor and digitized by the second connecting device.
2. An interface device according to claim 1, wherein the drivers for input/output drivers customary in a host device comprise a hard	Windows XP drivers disk.sys and PartMgr.sys are the same drivers that would be used to communicate with a

EXHIBIT B

'399 Patent Claims	MSC Digital Cameras
disk driver, and the signal indicates to the host device that the host device is communicating with a hard disk.	hard disk. The Interface Descriptor signals sent by the MSC Digital Camera indicating a SCSI command set indicate to the host PC that the MSC Digital Camera is a hard disk.
3. An interface device according to claim 1, wherein the memory means comprises a buffer to buffer data to be transferred between the data transmit/receive device and the host device.	MSC Digital Cameras include internal memory and structure for receiving a memory card. The internal memory and/or memory card comprise a buffer to buffer data acquired by the transmit/receive device until it is transferred to the host PC. The MSC Digital Cameras may also comprise a memory buffer used during processing of images acquired by the image sensor.
5. An interface device according to claim 1, wherein the processor is a digital signal processor.	MSC Digital Cameras may further comprise a digital signal processor.
7. An interface device according to claim 2, which further comprises a root directory and	The MSC Digital Cameras are believed to comply with, for example,

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'399 Patent Claims	MSC Digital Cameras
virtual files which are present on the signaled hard disk drive and which can be accessed from the host device.	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 files can be accessed from the host device.
11. An interface device for communication between a host device, which comprises a multi-purpose interface and a specific driver for this interface, and a data transmit/receive device, the data transmit/receive device being arranged for providing analog data, comprising:	Generally, a preamble is not limiting. This claim covers an interface device, and does not expressly require or exclude a host device or a data/transmit receive device. See the Claim Preambles section below for additional information.
a processor;	The interface portion of MSC Digital Cameras typically has a processor, such as a microprocessor or microcontroller.
a memory;	The interface portion of a MSC Digital Camera typically includes memory. Also, a socket is typically provided for adding a memory card.

EXHIBIT B

'399 Patent Claims	MSC Digital Cameras
a first connecting device for interfacing the host device with the interface device via the multi-purpose interface of the host device; and	The MSC Digital Cameras include a first connecting device comprising a Universal Serial Bus (USB) circuit for interfacing the interface device with a multipurpose USB interface on a host PC.
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,	The MSC Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry interfaces analog data typically provided by a data transmit receive device (typically including a CCD image sensor) with the interface device. For example some MSC Digital Cameras use a Correlated Double Sampler (CDS).
where the interface device is configured using the processor and the memory to include a first command interpreter and a second command interpreter,	The interface device of MSC Digital Cameras is configured to include first and second command interpreters as set forth more fully below.

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399 Patent Claims	MSC Digital Cameras
wherein the first command interpreter is configured in such a way that the interface device, when receiving an inquiry from the host device as to the type of a device attached at 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,	The first command interpreter may comprise, for example, a USB command interpreter. When a MSC Digital Camera is plugged in to a USB port on a host PC, the camera may receive a "Get_Descriptor" USB command. The "Get_Descriptor" USB command is a type of inquiry from the host PC. The first command interpreter of the MSC Digital Camera interprets the "Get_Descriptor" USB command and returns the requested descriptor(s). MSC Digital Cameras are believed, for example, to send a signal to the Host PC, regardless of the image sensor, microphone, or other data transmit/receive device which may be attached to the interface device, that the MSC Digital Camera is a mass storage class device, such as a disk drive, which is an I/O device customary in a host PC. See "First

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'399 Patent Claims	MSC Digital Cameras
	Command Interpreter" and "Signals to the Host Device and Customary in a Host Device" sections below for additional information.
whereupon the host device communicates with the interface device by means of the specific driver for the multi-purpose interface, and	Upon receiving the information signaling the host computer that the MSC Digital Camera is a mass storage device, the host PC automatically communicates with the interface device of the MSC Digital Camera by means of one or more software drivers specifically adapted for the multipurpose USB interface. For example, when the host PC is configured with the Windows XP operating system, the host PC is believed to communicate with the interface device by means of usbd.sys, which is a specific driver for the multipurpose USB interface. Digital camera-specific drivers are not necessary.

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'399 Patent Claims	MSC Digital Cameras
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.	As set forth above, the first command interpreter signals to the host PC that the MSC Digital Camera is a mass storage device, such as a disk drive. The second command interpreter is configured to interpret data request commands for such disk drives. For example, the second command interpreter may be configured to interpret SCSI Block Commands (SBC) and/or ATAPI commands. This second command interpreter, for example, is believed to interpret the READ(10) command (Operation code 28h). MSC Digital Cameras are believed to interpret this data request command and provide the requested sectors of information, including data representing images acquired by, for example, a CCD sensor and digitized by the second connecting device.
14. A method of communication between a	This claim covers a method of

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'399 Patent Claims	MSC Digital Cameras
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, via an interface device, comprising:	communicating between a host device interface device and a data transmit/receive device via an interface device. See the Claim Preambles section below for additional information concerning the host device and the data/transmit receive device
interfacing of the host device with a first connecting device of the interface device via the multi-purpose interface of the host device;	User manuals for the various MSC Digital Cameras instruct users, including users of cameras destined for the U.S., to interface a first connecting device of the MSC Digital Camera with a multipurpose interface of a host PC by connecting the MSC Digital Camera to the USB port on the host PC.
interfacing of the data transmit/receive device with a second connecting device of the interface device, the second connecting device including a sampling circuit for sampling the	The MSC Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry

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'399 Patent Claims	MSC Digital Cameras
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;	interfaces analog data typically provided by a data transmit receive device (typically including a CCD image sensor) with the interface device.
inquiring by the host device at the interface device as to the type of device to which the multi-purpose interface of the host device is attached;	When a MSC Digital Camera is plugged in to a USB port on a host PC, the host PC may inquire the interface device as to the type of device it is by sending a "Get_Descriptor" USB command.
regardless of the type of the data transmit/receive data attached to the second connecting device of the interface device, responding to the inquiry from the host device by the interface device in such a way 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 usual driver for the input/output device, and	A MSC Digital Camera responds to the "Get_Descriptor" inquiry in such a way that it is an input/output device customary in a host device. MSC Digital Cameras are believed, for example, to send a signal to the Host PC, regardless of the image sensor, microphone, or other data transmit/receive device which may be attached to the interface device, that

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399 Patent Claims	MSC Digital Cameras
	the MSC Digital Camera is a mass storage class device, such as a disk drive, which is an I/O device customary in a host PC. See "First Command Interpreter" and "Signals to the Host Device and Customary in a Host Device" sections below for additional information. Upon receiving the information signaling the host computer that the MSC Digital Camera is a mass storage device, the host PC automatically communicates with the interface device of the MSC Digital Camera by means of one or more of the usual software drivers for disk drives customary in the host PC. For example, when the host PC is configured with the Windows XP operating system, the host PC is believed to communicate with the interface device by means of disk.sys,

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'399 Patent Claims	MSC Digital Cameras
	PartMgr.sys and usbstor.sys. Digital camera-specific drivers are not necessary. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with hard disk drives, which are input/output devices customary in the host PC. The host PC also uses usbstor.sys to communicate with hard disk drives attached to the USB port.
interpreting a data request command from the host device to the type of input/output device customary in the host device as a data transfer command for initiating a transfer of the digital data to the host device.	A MSC Digital Camera is believed to interpret SCSI Block Commands (SBC) and/or ATAPI commands. For example, the MSC Digital Camera is believed to interpret the READ(10) command (Operation code 28h). MSC Digital Cameras are believed to interpret this data request command and provide the requested sectors of information, including data representing images acquired by, for example, a CCD sensor and digitized

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'399 Patent Claims	MSC Digital Cameras
	by the second connecting device.
15. A method according to claim 14, wherein the drivers for input/output devices customary in a host device comprise a driver for a storage device and in particular for a hard disk drive.	Windows XP drivers disk.sys and PartMgr.sys are the same drivers that would be used to communicate with a storage device comprising a hard disk.

'499 Patent Claims	MSC Digital Cameras
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:	Generally, a preamble is not limiting. This claim covers an interface device, and does not expressly require or exclude a host device or a data/transmit receive device. See the Claim Preambles section below for additional information.
a processor;	The interface portion of MSC Digital Cameras typically has a processor, such as a microprocessor or microcontroller.
a memory;	The interface portion of a MSC Digital Camera typically includes memory. Also, a socket is typically provided for adding a memory card.

EXHIBIT B

'499 Patent Claims	MSC Digital Cameras
a first connecting device for interfacing the host device with the interface device via the multi-purpose interface of the host device; and	The MSC Digital Cameras include a first connecting device comprising a Universal Serial Bus (USB) circuit for interfacing the interface device with a multipurpose USB interface on a host PC.
a second connecting device for interfacing the interface device with the data transmit/receive device,	The MSC Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry interfaces analog data typically provided by a data transmit receive device (typically including a CCD image sensor) with the interface 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	The interface device is believed to be configured by the processor and a program stored in the memory, for example, in such a way that when the MSC Digital Camera receives a "Get_Descriptor" USB command, the MSC Digital Camera sends the requested descriptor(s). The "Get_Descriptor" USB command is a type of inquiry from the

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'499 Patent Claims	MSC Digital Cameras
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,	host PC. MSC Digital Cameras are believed, for example, to send a signal to the Host PC, regardless of the image sensor, microphone, or other data transmit/receive device which may be attached to the interface device, that the MSC Digital Camera is a mass storage class device, such as a disk drive, which is a storage device customary in a host PC.
whereupon the host device communicates with the interface device by means of the driver for the storage device customary in a host device, and	Upon receiving the information signaling the host computer that the MSC Digital Camera is a mass storage device, the host PC automatically communicates with the interface device of the MSC Digital Camera by means of one or more software drivers for disk drives customary in the host PC. The interface device is configured to respond to communications from one or more of these drivers, as set forth below. For example, when the host PC is configured with the Windows XP operating system, the host PC is believed

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'499 Patent Claims	MSC Digital Cameras
	to communicate with the interface device by means of disk.sys, PartMgr.sys and usbstor.sys. Digital camera-specific drivers are not necessary. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with hard disk drives, which are input/output devices customary in the host PC. The host PC also uses usbstor.sys to communicate with hard disk drives attached to the USB port.
wherein the interface device is arranged for simulating a virtual file system to the host, the virtual file system including a directory structure.	The interface portion of the MSC Digital Camera is believed to simulate a virtual file system, including, for example, simulating 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.
2. An interface device in accordance with claim 1, in which the directory structure	MSC Digital Cameras may include configuration files and files used for

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'499 Patent Claims	MSC Digital Cameras
has a configuration file for setting and controlling functions of the interface device or an executable or a batch file for conducting a routine stored in the memory or a data file used for transferring data from the data transmit/receive device to the host device or a help file for giving help on handling the interface device.	transferring data from the data transmit/receive device to the host device.
6. An interface device in accordance with claim 1 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.	In response to a request from the host PC to read the first sector on the simulated disk drive (a typical location for a master boot record), the processor of the MSC Digital Camera is arranged to send a virtual boot sequence to the host. For example, in response to the request for the first sector, the MSC Digital Cameras is believed to provide 512 bytes of data which contain the information typically found in a master boot record (MBR), including information for at least one partition.

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'499 Patent Claims	MSC Digital Cameras
7. 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.	The MSC Digital Cameras are believed to provide a boot sequence including a master boot record and a boot sector, which typically include a starting location and a length of a File Allocation Table.
8. An interface device in accordance with claim 7 wherein, in response to a request from the host to display a directory of the storage device, a processor is arranged for transferring the file allocation table and the directory structure to the host.	The MSC Digital Camera is configured such that, in response to a request from the host PC to display a directory of the MSC Digital Camera (which appears to the host PC to be a storage device), the processor is arranged for transferring the file allocation table and the directory structure to the host PC.
9. An interface device in accordance with claim 1 wherein the file allocation table and the directory structure is transferred to the host in response to a request from the host to read data from or store data to the storage device.	The MSC Digital Camera is configured such that, in response to a request from the host PC to read data from or store data to the MSC Digital Camera (which appears to the host PC to be a storage device), the processor is arranged for transferring the file allocation table and the directory

EXHIBIT B

'499 Patent Claims	MSC Digital Cameras
	structure to the host PC.
12. An interface device in accordance with claim 1 wherein the file allocation table includes information on numbers of blocks occupied by the data file wherein the interface device is arranged for receiving block numbers or a block number range from the host when the host wants to read the data file, and wherein the interface device is arranged to start a data transfer to the host, when the block numbers or the block number range is received from the host.	In FAT file systems believed to be used in the MSC Digital Cameras, the number of the first cluster of a file is in the directory. READ(10) command supports reading a single logical block address comprising a single 512 byte sector, or a starting logical block address plus a transfer length comprising a range of blocks of data.
13. An interface device in accordance with claim 12 wherein the processor is arranged for formatting the data acquired by the second connecting device into blocks having a predetermined size, the predetermined size being suited for the storage device.	It is believed that the processor is arranged for formatting the data acquired by the second connecting device into 512 byte blocks, which is a size being suited for a storage device.
15. An interface device in accordance	The Interface Descriptor sent by the MSC

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'499 Patent Claims	MSC Digital Cameras
with claim 1 wherein the storage device is a hard disk.	Digital Camera indicating a SCSI command set is the same as an Interface Descriptor as would be sent by a hard disk. Thus, the Interface Descriptor signals the host PC that the storage device is a hard disk.
16. An interface device in accordance with claim 1 wherein the memory has a data buffer for permitting independence in terms of time of the data transmit/receive device attachable to the second connecting device from the host device attachable to the first connecting device.	Images are typically stored in a data buffer, permitting time independence from when a photograph is captured and when it is transferred to the host PC.
17. An interface device for communication between a host device, which comprises a multi-purpose interface and a specific driver for this interface, and a data transmit/receive device comprising the following features:	Generally, a preamble is not limiting. This claim covers an interface device, and does not expressly require or exclude a host device or a data/transmit receive device. See the Claim Preambles section below for additional information.
a processor;	The interface portion of MSC Digital

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'499 Patent Claims	MSC Digital Cameras
	Cameras typically has a processor, such as a microprocessor or microcontroller.
a memory;	The interface portion of a MSC Digital Camera typically includes memory. Also, a socket is typically provided for adding a memory card.
a first connecting device for interfacing the host device with the interface device via the multi-purpose interface of the host device; and	The MSC Digital Cameras include a Universal Serial Bus (USB) circuit. A USB interface present on a host PC is a multipurpose interface.
a second connecting device for interfacing the interface device with the data transmit/receive device,	The MSC Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry interfaces analog data typically provided by a data transmit receive device (typically including a CCD image sensor) with the interface device. For example some MSC Digital Cameras use a Correlated Double Sampler (CDS).
where the interface device is configured using the processor and the memory in	The interface device is believed to be configured by the processor and a

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'499 Patent Claims	MSC Digital Cameras
such a way that the interface device, when receiving an inquiry from the host device as to the type of a device attached at 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,	program stored in the memory, for example, in such a way that when the MSC Digital Camera receives a "Get_Descriptor" USB command, the MSC Digital Camera sends the requested descriptor(s). MSC Digital Cameras are believed, for example, to send a signal to the Host PC, regardless of the image sensor, microphone, or other data transmit/receive device which may be attached, that the MSC Digital Camera is a mass storage class device, such as a disk drive, which is a storage device customary in a host PC.
whereupon the host device communicates with the interface device by means of the specific driver for the multi-purpose interface, and	Upon receiving the information signaling the host computer that the MSC Digital Camera is a mass storage device, the host PC automatically communicates with the interface device of the MSC Digital Camera by means of one or more software drivers for disk drives customary in the host PC. The interface device is

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'499 Patent Claims	MSC Digital Cameras
	configured to respond to communications from one or more of these drivers, as set forth below. For example, when the host PC is configured with the Windows XP operating system, the host PC is believed to communicate with the interface device by means of usbd.sys. Digital camera-specific drivers are not necessary. The host PC also uses the usbd.sys driver to communicate with hard disk drives connected to the USB interface, and hard disk drives are input/output devices customary in the host PC.
wherein the interface device is arranged for simulating a virtual file system to the host, the virtual file system including a file allocation table and a directory structure.	The interface portion of the MSC Digital Camera is believed to simulate a virtual file system, including, for example, simulating 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.

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'499 Patent Claims	MSC Digital Cameras
18. A method of 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 via an interface device comprising the following steps:	Generally, a preamble is not limiting. This claim covers a method of communicating between a host device interface device and a data transmit/receive device via an interface device. See the Claim Preambles section below for additional information concerning the host device and the data/transmit receive device
interfacing of the host device with a first connecting device of the interface device via the multi-purpose interface of the host device;	User manuals for the various MSC Digital Cameras instruct users, including users of cameras destined for the U.S., to interface the a first connecting device of the MSC Digital Camera with a multipurpose interface of a host PC by connecting the MSC Digital Camera to the USB port on the host PC.
interfacing of the data transmit/receive device with a second connecting device of the interface device;	The MSC Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry interfaces analog data typically provided by a data transmit

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'499 Patent Claims	MSC Digital Cameras
	receive device (typically including a CCD image sensor) with the interface device.
inquiring by the host device at the interface device as to the type of device to which the multi-purpose interface of the host device is attached;	When a MSC Digital Camera is plugged in to a USB port on a host PC, the host PC may inquire the interface device as to the type of device it is by sending a "Get_Descriptor" USB command.
regardless of the type of the data transmit/receive device attached to the second connecting device of the interface device, responding to the inquiry from the host device by the interface device in such a way that it is a storage device customary in a host device, whereupon the host device communicates with the interface device by means of the usual driver for the storage device, and	A MSC Digital Camera responds to the "Get_Descriptor" inquiry in such a way that it is an input/output device customary in a host device. MSC Digital Cameras are believed, for example, to send a signal to the Host PC, regardless of the image sensor, microphone, or other data transmit/receive device which may be attached to the interface device, that the MSC Digital Camera is a mass storage class device, such as a disk drive, which is an storage device customary in a host PC. See "First Command Interpreter" and "Signals to the Host Device and

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'499 Patent Claims	MSC Digital Cameras
	Customary in a Host Device" sections below for additional information. Upon receiving the information signaling the host computer that the MSC Digital Camera is a mass storage device, the host PC automatically communicates with the interface device of the MSC Digital Camera by means of one or more of the usual software drivers for disk drives customary in the host PC. For example, when the host PC is configured with the Windows XP operating system, the host PC is believed to communicate with the interface device by means of disk.sys, PartMgr.sys and usbstor.sys. Digital camera-specific drivers are not necessary. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with hard disk drives, which are storage devices customary in the host PC. The host PC also uses usbstor.sys to communicate with hard disk drives

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'499 Patent Claims	MSC Digital Cameras
	attached to the USB port.
wherein the interface device is arranged for simulating a virtual file system to the host, the virtual file system including a file allocation table and a directory structure.	The interface portion of the MSC Digital Camera is believed to simulate a virtual file system, including, for example, simulating 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.

The claim chart below provides the infringement analysis with respect to the PTP Digital Cameras identified above:

'399 Patent Claims	PTP Digital Cameras
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	Generally, a preamble is not limiting. This claim covers an interface device as defined in the body of the claim below, and does not expressly require or exclude a host device or a data/transmit receive device. See the Claim Preamble section below for additional information.

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'399 Patent Claims	PTP Digital Cameras
device being arranged for providing analog data, comprising:	
a processor;	The interface portion of PTP Digital Cameras typically has a processor, such as a microprocessor or microcontroller.
a memory;	The interface portion of PTP Digital Cameras typically includes memory. Also, a socket is typically provided for adding a memory card.
a first connecting device for interfacing the host device with the interface device via the multi-purpose interface of the host device; and	The PTP Digital Cameras include first connecting device comprising a Universal Serial Bus (USB) circuit for interfacing the interface device with a multipurpose USB interface on a host PC.
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	The PTP Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry interfaces analog data typically provided by a data transmit receive device (typically including a CCD image

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'399 Patent Claims	PTP Digital Cameras
transmit/receive device and an analog-to-digital converter for converting data sampled by the sampling circuit into digital data,	sensor) with the interface device. For example some PTP Digital Cameras use a Correlated Double Sampler (CDS).
wherein the interface device is configured by the processor and the memory to include a first command interpreter and a second command interpreter,	The interface device of PTP Digital Cameras is configured to include first and second command interpreters as set forth more fully below.
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	The first command interpreter may comprise, for example, a USB command interpreter. When a PTP Digital Camera is plugged in to a USB port on a host PC, the camera may receive a "Get_Descriptor" USB command. The "Get_Descriptor" USB command is a type of inquiry from the host PC. The first command interpreter of the PTP Digital Camera interprets the "Get_Descriptor" command and returns the requested descriptor(s). PTP Digital Cameras are believed, for example, to send a

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399 Patent Claims	PTP Digital Cameras
customary in a host device,	signal to the Host PC, regardless of the image sensor, microphone, or other data transmit/receive device which may be attached to the interface device, that the PTP Digital Camera is an imaging device, such as a scanner, which is believed to be an I/O device customary in a host PC. See "First Command Interpreter" and "Signals to the Host Device and Customary in a Host Device" sections below for additional information.
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	Upon receiving the information signaling the host computer that the PTP Digital Camera is an imaging device, the host PC automatically communicates with the interface device of the PTP Digital Camera by means of one or more software drivers for imaging devices customary in the host PC. For example, when the host PC is configured with the Windows XP operating system, the host PC is believed to

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399 Patent Claims	PTP Digital Cameras
	communicate with the interface device by means of at least usbscan.sys. The host PC also uses usbscan.sys drivers to communicate with scanners which are customary on the host PC.
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.	The second command interpreter may be configured to interpret, for example, interpret certain operation codes specified in PIMA 15740 (the PTP specification). For example, PTP Digital Cameras are believed to interpret and respond to the operation code for the GetObject command (PIMA 15740, 10.4.9). PTP Digital Cameras are believed to interpret this data request command and provide the requested object, including data representing images acquired by, for example, a CCD sensor and digitized by the second connecting device.
3. An interface device according to claim 1, wherein the memory means comprises a buffer to buffer data to be	PTP Digital Cameras include internal memory and structure for receiving a memory card. The internal memory and/or

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399 Patent Claims	PTP Digital Cameras
transferred between the data transmit/receive device and the host device.	memory card comprise a buffer to buffer data acquired by the transmit/receive device until it is transferred to the host PC. The PTP Digital Cameras may also comprise a memory buffer used during processing of images acquired by the image sensor.
5. An interface device according to claim 1, wherein the processor is a digital signal processor.	PTP Digital Cameras may further comprise a digital signal processor.
11. An interface device for communication between a host device, which comprises a multi-purpose interface and a specific driver for this interface, and a data transmit/receive device, the data transmit/receive device being arranged for providing analog data, comprising:	Generally, a preamble is not limiting. This claim covers an interface device, and does not expressly require or exclude a host device or a data/transmit receive device. See the Claim Preambles section below for additional information.
a processor;	The interface portion of a PTP Digital Camera typically has a processor, such as a microprocessor.

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'399 Patent Claims	PTP Digital Cameras
a memory;	The interface portion of a PTP Digital Camera typically includes memory. Also, a socket is typically provided for adding a memory card.
a first connecting device for interfacing the host device with the interface device via the multi-purpose interface of the host device; and	The PTP Digital Cameras include first connecting device comprising a Universal Serial Bus (USB) circuit for interfacing the interface device with a multipurpose USB interface on a host PC.
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,	The PTP Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry interfaces analog data typically provided by a data transmit receive device (typically including a CCD image sensor) with the interface device. For example some PTP Digital Cameras use a Correlated Double Sampler (CDS).
where the interface device is configured using the processor and the	The interface device of PTP Digital Cameras is configured to include first and second

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'399 Patent Claims	PTP Digital Cameras
memory to include a first command interpreter and a second command interpreter,	command interpreters as set forth more fully below.
wherein the first command interpreter is configured in such a way that the interface device, when receiving an inquiry from the host device as to the type of a device attached at 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,	The first command interpreter may comprise, for example, a USB command interpreter. When a PTP Digital Camera is plugged in to a USB port on a host PC, the camera may receive a "Get_Descriptor" USB command. The "Get_Descriptor" USB command is a type of inquiry from the host PC. The first command interpreter of the PTP Digital Camera interprets the "Get_Descriptor" command and returns the requested descriptor(s). PTP Digital Cameras are believed, for example, to send a signal to the Host PC, regardless of the image sensor, microphone, or other data transmit/receive device which may be attached to the interface device, that the PTP Digital Camera is an imaging device, such as a scanner, which is believed to be an I/O

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'399 Patent Claims	PTP Digital Cameras
	device customary in a host PC. See "First Command Interpreter" and "Signals to the Host Device and Customary in a Host Device" sections below for additional information.
whereupon the host device communicates with the interface device by means of the specific driver for the multi-purpose interface, and	Upon receiving the information signaling the host computer that the PTP Digital Camera is a mass storage device, the host PC automatically communicates with the interface device of the PTP Digital Camera by means of one or more software drivers specifically adapted for the multipurpose USB interface. For example, when the host PC is configured with the Windows XP operating system, the host PC is believed to communicate with the interface device by means of usbd.sys, which is a specific driver for the multipurpose USB interface.
wherein the second command interpreter is configured to interpret a data request command from the host	The second command interpreter may be configured to interpret, for example, interpret certain operation codes specified in

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399 Patent Claims	PTP Digital Cameras
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.	PIMA 15740 (the PTP specification). For example, PTP Digital Cameras are believed to interpret and respond to the operation code for the GetObject command (PIMA 15740, 10.4.9). PTP Digital Cameras are believed to interpret this data request command and provide the requested object, including data representing images acquired by, for example, a CCD sensor and digitized by the second connecting device.
14. A method of 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, via an interface device, comprising:	This claim covers a method of communicating between a host device interface device and a data transmit/receive device via an interface device. See the Claim Preambles section below for additional information concerning the host device and the data/transmit receive device
interfacing of the host device with a first connecting device of the interface	User manuals for the various PTP Digital Cameras instruct users, including users of

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'399 Patent Claims	PTP Digital Cameras
device via the multi-purpose interface of the host device;	cameras destined for the U.S., to interface a first connecting device of the PTP Digital Camera with a multipurpose interface of a host PC by connecting the PTP Digital Camera to the USB port on the host PC.
interfacing of the data transmit/receive device with a second connecting device of the interface 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;	The PTP Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry interfaces analog data typically provided by a data transmit receive device (typically including a CCD image sensor) with the interface device.
inquiring by the host device at the interface device as to the type of device to which the multi-purpose interface of the host device is attached;	When a PTP Digital Camera is plugged in to a USB port on a host PC, the host PC may inquire the interface device as to the type of device it is by sending a "Get_Descriptor" USB command.
regardless of the type of the data	PTP Digital Cameras are believed, for

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399 Patent Claims	PTP Digital Cameras
transmit/receive data attached to the second connecting device of the interface device, responding to the inquiry from the host device by the interface device in such a way 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 usual driver for the input/output device, and	example, to send a signal to the Host PC, regardless of the image sensor, microphone, or other data transmit/receive device which may be attached to the interface device, that the PTP Digital Camera is an imaging class device, such as a scanner, which is believed to be an I/O device customary in a host PC. See "First Command Interpreter" and "Signals to the Host Device and Customary in a Host Device" sections below for additional information. Upon receiving the information signaling the host computer that the PTP Digital Camera is imaging class device, the host PC automatically communicates with the interface device of the PTP Digital Camera by means of one or more software drivers for imaging devices customary in the host PC. The interface device is configured to respond to communications from one or more of these drivers, as set forth below. For example, when the host PC is configured with the

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'399 Patent Claims	PTP Digital Cameras
	Windows XP operating system, the host PC is believed to communicate with the interface device by means of usbscan.sys. The host PC also uses the usbscan.sys driver to communicate with scanners, which are input/output devices customary in the host PC.
interpreting a data request command from the host device to the type of input/output device customary in the host device as a data transfer command for initiating a transfer of the digital data to the host device.	The second command interpreter may be configured to interpret, for example, interpret certain operation codes specified in PIMA 15740 (the PTP specification). For example, PTP Digital Cameras are believed to interpret and respond to the operation code for the GetObject command (PIMA 15740, 10.4.9). PTP Digital Cameras are believed to interpret this data request command and provide the requested object, including data representing images acquired by, for example, a CCD sensor and digitized by the second connecting device.

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Papst reserves the right to amend or to supplement the identification of devices in this response to provide additional designations of devices as being MSC Digital Cameras, PTP Digital Cameras, or both, as discovery progresses in this case and additional information becomes available.

Based on information currently known to Papst, Papst contends that the asserted claims are literally infringed. However, at this point, the Camera Manufacturers have not provided their claim interpretation contentions or Markman briefs. Papst reserves the right to supplement or otherwise amend this response as discovery in this case progresses, and as the claim construction process in this case progresses.

Papst asserts that the apparatus claims are directly infringed by the Digital Cameras-in-suit. However, at this point, the Camera Manufacturers have not provided their claim interpretation contentions or Markman briefs. Papst reserves the right to supplement or otherwise amend this response as discovery in this case progresses, and as the claim construction process in this case progresses.

Additionally, a reasonable opportunity for discovery is likely to yield evidence relating to whether the Camera Manufacturers had or have the requisite intent to induce the infringement of method claims 14 and 15 of the '399 patent, and method claim 18 of the '449 patent. The Digital Cameras-in-suit, on their own, do not perform the step of: "interfacing of the host device with a first connecting device of the interface device via the multi-purpose interface of the host device;" as recited in claim 14 of the '399 patent and claim 18 of the '449 patent. Also, the Digital Cameras-in-suit, on their own, do not perform the step of: "inquiring by the host device at the interface device as to the type of device to which the multi-purpose interface of the host device is attached;" as recited in

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claim 14 of the '399 patent and claim 18 of the '449 patent. However, the owners manuals and other documentation provided by the Camera Manufacturers instruct the end users of the Digital Cameras-in-suit to connect the cameras to host PCs in such a way that the steps identified above will be performed. Based on this evidence, the Camera Manufacturers intended to cause in the U.S. the actual steps that constitute direct infringement.

In addition, Papst gave notice to each of the Camera Manufacturers that the Digital Cameras-in-suit, when used in as directed in the user manuals provided with those devices, infringe the patents-in-suit. The notice provided by Papst is relevant to each Camera Manufacturer's state of mind. However, the Camera Manufacturers have not, to date, provided discovery regarding their state of mind regarding their actions vis-à-vis the patents-in-suit.

1. Claim Preambles

In construing patent claims, structure recited in the preamble of a claim is generally not considered a limitation of the claim. One generally should look to the body of the claims, which define the structure of the interface device. In one example, claim 1 of the '399 patent recites the following preamble:

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:

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In this claim, the preamble states that the claim is for an “interface device.” Other independent apparatus claims of the ‘399 patent and the ‘449 patent similarly recite an “interface device.” The “interface device” (which is defined later in the body of each claim) is for communicating between a “host device” and a “data transmit/receive device.” The claims neither expressly require, nor prohibit, a permanently attached data transmit/receive device. Also, the apparatus claims neither expressly require, nor prohibit, a host device. Instead, the inquiry should be directed to whether the interface portion of a digital camera meets the limitations in the claims for the interface device.

To provide context for the remaining portions of a claim, the term "host device" may be understood to include Personal Computers (“PCs”) and other host devices as described in the patent written description. Such host devices typically have or are connectable to input/output devices and have software drivers to operate those input/output devices.

The phrase “an input/output device customary in a host device” may be understood, for example, by referring to the ‘399 patent, for example, at column 4, lines 23-39, column 4, line 60 to column 5, line 32, column 8, lines 43-67, and column 12, lines 23-40. Input/output devices customary in a host device include, for example, hard disk drives (e.g. column 8, lines 1-11), floppy disk drives, CD –ROM drives, or tape drives (e.g., column 4, lines 23-39) or printers (e.g., column 9, lines 38-48). Similar disclosures may be referred to for an understanding of the phrase “a storage device customary in a host device,” as that phrase is used in the claims of the ‘449 patent.

To provide context for the remaining portions of a claim, the term data transmit/receive devices may be understood to cover an entire spectrum of sensors. The

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written description of the '399 patent, for example, gives as an example an image-acquisition system, which is a diagnostic radiology system. In this regard, the term "data transmit/receive device" reads on a CCD image sensor typically found in a digital camera. Also, the term "data transmit/receive device" would read on a microphone.

Additionally, the term data transmit/receive device is recited differently in the two patents-in-suit. For example, in claim 1 of the '399 patent, the data transmit/receive device is recited as "being arranged for providing analog data." (CCD image sensors provide analog data). However, in claim 1 of the 449 patent, there is no recitation that the data transmit receive device be arranged to provide analog data. If there is any interpretation of the term data transmit/receive device, that term in the '449 patent therefore should, for example, be construed more broadly than the data transmit/receive devices of the '399 patent.

2. First Connecting Device

An example of a "first connecting device" that is described in the '399 patent and the '449 patent includes an interface circuit. The Digital Cameras in suit all include a first connecting device because they include a Universal Serial Bus (USB) circuit. The USB interface circuit is for interfacing the interface device with a multipurpose USB interface on a host PC.

3. Second Connecting Device

The claim language "second connecting device" as recited in claim 1 of the '399 patent covers circuitry in a digital camera-in-suit that serves as the interface between the CCD image sensor (part of the data transmit/receive device) and the processor (part of the interface device):

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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,

Digital cameras-in-suit typically include a sample-and-hold circuit and an analog to digital converter as part of the circuitry that interfaces the data transmit/receive device to the processor of the interface device. The word “interfacing” does not require, nor does it prohibit, a permanent interface with a permanently attached data transmit/receive device.

In another example, independent claims 1 and 17 of the ‘449 patent recite a “second connecting device for interfacing the interface device with the data transmit/receive device,” which is broader than the language in the ‘399 patent, because it does not recite the sampling circuit or the analog-to-digital converter. Independent claim 18 of the ‘449 patent recites the step of interfacing a data transmit/receive device with a broadly recited second connecting device, which does not require any particular sampling circuit or analog-to-digital converter.

4. First Command Interpreter

The independent claims of the ‘399 patent recite that the interface device be configured by the processor and the memory to include a first command interpreter and a second command interpreter.

In the claims of the ‘399 patent, the first command interpreter interprets USB commands, including those USB commands relating to the device enumeration process. The ‘449 patent is not limited to a “first command interpreter” because, for example, claim 1 of the ‘449 patent recites that the interface device is configured to provide certain signals in response to a received inquiry from a host PC. The host PC is believed to send

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several "Get_Descriptor" USB commands to the devices-in-suit. The digital cameras are believed to send responses to the "Get_Descriptor" command which may depend on whether the device is configured as a MSC Digital Camera or a PTP Digital Camera. Such responses are described in further detail below.

5. "Signals" to the Host Device and "Customary" in a Host Device

Claim 1 of the '399 patent recites, in part, that the "the first command interpreter" (which is part of the interface device) sends a signal to the host device "which signals to the host device that it is an input/output device customary in a host device." Claim 1 of the '449 patent recites, in part, that the "interface device" (not necessarily limited to a "command interpreter") sends a signal to the host device "which signals to the host device that it is a storage device customary in a host device."

The phrase "an input/output device customary in a host device" may be understood, for example, by referring to the '399 patent, for example, at column 4, lines 23-39, column 4, line 60 to column 5, line 32, column 8, lines 43-67, and column 12, lines 23-40. Input/output devices customary in a host device include, for example, hard disk drives (e.g. column 8, lines 1-11), floppy disk drives, CD-ROM drives, or tape drives (e.g., column 4, lines 23-39) or printers (e.g., column 9, lines 38-48). Similar disclosures may be referred to for an understanding of the phrase "a storage device customary in a host device," as that phrase is used in the claims of the '449 patent.

The "signals" may be found in the responses to the "Get_Descriptor" USB commands. For example, a Casio Exilim Z75 Digital Camera is believed to respond to a "Get_Descriptor" USB command from a host PC by returning the requested descriptor(s). For example, the Casio Exilim Z75 Digital Camera, when in USB Mass Storage mode, is

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believed to return an Interface Descriptor which identifies the Casio Exilim Z75 Digital Camera as having a bInterfaceClass = 0x08, a bInterfaceSubClass = 0x05, and a bInterfaceProtocol = 0x50. An Interface Descriptor having the above information does not identify the attached device as a camera having an image sensor. Instead, the Interface Descriptor information given above is believed to signal to the host PC that the Casio Exilim Z75 device is an ATAPI removable rewriteable media device compatible with a SFF-8070i command set. It is further believed that a host PC receiving the above Interface Descriptor information would recognize the Exilim Z75 digital camera as an ATAPI disk drive. The host PC automatically loads standard software drivers, such as usbstor.sys, disk.sys and PartMgr.sys, and the host PC communicates with the interface device of the camera by means of such drivers. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with hard disk drives.

In another example, a Panasonic DMC-LX1 Digital Camera, when in USB Mass Storage mode, is believed to return an Interface Descriptor which identifies the Panasonic DMC-LX1 Digital Camera as having a bInterfaceClass = 0x08, a bInterfaceSubClass = 0x06, and a bInterfaceProtocol = 0x50. An Interface Descriptor having the above information does not identify the attached device as a camera having an image sensor. Instead, the Interface Descriptor information given above is believed to signal to the host PC that the Panasonic DMC-LX1 Digital Camera is a disk drive compatible with a SCSI command set. It is further believed that a host PC receiving the above Interface Descriptor information would recognize the DMC-LX1 Digital Camera as a SCSI disk drive. The host PC automatically loads standard software drivers, such as usbstor.sys, disk.sys and PartMgr.sys, and the host PC communicates with the interface device of the

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camera by means of such drivers. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with hard disk drives.

In another example, an Olympus E-500 Digital Camera, when in USB Mass Storage mode, is believed to return an Interface Descriptor which identifies the Olympus E-500 Digital Camera as having a bInterfaceClass = 0x08, a bInterfaceSubClass = 0x06, and a bInterfaceProtocol = 0x50. An Interface Descriptor having the above information does not identify the attached device as a camera having an image sensor. Instead, the Interface Descriptor information given above is believed to signal to the host PC that the Olympus E-500 Digital Camera is a disk compatible with a SCSI command set. It is further believed that a host PC receiving the above Interface Descriptor information would recognize the Olympus E-500 Digital Camera as a SCSI disk drive. The host PC automatically loads standard software drivers, such as usbstor.sys, disk.sys and PartMgr.sys, and the host PC communicates with the interface device of the camera by means of such drivers. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with hard disk drives.

In another example, in PTP mode, a PTP Digital Camera is believed to respond to a "Get_Descriptor" USB command from a host PC by returning the requested descriptor(s). For example, the PTP Digital Camera is believed to return an Interface Descriptor which identifies the PTP Digital Camera as having a bInterfaceClass = 0x06. An Interface Descriptor having bInterfaceClass = 0x06 is believed to signal to the host PC that the PTP Digital Camera is an I/O imaging device such as a scanner. The host PC, 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 PC believed to use the usbscan.sys driver to communicate with imaging devices such as scanners.

6. Host Device Communicates with the Interface Device

Claim 1 of the '399 patent, for example, recites communication from the host device to the interface device to be by way of a driver for 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

The body of claim 1 of the '449 patent, for example, also recites communication between the host device and the interface device, but by way of a driver for a storage 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

Host devices, such as a PC are believed to communicate with the interface device of a Digital Camera-in-suit as recited above. For example, a PC operating Windows XP is believed to communicate with a Casio Exilim Z75 digital camera in USB Mass Storage Mode by means of Microsoft standard software drivers, such as usbstor.sys, disk.sys and PartMgr.sys (disk.sys and PartMgr.sys drivers are also used to communicate with I/O storage devices, such as hard disk drives, and usbstor.sys is used to communicate with hard disk drives attached to a USB port). In another example, a PC operating Windows XP is believed to communicate with a Casio Exilim Z75 digital camera in PTP Mode by means of Microsoft standard software drivers, such as usbscan.sys (the usbscan.sys driver is also used to communicate with imaging devices, such as scanners).

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Claim 11 of the '399 patent and claim 17 of the '449 patent, for example, recite communication from the host device to the interface device to be by way of a driver for an input/output device customary in a host device:

whereupon the host device communicates with the interface device by means of the specific driver for multipurpose interface, and

Host devices, such as a PC are believed to communicate with the interface device of a Casio digital camera as recited above. For example, a PC operating Windows XP is believed to communicate with a MSC Digital Camera by means of a specific software drivers for the multipurpose USB interface, such as usbstor.sys. In another example, a PC operating Windows XP is believed to communicate with a PTP Digital Camera by means of a specific software driver for the multipurpose USB bus, such as usbscan.sys.

7. Second Command Interpreter

The “second command interpreter” of claim 1 of the '399 patent is a command interpreter that interprets a data request command:

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.

The set of USB commands that are interpreted by the first command interpreter, e.g., the “Get_Descriptor” commands and commands like those, do not have a data request command for retrieving, for example, digital data corresponding to images acquired by a Digital Camera-in-suit. Instead, data request commands are specified in different command sets. For example, the SCSI Block Command (“SBC”) set includes READ commands. In another example, the ATAPI command set includes many of the SBC commands. MSC Digital Cameras are believed to interpret and respond to the SBC

EXHIBIT B

READ command. In USB Mass Storage mode, the Casio Exilim Z75 Digital Camera is believed to respond to, for example, a SCSI READ(10) command by transferring one or more requested sectors as specified by the READ(10) command. It is further believed that the Casio Exilim Z75 Digital Camera will transfer to a host computer digital data representing images acquired by a CCD image sensor and associated components in response to the READ(10) command. The READ(10) command is, for example, a standard data request command that a host PC may send to a hard disk drive.

Also, the PIMA 15470:2000 specification specifies commands such as “GetObject” (PIMA Commands). PTP Digital Cameras are believed to interpret this data request command and provide the requested “object,” including data representing images acquired by the CCD sensor and digitized by the second connecting device.

The interpretation of the SBC, ATAPI, and/or PIMA commands is believed to occur in a command interpreter other than the command interpreter that interprets the USB device enumeration commands.

8. Virtual File System

The Digital Cameras in suit are believed to represent to a host PC a file system which simulates the existence of addressable sectors, even though flash memory cards do not have any physical “sectors.” This is an example of virtualization of the file system. The term “file system” generally implies the use of rotating media, which is not present in the Digital Cameras-in-suit.

9. Virtual Boot Sequence

The Digital Cameras in suit are believed to send a virtual boot sequence to the host PC in response to a request from the host PC. For example the written descriptions

EXHIBIT B

of the patents-in-suit explain that when the host device receives the response that indicates that a drive is present, it then sends a request to the interface device to read the boot sequence. The written description also explains that on actual hard disks, the boot sequence normally resides on the first sectors of the disk. It is believed that, upon identifying the MSC Digital Camera as a disk drive, the host PC sends a read request to the MSC Digital Camera to read the first sector of the disk drive (which is a virtual disk drive).

In response to the request to read the first sector of the hard disk, the MSC Digital Camera is believed to send a 512 byte sector of information to the host PC. This 512 byte sector appears to contain the information of a master boot record (MBR), including partition information, which indicates the location of, for example, a boot sector. The MBR and the boot sector of the MSC Digital Camera, like the example given in the written description, are believed to include the drive type, the starting position and the length of the file allocation table (FAT), the number of sectors, etc

Documents and things that relate to infringement as pointed out above include, but are not limited to, the patents-in-suit and their respective file histories, the devices made by the Camera Manufacturers that are configurable to operate as a MSC Digital Camera and/or as a PTP Digital Camera, including the devices specifically identified in this response, Universal Serial Bus Specification, Revision 2.0, Universal Serial Bus Common Class Specification, Revision 1.0, Universal Serial Bus Mass Storage Class Specification Overview, Revision 1.2, Universal Serial Bus Mass Storage Class Bulk-Only Transport, Revision 1.0, USB Still Image Capture Device Definition, Revision 1.0, SCSI Block Commands-2 (SBC-2) (T10/1417-D) and/ or SCSI Block Commands - 3

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(SBC-3) (T10/1799-D), PIMA 15740:2000, Picture Transfer Protocol (PTP) for Digital Still Photography Devices, and/or ISO 15740:2005, Picture Transfer Protocol (PTP) for Digital Still Photography Devices.

Additional documents that may relate or refer to the infringement of the patents in suit by products manufactured and/or sold by the parties in suit include documents which may be found in the following ranges: PAP0000377-PAP0000509, PAP0018972-PAP0019046, PAP0000920-PAP0001021, PAP 0019082-PAP0019155, PAP0000042-PAP0000106, PAP0019239-PAP0019285, PAP0010286-PAP0019313, PAP0001918-PAP0002010, PAP0021190-PAP0021244, PAP0001622-PAP0001688, PAP0021128-PAP0021182, PAP0000107-PAP0000184, PAP0019314-PAP0019367.

INTERROGATORY NO. 3

Identify all alleged secondary considerations or other objective evidence that defendant contends evidence non-obviousness of any one or more of the claims of the '449 and '399 patents, state all supporting facts including all evidence attributing the secondary considerations to the claims, identify all persons having knowledge or such facts, and identify all documents relating to, referring to, describing or constituting any response hereto.

ANSWER:

Subject to the Preliminary Statements and General Objection above which are

**MATERIAL
REDACTED**

**MATERIAL
REDACTED**

Further, Casio and other defendants to these proceedings have identified a significant amount of prior art, such as digital cameras allegedly made by Kodak and Casio, that incorporated methods of connecting digital cameras and other interface devices to personal computers. These prior art devices did not operate in accordance with the invention, but typically required, for example, the loading of a specific software driver on the PC. Camera manufacturers continued to sell cameras having a similar design until approximately early 2000 when it is believed that they switched their camera designs so that from then on, they are covered by the patents in suit. It is believed that when they adopted the new designs covered by the claimed invention, the cameras experienced exceptional commercial success. Based, for example, on this set of facts, it is also believed likely that documents from the defendants will show the following secondary indices of nonobviousness, such as, (1) long felt need for the invention's commercial success of the claimed invention, (2) the attempt and failure of others to make the claimed inventions, (3) skepticism of the claimed inventions by experts, (4) praise by others of the claimed inventions, (5) teaching away of the claimed inventions by others, (6) copying of the claimed inventions by others, (7) experts or persons of ordinary skill in the field of the inventions expressing surprise at the making of the claimed inventions, (8) the inventor proceeded contrary to accepted wisdom, and (9) the claimed inventions achieved unexpected results..

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REDACTED**

**MATERIAL
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INTERROGATORY NO. 4

Identify all persons with or to whom Papst or any other person, has discussed a license, offered a license, negotiated a license or agreed to a license under the patents-in-suit (or any claim thereof), including, but not limited to, the identity of each person communicated with, the date of such communication, the financial terms of such discussion, offer, negotiation or license, the identity of all documents and things concerning each such discussion, offer, negotiation or license, and the identity of persons most knowledgeable about each such discussion, offer, negotiation or license.

ANSWER:

Subject to the Preliminary Statements above which are incorporated herein, communications existing with third-parties before and after the Complaint will be provided under Rule 33(d) in accordance with Judge Collyer's May 6, 2008 Order. Papst will also identify these documents pursuant to Rule 33(d) after the documents are produced. To the extent this Interrogatory requests details concerning each person, the produced documents will disclose details to the extent Papst Licensing is aware of them. Papst Licensing will identify those documents by Bates number in a letter after Papst Licensing produces the documents. Papst Licensing has discussed a potential license to either U.S. Patent No. 6,895,449 or U.S. Patent No. 6,470,399, or both, with the following entities: Acer, Hewlett Packard, Samsung, Canon, Sony, Casio, Olympus,

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Nikon, Konica, Fujifilm, Kodak, Sanyo, Pentax, Ricoh, BenQ, Kyocera, Panasonic, Polaroid, VIVITAR, PREMIER, HON HAI, Sony Ericsson, Flextronics Int'l Ltd., Nokia, LG Electronics, Matsushita, Toshiba, Character Group LLC, JVC, AIPTEK, DXG, Mustek, MPIO, Creative, Jungsoft, RIM, Centon, Cowon, and Astone. To the extent that oral communications have occurred on this subject, Papst did and will continue to produce and identify the documents and letters that follow its customary practice memorializing the subjects of the oral communications on licensing, who was present for the communications and the terms discussed. See, June 27, 2007 letter from Papst's counsel to Casio's counsel.

INTERROGATORY NO. 5

State the art area and level of ordinary skill in the art pertaining to the patents-in-suit and state in detail all bases for each such contention.

ANSWER:

Subject to the Preliminary Statements and General Objection above which are incorporated herein, Papst states that it has not yet finalized its answer to this interrogatory but will do so in the next several days and update its answer to this interrogatory.

INTERROGATORY NO. 6

Separately for each claim of the patents-in-suit that Papst asserts is infringed by Casio, describe in full and complete detail the facts concerning the conception and reduction to practice of the alleged invention. To be complete, your response should state the specific dates of such conception and reduction to practice, identify each person involved in such conception and reduction to practice, describe the location and circumstances of the conception and reduction to practice, and identify all documents and things tending to establish, refute or identify the dates, locations, individuals or circumstances sought in this interrogatory and any alleged corroboration.

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ANSWER:

Subject to the Preliminary Statements and the General Objection above which are incorporated herein. Respondent states that the following information is true and correct:

**MATERIAL
REDACTED**

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Dated: May 9, 2008

AS TO PRELIMINARY STATEMENTS
AND GENERAL OBJECTION:

/s/ Jerold B. Schnayer

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing PAPST'S SECOND SUPPLEMENTAL ANSWERS TO CASIO INC'S FIRST SET OF INTERROGATORIES was caused to be served on this the 9th day of May, 2008 upon the attorneys for the Camera Manufacturers via .pdf format as follows:

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EXHIBIT C

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

IN RE PAPST LICENSING GMBH & CO.
KG LITIGATION

This Document Relates To:

Casio, No. 06-cv-1751

Misc. Action No. 07-493 (RMC)
MDL Docket No. 1880

CASIO'S SECOND SUPPLEMENTAL OBJECTIONS AND RESPONSES TO
PAPST LICENSING GMBH & CO. KG'S
INTERROGATORY NO. 1 TO CASIO INC.

Pursuant to Rule 33 of the Federal Rules of Civil Procedure, Casio, through counsel, hereby provides a supplemental response to Papst's Interrogatory No. 1.

GENERAL OBJECTIONS

The General Objections and Objections to Instructions and Definitions provided in Casio's initial response to these interrogatories are incorporated by reference.

PAPST'S INTERROGATORIES

INTERROGATORY NO. 1: Describe in full and complete detail how each Casio Digital Camera does not infringe each of the Patents-in-Suit.

OBJECTIONS:

Casio Inc. objects to the deceptive nature in which this interrogatory was written. Stating the interrogatory in this manner, and "defining" it to be wildly overbroad and to request information not even remotely related to the request as written, is an obvious attempt to deceive Casio Inc. into inadvertently waiving objections, or dupe the Court into thinking that Papst is being reasonable in its requests. The request violates Federal Rule 26(g) as "defined" in the Papst instructions, and Papst is hereby put on notice that, in the event this interrogatory is ever brought before the Court, the full overbroad scope of what Papst seeks must be shown to the Court, including the deceptive manner in which Papst attempted to get that information.

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Casio Inc. objects to the definition provided to this interrogatory, as overbroad, unduly burdensome, calling for irrelevant information not reasonably calculated to lead to the discovery of admissible information, as calling for information that is subject to the attorney client privilege, work product, or other immunity, and calls for disclosure of confidential information to Welsh & Katz. Casio will respond only by considering the actual interrogatory recited above, and will provide information only for the first independent claims of the patents as Papst has to date refused to (or has been unable to) explain how the Casio cameras supposedly infringe on these patents, and has not identified any allegedly infringed claims. Casio will only address the claim elements that are missing, not every claim element, and Casio will provide reasonable detail on the reasons for non-infringement. All other requests are overly broad, unduly burdensome, call for information that is irrelevant and not reasonably calculated to lead to the discovery of admissible evidence.

Casio reserves its right to supplement this response as the case proceeds, including but not limited to supplementation after the Court construes the claims, or upon learning Papst's proposed constructions and contentions which, to date, Papst has been unable to provide.

Casio objects to this Interrogatory as improperly being characterized as one interrogatory because its many subparts constitute separate interrogatories. See Fed. R. Civ. P. 33(a).

Subject to its general and specific objections, Casio responds as follows.

FIRST RESPONSE

Casio's cameras do not infringe Papst's patents because Casio's cameras do not meet every claim limitation either literally or under the doctrine of equivalents when comparing the properly construed claims to the accused products. At least the following claim elements are missing from Casio's cameras. Citations in this section are to the '399 patent, but as the '449 patent has the same specification, the support can equally be found in that patent and Casio will rely on the specifications of both patents.

EXHIBIT C**Interface device**

No Casio Digital Camera has the required limitation of an “interface device” as that term is properly construed. Both patents teach an interface device that is separate from the transmit/receive (“T/R”) device. For example, the ‘399 patent states at 8:23-33: “In the interface device according to the present invention, an enormous advantage is to be gained . . . in separating the actual hardware . . . [which] allows a plurality of dissimilar device types. . . .”. Similarly, at 1:55-64, the patent discusses different uses of the interface, e.g., a “large number of applications,” and it refers to “any data transmit/receive devices which can be attached to the second connecting device. . . .” (7:41-43). The patents also state that “the interface device according to the present invention . . . [can be used] as an interface between a host device and almost any data transmit/receive device” (‘399 patent, 7:45-49).

The patent claims also clearly require that the interface be separate from the transmit/receive device. See, for example, the language that requires connecting devices for interfacing them, and the language that requires the host to ask what type of device is “attached” to the interface, and requires the interface device to send a signal to the host “regardless of the type of the data transmit/receive device attached.” Thus, the claim language itself makes the ability of a transmit/receive device to “attach” very clear, particularly when considered in light of the specification noted above.

The patents distinguish prior art devices with specific drivers for specific transmit/receive devices. See, e.g., ‘399 patent at 1:20-34. They also teach that the interface must be “flexible to permit attachment of very different electrical or electronic systems to a host device by means of the interface. . . .” Id. At 1:56-60. Every embodiment disclosed in the patents has a separate interface device, and there is inadequate support under 35 U.S.C. 112 for anything but a separate interface device.

All these teachings are inconsistent with an analysis that has the interface device be a selected group of components within the camera itself. This concept runs through both patents and there is never any indication that the applicants had anything in mind other than a separate structure for the interface.

As with all missing claim elements, it is very difficult for Casio to try to explain why there is no infringement by equivalents, as Papst has been unable to provide even a literal infringement analysis, let alone an analysis by equivalents. However, it is clear that any attempt to read this interface limitation and the related language of the claim requiring that devices “attach” to the interface would improperly vitiate this claim language. Moreover, there are clearly very substantial differences in the Casio products and the claimed structure. Indeed, the “enormous advantage” taught by the patents themselves, and the “flexible” nature of the claimed structure are completely missing in the Casio cameras. And given that prior art was distinguished on this ground, no reasonable equivalents analysis could capture the Casio cameras. Casio reserves its right to supplement this response, should Papst ever be able to provide a realistic infringement analysis.

Data transmit/receive device

No Casio Digital Camera has the required limitation of a “data transmit/receive device” (“T/R device”) as that term is properly construed. A T/R device would be understood by a person of ordinary skill in the art to mean a device that transmits and receives information in the

EXHIBIT C

same form. Thus, the CCD identified by Papst as the T/R device could not possibly meet this limitation, as it converts light into an electrical signal – a completely different form of data.

If the patentee had meant that different types of data could be transmitted and received, the claim could have said "a transmit device and a receive device" and these could have transmitted and received different types of data. A data/transmit device is not a device for converting data from one form to another, as is the CCD of the Casio cameras.

With regard to equivalents, this required element is completely missing, and thus any attempt to capture the Casio products under the doctrine of equivalents would improperly vitiate these claim terms in their entirety. It is clear that the Casio CCD functions in a substantially different way, and achieves a different result. Casio has no idea how Papst intends to try to use the doctrine of equivalents to eviscerate this claim limitation, or even if Papst will continue to believe the CCD meets this limitation, and so reserves its right to supplement this response should Papst ever attempt to make such an argument.

Communication between

Further, because Casio's Digital Cameras lack the required limitation that there be a communication between the lens/CCD and host, Casio does not infringe any claim of the '399 or '449 patents.

The "communication between" limitation is part of every claim of the '399 and '449 patents. When properly construed, the T/R device and host must have two-way communication, not just data transfer from one to the other. The word "between" requires two-way communication, and later language in the claims uses the words "from" and "to" showing a contrast with the "between" language used for this communication. *Cf. e.g.*, "a data request command from the host device to the type of input/output device..." and "transfer of the digital data to the host device." This language also shows that communication between the host and T/R device must be bi-directional (commands from the host and data transfer from the T/R device, i.e., if the host requests the data, the T/R device must be able to send data in response thereto). There must be an interchange or exchange of data, as claimed and as plainly taught in the specification. *See, e.g.*, the abstract ("communication between"); '399, 1:9-14 (distinguishing data acquisition and two-way communication).

The lens/CCD of the Casio cameras (which counsel for Papst has alleged to be the T/R device) never receives data from the computer, and in fact, that lens/CCD is not functional at all when the camera is connected to the computer. The only communication with the computer is a communication between the computer and the camera memory, the computer never "communicates" with the lens/CCD.

Even if "communication between" is construed to not require two-way communication, the Casio lens/CCD combination does not communicate at all with the host computer. Rather, the lens/CCD merely sends data to the Analog to Digital ("A/D") converter, and that data is stored in the camera memory. When the camera is attached to the computer, the computer collects information directly from the camera memory. The lens/CCD is not involved in the function of communicating with the computer. The '399 patent, at column 5, lines 47-63, discusses first that data must be "acquired, and transferred to the host device," and in the very next sentence distinguishes that from communication: "The data transmit/receive device itself can also communicate actively with the host device." The communication is described as something different from an intermediate memory merely storing and then sending on data to the

EXHIBIT C

host, and it requires, as the claims state, actual communication between the T/R device and the host computer. See also, 6:55-68 (the host computer user reading data “from the data transmit/receive device . . .” and discussing the interface function of transferring data “from the data transmit/receive device . . . to the host device . . .”). The patents distinguish the claimed communication between the host and T/R device from “communication between the host device and interface device” (‘399 patent, at 7:14-15).

With regard to equivalents, this required element is completely missing, and thus any attempt to capture the Casio products under the doctrine of equivalents would improperly vitiate these claim terms in their entirety. Moreover, the Casio products function in a substantially different way, in that the cameras do not perform a function that is substantially the same as bi-directional communication. Rather, communication cannot take place between the host device and the imaging portion of the camera. Casio does not know how, if at all, Papst intends to try to use the doctrine of equivalents to eviscerate this claim limitation, and so reserves its right to supplement this response should Papst ever attempt to make such an argument.

Configured by the processor and memory

Even assuming that the Casio CPU and memory are part of an “interface device” as counsel for Papst has asserted, the interpreters in that alleged interface are certainly not configured “by” the processor and memory as expressly required by the claims. The “interpreters” in that alleged interface, to the extent they can even be argued to exist, are software. This software is simply loaded into the memory. The Casio processor has nothing to do with that operation. The memory of the Casio cameras also do not “configure” this in any way, but merely store the software.

The requirement that the interface device interpreters be configured by the processor and memory is not only clear from the claim language, but also from the specification. *See, e.g.*, ‘399 patent, 3:36-47, 3:58-67, 4:65-5:6.

With regard to equivalents, this required element is completely missing, and thus any attempt to capture the Casio products under the doctrine of equivalents would improperly vitiate these claim terms in their entirety. Moreover, the Casio products function in a substantially different way, in that the processor and memory do nothing to configure as required by the claims, and instead software is simply loaded into the Casio cameras. The prosecution history also provides guidance. *See e.g.*, March 18, 2002 Response to Office Action. Casio has no idea how Papst intends to try to use the doctrine of equivalents to eviscerate this claim limitation, and so reserves its right to supplement this response should Papst ever attempt to make such an argument.

Input/output device customary in a host device, regardless of the device attached

Further, no claim of the ‘399 patent nor the ‘449 patent are infringed by Casio because no Casio Digital Camera has the required limitation of an “input/output device customary in a host device,” as that term is properly construed. The claims require that the first command interpreter send a signal to the host that it is an “input/output device customary in a host device.” The Casio camera signals that it is a Casio camera, not a device “customary in a host device,” and it does not provide this information “regardless” of “the device attached”.

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The patent specification clearly supports the plain and ordinary meaning. *See, e.g.*, Abstract (regardless of the device attached); '399 patent, 3:36-47; 3:59-67, 4:8-20, 4:60-5:6; 6:19-22.

The claims and the file history both require that the interface device “lie” to the host computer about the real nature of the device. Indeed, prior art was distinguished on precisely this ground during prosecution, creating an estoppel. As above, Casio cameras never lie to the host computer. Rather, the Casio cameras identify themselves as Casio cameras.

This required element is also completely missing, and thus any attempt to capture the Casio products under the doctrine of equivalents would improperly vitiate these claim terms in their entirety. Moreover, the Casio products function in a substantially different way, in that the cameras identify themselves to a host device only for the specific hardware arrangement of the camera itself and no other. This is neither substantially the same function as “regardless” of “the device attached” nor substantially the same way. Casio does not know how Papst intends to try to use the doctrine of equivalents to eviscerate this claim limitation, and so reserves its right to supplement this response should Papst ever attempt to make such an argument.

Virtual file system

With respect specifically to the claims of the '449 patent, all require the interface device to simulate a virtual file system. A virtual file system is described, for example, in the '399 patent at 6:1-3: the interface device “simulates a hard disk with a root directory whose entries are ‘virtual’ and can be created for the most varied functions.” Also, as described in the '449 patent at 11:1-6 and the '399 patent at 11:66-12:4: “Using the ASPI manager the interface device according to the present invention can now obtain active access to an SCSI hard disk of the host device connected to the same SCSI bus which, in contrast to the interface device, cannot be a virtual but a real SCSI mass storage device or also a further interface device according to the present invention.” *See also*, '399 patent, 12:25-33, and the '449 prosecution history (e.g., 5/17/04 Notice of Allowability).

In the Casio cameras, the computer directly accesses a real file system. The system is not “virtual” in any sense of the word.

With regard to equivalents, this required element is also completely missing, and thus any attempt to capture the Casio products under the doctrine of equivalents would improperly vitiate these claim terms in their entirety. Moreover, the Casio products function in a substantially different way, in that with respect to Casio cameras, the computer directly accesses a real file system. The system is not “virtual” in any way. Casio has no idea how Papst intends to try to use the doctrine of equivalents to eviscerate this claim limitation, and so reserves its right to supplement this response should Papst ever attempt to make such an argument.

SUPPLEMENTAL RESPONSE

All the objections and responses in our First Responses are incorporated by reference.

Casio Inc.'s proposed claim constructions were already provided above for the elements that appear to be at issue, but Casio, Inc. herein supplements those constructions in a good faith effort to address questions of counsel for Papst, and despite Papst's refusal to provide proper claim constructions as ordered by the Court. Casio reserves its right to supplement this response

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as the case proceeds, including but not limited to supplementation after the Court construes the claims, or upon learning Papst's proposed constructions and contentions which, to date, Papst has been unable to provide.

Casio notes that it has not been accused of direct infringement of any claim, nor could it be because it does not make or sell the host. Despite repeated Court orders to explain how it is contending that Casio infringes, Papst has not provided any cogent theory of infringement. Papst should be precluded from advancing any infringement theory now, but to the extent that ever happens, Casio will respond and supplement as necessary.

I. Claim 1 of United States Patent 6,470,399

A. An interface device for communication between

"Interface Device" interpretation: "Interface Device" means a physically separate and distinct component different from the host device or the Data Transmit/Receive Device that is capable of regulating the electrical communications between host device and a plurality of interchangeable data transmit/receive devices.

Both patents teach an interface device that is separate from the transmit/receive ("T/R") device. For example, the '399 patent states at 8:23-33: "In the interface device according to the present invention, an enormous advantage is to be gained . . . in separating the actual hardware . . . [which] allows a plurality of dissimilar device types. . . .". Similarly, at 1:55-64, the patent discusses different uses of the interface, e.g., a "large number of applications," and it refers to "any data transmit/receive devices which can be attached to the second connecting device. . . ." (7:41-43). The patents also state that "the interface device according to the present invention . . . [can be used] as an interface between a host device and almost any data transmit/receive device" ('399 patent, 7:45-49). See also the claims, which refer to a "multi-purpose" interface.

The patent claims also clearly require that the interface be separate from the transmit/receive device. See, for example, the language that requires connecting devices for interfacing them, and the language that requires the host to ask what type of device is "attached" to the interface, and requires the interface device to send a signal to the host "regardless of the type of the data transmit/receive device attached." Thus, the claim language itself makes the ability of a transmit/receive device to "attach" very clear, particularly when considered in light of the specification noted above.

The patents distinguish prior art devices with specific drivers for specific transmit/receive devices. See, e.g., '399 patent at 1:20-34. They also teach that the interface must be "flexible to permit attachment of very different electrical or electronic systems to a host device by means of the interface. . . ." *Id.* at 1:56-60. Every embodiment disclosed in the patents has a separate interface device, and there is inadequate support under 35 U.S.C. 112 for anything but a separate interface device. Casio also relies on the plain and ordinary meaning of these terms.

"communication between" interpretation: "Communication Between" means two-way communication directly between the host and input/output device.

The "communication between" limitation is part of every claim of the '399 and '449 patents. When properly construed, the T/R device and host must have two-way communication, not just data transfer from one to the other. The word "between" requires two-way communication, and later language in the claims uses the words "from" and "to" showing a contrast with the "between" language used for this communication. *Cf. e.g.*, "a data request

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command from the host device to the type of input/output device..." and "transfer of the digital data to the host device." This language also shows that communication between the host and T/R device must be bi-directional (commands from the host and data transfer from the T/R device, i.e., if the host requests the data, the T/R device must be able to send data in response thereto). There must be an interchange or exchange of data, as claimed and as plainly taught in the specification. *See, e.g.*, the abstract ("communication between"); '399, 1:9-14 (distinguishing data acquisition and two-way communication).

The '399 patent, at column 5, lines 47-63, also discusses first that data must be "acquired, and transferred to the host device," and in the very next sentence distinguishes that from communication: "The data transmit/receive device itself can also communicate actively with the host device." The communication is described as something different from an intermediate memory merely storing and then sending on data to the host, and it requires, as the claims state, actual communication between the T/R device and the host computer. *See also*, 6:55-68 (the host computer user reading data "from the data transmit/receive device . . ." and discussing the interface function of transferring data "from the data transmit/receive device . . . to the host device . . ."). The patents distinguish the claimed communication between the host and T/R device from "communication between the host device and interface device" ('399 patent, at 7:14-15). Casio also relies on the plain and ordinary meaning of these terms.

No Infringement

The Casio cameras are not and do not have Interface Devices as properly construed, as they have no separate interface, and they have nothing with the ability to regulate a plurality of interchangeable devices. The Casio cameras also do not have two way communications between the host device and interface device. Accordingly, these elements provide two reasons why there is no infringement. With regard to equivalents, that has not been asserted by Papst. See also Casio's first response.

B. a host device, which comprises drivers for input/output devices customary in a host device and a multi-purpose interface, and

Interpretation : "Host Device" means a separate and distinct hardware component from the interface device or the data transmit/receive device. The host device must include software drivers for input/output devices that are connected to the interface device and "customary in a host device" (see below), and also drivers for a multipurpose interface. Casio also relies on the plain and ordinary meaning of these terms.

"customary" interpretation: The term "customary" in the context of the '399 and '449 patents is vague and unsupported for any interpretation other than for "drivers for hard disks, for graphics devices or for printer devices ... or other storage devices such as floppy disk drives, CD-ROM drives or tape drives." In any event, there is nothing in the patents that suggests that cameras would be "customary". See '399 patent col. 4, lns. 27-39. Indeed the word "camera" never appears in the patent specification at all. Casio also relies on the plain and ordinary meaning of these terms.

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No Infringement

The Casio cameras do not have host devices as properly construed. They are sold as stand-alone cameras. Casio cameras also have nothing to do with any "customary" drivers for hard disks, for graphics devices or for printer devices or other storage devices such as floppy disk drives, CD-ROM drives or tape drives. With regard to equivalents, that has not been asserted by Papst. See also Casio's first response.

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

Interpretation : "Data Transmit/Receive Device" means a distinct piece of hardware separate from an Interface Device capable of providing and/or receiving analog data directly to and/or from a host device through the separate Interface Device. The Data Transmit/Receive Device must transmit and receive information in the same form.

A Data Transmit/Receive Device limitation is part of every claim of the '399 and '449 patents. A "T/R" device would be understood by a person of ordinary skill in the art to mean a device that transmits and receives information in the same form. Moreover, if the patentee had meant that different types of data could be transmitted and received, the claim could have said "a transmit device and a receive device" and these could have transmitted and received different types of data. A data/transmit device is not a device for converting data from one form to another. Further, one of ordinary skill in the art would recognize that the claim itself requires that the data format of the communication be analog, as opposed to digital. Casio also relies on the plain and ordinary meaning of these terms.

No Infringement

Casio's digital cameras are unitary pieces of hardware without interface devices separate from data transmit/receive devices. Casio's digital cameras do not have any components that can both transmit and receive analog data, and the components alleged by Papst to meet these limitations do not transmit and receive data in the same form. With regard to equivalents, that has not been asserted by Papst. See also Casio's first response.

D. a processor;

Interpretation: Processor means the microprocessor of a computer capable of receiving and executing logical instructions. Casio also relies on the plain and ordinary meaning of this term.

No Infringement

Casio does not dispute that its cameras have a processor, but does not infringe due to the many other missing claim elements. See also Casio's first response.

E. a memory;

Interpretation: Memory has its ordinary meaning, and includes any memory. '399 patent col. 7, lns 23-29. Casio also relies on the plain and ordinary meaning of this term.

No Infringement

Casio does not dispute that its cameras have a memory, but does not infringe due to the many other missing claim elements. See also Casio's first response.

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

Interpretation: "First connecting device" means the component of the interface device that electrically connects the host device to the separate interface device. The first connecting device also allows direct, two way communication between the host device and the interface device.

No Infringement

Casio does not provide any host device with its digital cameras and so does not meet this element of the claim, and Papst has not asserted any indirect claims of infringement. Moreover, as Casio has no "interface device" as properly interpreted, that provides another reason why this language is not met. With regard to equivalents, that has not been asserted by Papst. See also Casio's first response.

G. 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,

Interpretation: This language means a component of the interface device that electrically connects a transmit/receive device to the separate interface device. The second connecting device also must allow direct, two way communication between a transmit/receive device and the interface device. Also, the second connecting device must include both a circuit for sampling the analog data that is provided by the data transmit/receive device and an analog-to-digital converter for converting data sampled by the sampling circuit into digital data. Casio also relies on the plain and ordinary meaning of this phrase.

No Infringement

Casio's digital cameras have no second connecting device that electrically connects a transmit/receive device to a physically separate interface device. Casio's digital cameras also have no second connecting device that allows direct, two way communication between a transmit/receive device to the separate interface device. With regard to equivalents, Papst has not asserted infringement by equivalents. See also Casio's first response.

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

Interpretation: This phrase means that the processor and the memory built into the interface device together are responsible for the configuration of the interface device into a distinct first command interpreter and a distinct second command interpreter. First command interpreter and second command interpreter are defined elsewhere. The interface device must be configured by the processor and memory, which does not include simply downloading software into the camera from an external source.

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The requirement that the interface device interpreters be configured by the processor and memory is not only clear from the claim language, but also from the specification. *See, e.g.*, '399 patent, 3:36-47, 3:58-67, 4:65-5:6.

This configuration must also create all of the functionality required as defined in the definition of the first command interpreter and second command interpreter.

No Infringement

The Casio processor and memory do not configure anything that functions as a distinct first command interpreter or a distinct second command interpreter. With regard to equivalents, Papst has not asserted infringement by equivalents. See also Casio's first response.

- I. 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,

Interpretation: This means a structure within the interface device that is configured by the processor and memory of the interface device. The first command interpreter must be capable of sending a signal to the host device when an inquiry from the host device is received requesting the type of a device that is attached to the interface device. The signal sent to the host by the first command interpreter must "lie" to the host and tell the host that something other than what is connected to the host is connected. *See, eg.*, File History of the '399 patent. This means that regardless of the type of the data transmit/receive device attached to the second connecting device of the interface device, the host device must receive a signal that an input/output device "customary" (see response to Interrogatory No. 2) in a host device is attached to the second connecting device of the interface device. Casio also relies on the plain and ordinary meanings of this phrase.

No Infringement

Casio's digital cameras have no structure or functionality that is configured by any interface device's processor and memory that functions as required by this claim language. Further, Casio's digital cameras never "lie" to the host computer about what is connected. With regard to equivalents, Papst has not asserted infringement by equivalents. See also Casio's first response.

- J. 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

Interpretation: This phrase means that the host device communicates with the interface device using a driver that is "customary" in a host device. The communication, through the "customary" driver must occur regardless of the type of the data transmit/receive device attached to the second connecting device of the interface device. See the response to Interrogatory No. 2 regarding the "customary" language of the claim.

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No Infringement

Casio's digital cameras do not communicate using a "customary" driver, as that term is not clear. See the response to Interrogatory No. 2. With regard to equivalents, Papst has not asserted infringement by equivalents. See also Casio's first response.

- K. 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.

Interpretation: "Second command interpreter" means a structure or component within the interface device that is configured by the processor and memory of the interface device. This second command interpreter must be capable receiving a data request command from a host computer in the format of a device that the first command interpreter had previously "lied" to the host computer about. This second command interpreter must be capable of understanding the data request command from the host as a data transfer command for initiating the transfer of digital data to the host device.

No Infringement

Casio's digital cameras have no structure or functionality that is configured by any interface device's processor and memory that functions as required by the term second command interpreter. With regard to equivalents, Papst has not asserted infringement by equivalents. See also Casio's first response.

II. Claim 1 of U.S. Patent No. 6,895,449

- A. An interface device for communication between

"Interface Device" interpretation: "Interface Device" means a physically separate and distinct component different from the host device or the Data Transmit/Receive Device that is capable of regulating the electrical communications between host device and a plurality of interchangeable kinds of data transmit/receive devices.

Both patents teach an interface device that is separate from the transmit/receive ("T/R") device. For example, the '449 patent states at 7:23-30: "In the interface device according to the present invention, an enormous advantage is to be gained . . . in separating the actual hardware . . . [which] allows a plurality of dissimilar device types. . . .". Similarly, at 1:56-65, the patent discusses different uses of the interface, e.g., a "large number of applications," and it refers to "any data transmit/receive devices which can be attached to the second connecting device. . . ." (6:41-42). The patents also state that "the interface device according to the present invention . . . [can be used] as an interface between a host device and almost any data transmit/receive device" ('449 patent, 6:45-49). See also the claims, which refer to a "multi-purpose" interface.

The patent claims also clearly require that the interface be separate from the transmit/receive device. See, for example, the language that requires connecting devices for interfacing them, and the language that requires the host to ask what type of device is "attached" to the interface, and requires the interface device to send a signal to the host "regardless of the type of the data transmit/receive device attached." Thus, the claim language itself makes the

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ability of a transmit/receive device to "attach" very clear, particularly when considered in light of the specification noted above.

The patents distinguish prior art devices with specific drivers for specific transmit/receive devices. *See, e.g.*, '449 patent at 1:21-34. They also teach that the interface must be "flexible to permit attachment of very different electrical or electronic systems to a host device by means of the interface...." *Id.* at 1:58-60. Every embodiment disclosed in the patents has a separate interface device, and there is inadequate support under 35 U.S.C. 112 for anything but a separate interface device. Casio also relies on the plain and ordinary meaning of these terms.

"communication between" interpretation: "Communication Between" means two-way communication directly between the host and input/output device.

The "communication between" limitation is part of every claim of the '399 and '449 patents. When properly construed, the T/R device and host must have two-way communication, not just data transfer from one to the other. The word "between" requires two-way communication, and later language in the claims uses the words "from" and "to" showing a contrast with the "between" language used for this communication. *Cf. e.g.*, "a data request command from the host device to the type of input/output device..." and "transfer of the digital data to the host device." This language also shows that communication between the host and T/R device must be bi-directional (commands from the host and data transfer from the T/R device, i.e., if the host requests the data, the T/R device must be able to send data in response thereto). There must be an interchange or exchange of data, as claimed and as plainly taught in the specification. *See, e.g.*, the abstract ("communication between"); '399, 1:13-17 (distinguishing data acquisition and two-way communication).

The '449 patent, at 4:46-62, also discusses first that data must be "acquired, and transferred to the host device," and in the very next sentence distinguishes that from communication: "The data transmit/receive device itself can also communicate actively with the host device." The communication is described as something different from an intermediate memory merely storing and then sending on data to the host, and it requires, as the claims state, actual communication between the T/R device and the host computer. *See also*, 5:55-67 (the host computer user reading data "from the data transmit/receive device . . ." and discussing the interface function of transferring data "from the data transmit/receive device . . . to the host device . . ."). The patents distinguish the claimed communication between the host and T/R device from "communication between the host device and interface device" ('449 patent, at 6:13-15). Casio also relies on the plain and ordinary meaning of these terms.

No Infringement

The Casio cameras are not and do not have Interface Devices as properly construed, as they have no separate interface, and they have nothing with the ability to regulate a plurality of interchangeable devices. The Casio cameras also do not have two way communications between the host device and interface device. Accordingly, these elements provide two reasons why there is no infringement. With regard to equivalents, that has not been asserted by Papst. *See also* Casio's first response.

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B. a host device, which comprises drivers for input/output devices customary in a host device and a multi-purpose interface, and

Interpretation : "Host Device" means a separate and distinct hardware component from the interface device or the data transmit/receive device. The host device must include software drivers for input/output devices that are connected to the interface device and "customary in a host device" (see below), and also drivers for a multipurpose interface. Casio also relies on the plain and ordinary meaning of these terms.

"customary" interpretation: The term "customary" in the context of the '399 and '449 patents is vague and unsupported for any interpretation other than for "drivers for hard disks, for graphics devices or for printer devices ... [or] other storage devices such as floppy disk drives, CD-ROM drives or tape drives." In any event, there is nothing in the patents that suggests that cameras would be "customary". See '449 patent 3:30-43. Indeed the word camera never appears in the patent specification at all.

No Infringement

The Casio cameras do not have host devices as properly construed. They are sold as stand-alone cameras. Casio cameras also have nothing to do with any "customary" drivers for hard disks, for graphics devices or for printer devices or other storage devices such as floppy disk drives, CD-ROM drives or tape drives. With regard to equivalents, that has not been asserted by Papst. See also Casio's first response.

C. a data transmit/receive device comprising the following features:

Interpretation : "Data Transmit/Receive Device" means a distinct piece of hardware separate from an Interface Device capable of providing and/or receiving analog data directly to and/or from a host device through the separate Interface Device. The Data Transmit/Receive Device must transmit and receive information in the same form.

A Data Transmit/Receive Device limitation is part of every claim of the '399 and '449 patents. A "T/R" device would be understood by a person of ordinary skill in the art to mean a device that transmits and receives information in the same form. Moreover, if the patentee had meant that different types of data could be transmitted and received, the claim could have said "a transmit device and a receive device" and these could have transmitted and received different types of data. A data/transmit device is not a device for converting data from one form to another. Further, one of ordinary skill in the art would recognize that the claim itself requires that the data format of the communication be analog, as opposed to digital. Casio also relies on the plain and ordinary meaning of these terms.

No Infringement

Casio's digital cameras are unitary pieces of hardware without interface devices separate from data transmit/receive devices. Casio's digital cameras do not have any components that can both transmit and receive analog data, and the components alleged by Papst to meet these limitations do not transmit and receive data in the same form. With regard to equivalents, that has not been asserted by Papst. See also Casio's first response.

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D. a processor;

Interpretation: Processor means the microprocessor of a computer capable of receiving and executing logical instructions. Casio also relies on the plain and ordinary meaning of this term.

No Infringement

Casio does not dispute that its cameras have a processor, but does not infringe due to the many other missing claim elements. See also Casio's first response.

E. a memory;

Interpretation: Memory has its ordinary meaning, and includes any memory. '449 patent, at 6:23-29. Casio also relies on the plain and ordinary meaning of this term.

No Infringement

Casio does not dispute that its cameras have a memory, but does not infringe due to the many other missing claim elements. See also Casio's first response.

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

Interpretation: "First connecting device" means the component of the interface device that electrically connects the host device to the separate interface device. The first connecting device also allows direct, two way communication between the host device and the interface device.

No Infringement

Casio does not provide any host device with its digital cameras and so does not meet this element of the claim, and Papst has not asserted any indirect claims of infringement. Moreover, as Casio has no "interface device" as properly interpreted, that provides another reason why this language is not met. With regard to equivalents, that has not been asserted by Papst. See also Casio's first response.

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

Interpretation: This language means a component of the interface device that electrically connects a transmit/receive device to the separate interface device. The second connecting device also must allow direct, two way communication between a transmit/receive device and the interface device. Casio also relies on the plain and ordinary meaning of this phrase.

No Infringement

Casio's digital cameras have no second connecting device that electrically connects a transmit/receive device to a physically separate interface device. Casio's digital cameras also have no second connecting device that allows direct, two way communication between a transmit/receive device to the separate interface device. With regard to equivalents, Papst has not asserted infringement by equivalents. See also Casio's first response.

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- H. 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,

Interpretation: This term means that the processor and the memory built into the interface device together are responsible for the configuration of the interface device to provide the specific functionality described in the rest of the claim. This configuration must enable the interface device to be able to signal to the host that a storage device customary in the host device is attached to the interface device regardless of the type of transmit/receive device actually attached to the interface device.

The interface device must be configured by the processor and memory, which does not include simply downloading software into the camera from an external source. The requirement that the interface device interpreters be configured by the processor and memory is not only clear from the claim language, but also from the specification. See, e.g., '449 patent, 4:6-10.

No Infringement

The processor in combination with the memory in Casio digital cameras do not configure anything to provide functionality to an interface device allowing a signal to be sent to a host that a storage device customary in the host device is attached to the interface device regardless of the type of transmit/receive device actually attached to the interface device. With regard to equivalents, Papst has not asserted infringement by equivalents. See also Casio's first response.

- I. whereupon the host device communicates with the interface device by means of the driver for the storage device customary in a host device, and

Interpretation: This phrase means that the host device sends messages to the interface device using a storage device driver that is "customary" in a host device. The communication, through the "customary" driver must occur regardless of the type of the data transmit/receive device attached to the second connecting device of the interface device

The specific language "customary in a host device" is not capable of interpretation. See response to Interrogatory No. 2.

No Infringement

Casio's digital cameras can not be interpreted as customary devices, to the extent the term is definable. Casio's digital cameras are cameras and require drivers associated with cameras, not storage devices.

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

"virtual file system" interpretation: A file system that is not real, but instead simulates a hard disk file system.

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A virtual file system is described, for example, in the '449 patent at 4:67-5:2: the interface device "simulates a hard disk with a root directory whose entries are 'virtual' files which can be created for the most varied functions." Also, as described in the '449 patent at 11:1-6 and the '399 patent at 11:66-12:4: "Using the ASPI manager the interface device according to the present invention can now obtain active access to an SCSI hard disk of the host device connected to the same SCSI bus which, in contrast to the interface device, cannot be a virtual but a real SCSI mass storage device or also a further interface device according to the present invention." *See also*, '449 patent, 12:25-33, and the '449 prosecution history (e.g., 5/17/04 Notice of Allowability).

No Infringement

The file system associated with photographic data in Casio's digital cameras is not virtual, but is an actual file system associated with the storage of data on the internal memory card of Casio's digital cameras.

SECOND SUPPLEMENTAL RESPONSE

All the objections and responses in Casio's previous Responses are incorporated by reference. Casio reserves its right to supplement this response as the case proceeds, including but not limited to supplementation after the Court construes the claims, or upon learning Papst's proposed constructions and contentions.

All claims of the '399 patent require

"an analog-to-digital converter for converting data sampled by the sampling circuit into **digital data**" ...

"wherein the second command interpreter is configured to interpret a data request command from the host device ... as a data transfer command for initiating a transfer of **the digital data** to the host device."

"the digital data" Interpretation: The plain meaning of the "the digital data" limitation indicates that the camera transfers the same digital data output of its A/D converter to the PC in response to a request from the PC. As further evidence, Papst, in their response to Casio's Interrogatory No. 7, admitted that "[t]he transfer of 'the digital data' refers to the data that was

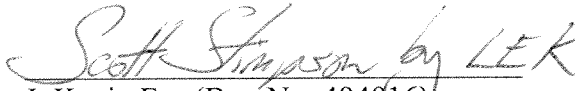
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digitized in the analog-to-digital converter....” See Page 13 of Papst’s Objections and Supplemental to Casio Inc.’s Interrogatory No. 7, served on April 18, 2008.

No Infringement

The data output by the Casio camera's A/D converter is different from the data transferred to the PC because it undergoes processing. Accordingly, Casio's digital cameras do not infringe literally because they do not transfer the same digital data rendered by the A/D converter to the PC. Furthermore, the '399 patent applicant, in response to the rejection of all pending claims in the '399 patent application, amended all of the independent claims to include “an analog-to-digital converter for converting data sampled by the sampling circuit into digital data” and “initiating a transfer of the digital data to the host device” to overcome a § 103 obviousness rejection over certain prior art references. Because the limitation regarding “the digital data” was added by the '399 patent applicant in order to overcome a previous rejection of the claims, equivalents are precluded. See *Ampex Corp. v. Eastman Kodak Co.*, 460 F. Supp.2d 563 (D. Del. 2006), *aff'd*, 2008 WL 343253 (Fed. Cir. 2008).

DATED: May 13, 2008


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CERTIFICATE OF SERVICE

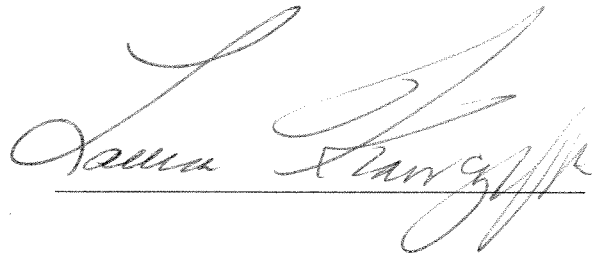
The undersigned hereby certifies that a copy of the foregoing CASIO INC.'S SECOND SUPPLEMENTAL OBJECTIONS AND RESPONSES TO PAPST LICENSING GMBH & CO. KG'S INTERROGATORIES NO.1 TO CASIO INC. was served on this, the 13th day of May, 2008, upon the attorneys for Papst as follows:

VIA U.S. MAIL and E-MAIL

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A handwritten signature in cursive script, appearing to read "Laura Langguth", is written over a horizontal line.