

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

**IN RE PAPST LICENSING GMBH & CO.
KG LITIGATION**

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

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

PAPST'S OPPOSITION TO CASIO'S MOTION TO DISMISS

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I. INTRODUCTION

Papst respectfully opposes Casio's motion to dismiss Papst's counterclaims and to enter a default judgment against Papst on Casio's declaratory judgment claims (or in the alternative, to dismiss Casio's declaratory judgment claims).

Casio's motion concentrates on conduct which the Court already has considered and ruled on, or for which the Court already has awarded sanctions. *See, e.g.*, Dkt. No. 117, Court's order of June 4, 2008 (noting that the "2007 motions can be safely laid to rest" and that Papst "has been precluded from advancing additional formal discovery on Casio Such sanctions are severe enough."). Rehashing matters that the Court already has resolved with substantial sanctions is inappropriate and unproductive. Unfortunately, Casio seems determined to make discovery disputes—and not patent infringement—the focus of this litigation. Papst fears that Casio will continue to generate discovery disputes as long as it perceives that it can derail preparations for trial of a patent infringement action. For example, Casio's extensive quoting of Papst's May 9, 2008 supplement of its answer to Casio's Interrogatory No. 1 (Casio's Ex. D) to argue noncompliance is misleading because that answer was further supplemented by Papst on May 28, 2008 (Casio's Ex. V) prior to Casio filing its motion.

On April 8, 2008, this Court lifted the stay of discovery that had existed since before the joinder of this action in multi-district litigation proceedings, and this Court ordered Papst to file its asserted claims and infringement contentions by May 28, 2008. (Dkt. No. 36, ¶¶ 1 and 17). On April 24, 2008, this Court ordered Papst to further supplement certain ones of its interrogatory answers. (Dkt. No. 77, ¶¶ 6k-o).

Papst has complied with this Court's orders and responded to Casio's discovery requests. The discussion below demonstrates that Papst has been working diligently to produce responsive

documents and to answer interrogatories as quickly as responses can be prepared, with priority given to meeting existing deadlines. There is no legitimate basis for Casio's representations to the contrary, for the extreme sanction that Casio seeks, or for any further sanction whatsoever.

Casio falls far short of meeting its burden to demonstrate by clear and convincing evidence that (1) Papst has not made a good faith effort to comply with this Court's orders of April 8, 2008 and April 24, 2008 and (2) nothing short of dismissal is appropriate as a sanction. *Shepherd v. American Broadcasting Companies*, 62 F.3d 1469, 1472 (D.C. Cir. 1995) ("we hold that a district court may use its inherent power to enter a default judgment only if it finds, first, by clear and convincing evidence-a preponderance is not sufficient-that the abusive behavior occurred; and second, that a lesser sanction would not sufficiently punish and deter the abusive conduct while allowing a full and fair trial on the merits.").

II. FACTS PERTINENT TO COMPLIANCE WITH COURT ORDERS

A. CHRONOLOGY

The following actions in the last few months are pertinent to Papst's compliance with the Court's Orders:

- April 8 – The Court lifted the stay of discovery and set May 28 as the deadline for filing infringement contentions. (Dkt. No. 36, §17 ("Papst shall file its asserted claims and infringement contentions no later than May 28, 2008.")).
- April 11 – Papst answered Casio's outstanding Interrogatory Nos. 7-10. The answer to Interrogatory No. 7 included claim interpretations of the elements that Casio had identified as infringement defenses. (Ex. 1). Even though Casio's Interrogatory No. 7 does not expressly require "claim interpretation," applicable claim interpretation was provided on the claim language that Casio had identified as infringement defenses. (See e.g. Ex. 1: 7:11-12, 10:25 - 11:3, 11:15-19, 13:5-7).
- April 18 – Without any Court involvement, Papst supplemented its answer to Casio's Interrogatory No. 7 to provide interpretation of additional claim language, within a few days of Casio pointing out that it had supplemented its identification of claim elements on which it relied for infringement defenses. (Ex. 2).

- The answer to Interrogatory No. 7 was prepared with respect to the defenses that Casio identified in its written discovery responses served on May 21, 2007. However, shortly after the April 11, 2008 service of Papst's interrogatory answers, Casio advised Papst that Casio had supplemented those May 21, 2007 responses. Within a week, on April 18, 2008, Papst supplemented its answers to Casio's Interrogatory No. 7. (Ex. 2). This supplementary answer included interpretation of additional claim language based on Casio's supplemental identification of that additional claim language as infringement defenses. (Ex. 2). In other words, prior to the April 24, 2008 Order, Papst already had responded promptly, and without any Court intervention, to a request from Casio's counsel for supplementation.
- April 24 – The Court ordered supplementation of previous Papst answers to Interrogatory Nos. 1 and 3-6. (Dkt. No. 77, ¶¶ 6k-o).
- May 7 – Papst completely and timely served on the Camera Manufacturers (including Casio) Papst's answers to the Camera Manufacturers' Interrogatory Nos. 1-10. (Ex. 3). The answer to the Camera Manufacturers' Interrogatory No. 1 included an identification of Casio's camera models and 38 pages of detailed claim charts applying the claim language to the devices made by Casio and the other Camera Manufacturers. Camera Manufacturers' Interrogatory No. 1 did not expressly require "claim interpretation." Nevertheless, Papst provided numerous pages of claim analysis and application in addition to the detailed claim charts. This response fully and completely answered the interrogatory to the best of Papst's abilities. (Ex. 3).
- May 9 – Two days later on May 9, 2008, Papst formally supplemented its answers to Casio's Interrogatory Nos. 1 and 3-6, and provided the additional information contained in Papst's answers to the Camera Manufacturers' Interrogatory Nos. 1-10. Papst specifically informed Casio that Papst reserved its right to present its asserted claims and infringement contentions by May 28, 2008, the deadline set by the Court. (Casio's Ex. D).
- May 14 – Papst supplemented its answer to Casio's Interrogatory No. 5 as soon as that information was available. (Ex. 4).
- May 28 – On May 28, 2008, Papst timely filed (and served on Casio and the other Camera Manufacturers) Papst's asserted claims and infringement contentions (Dkt. No. 110). That same day, Papst supplemented its answer to Casio's Interrogatory No. 1, providing additional claim interpretation in view of the work on the filed contentions. (Casio's Ex. V).
- May 29 – Casio filed the motion presently before the Court. In the motion, Casio complains about the claim interpretation in the May 9, 2008 supplement, and ignores the claim interpretation Papst provided on April 11, 2008 and supplemented on April 18, 2008. Casio's motion also ignores the cooperation of Papst's counsel when promptly providing supplemental responses. Casio's May 29, 2008 motion also ignores Papst's extensive supplementation regarding claim interpretation on May 28, 2008, even though Casio includes that supplement as an exhibit to its motion.

B. THE SPECIFIC ISSUES RAISED BY CASIO

1. Papst Has Provided Proper Interrogatory Answers

To the extent that Casio is complaining about what occurred in 2007 before discovery was stayed in this action, the Court already has resolved those matters and has imposed sanctions against Papst. With respect to the last few months since the stay was lifted, Papst has answered interrogatories as quickly as responses can be prepared, *without* waiting until all the interrogatory answers were available before providing answers that were available. As discussed above, the Court lifted the stay on April 8, 2008, and Papst answered Casio's outstanding Interrogatory Nos. 7-10 on April 11, 2008, and supplemented the answer to Interrogatory No. 7 on April 18, 2008. On April 24, 2008, the Court ordered supplementation of previously answered Interrogatory Nos. 1 and 3-6, and Papst complied on May 9, 14, and 28. Substituting supplemental answers for original answers, Papst's answers to Casio's interrogatories now total 115 pages.

2. Papst Has Provided Proper Claim Interpretation

The Casio motion fails to consider Papst's May 28, 2008 supplement to its answer of Casio Interrogatory No. 1 regarding claim interpretation (Casio's Ex. V). On pages 7-9 of its brief, Casio criticizes Papst's claim interpretation and quotes extensively from the May 9, 2008 supplement (Casio's Ex. D). However, Casio fails to address the additional claim interpretation that Papst has provided, in the answer to Interrogatory No. 7 and especially in the very extensive May 28, 2008 supplement of the answer to Interrogatory No. 1 (Casio's Ex. V).

In a footnote, Casio acknowledges the May 28, 2008 supplement, but fails to inform the Court that the supplement addressed the very matters that Casio is complaining about in its brief. For example, Casio quotes from the May 9, 2008 supplement (Casio's Ex. D) regarding the interpretations of seven specific claim terms, and ignores the Papst interpretations of those *same*

seven claim terms in Papst's later May 28, 2008 supplement. In particular, Casio's complaint that some claim interpretations did not contain the word "means" was addressed in Papst's May 28, 2008 supplement. The following are applicable excerpts from the May 28, 2008 supplement:

- "The phrase 'an input/output device customary in a host device' means a device which inputs or outputs data with respect to a host device, and is a device which sufficiently common such that software drivers for communicating with the input/output device are typically provided with the host device as it is purchased." (Casio's Ex. V, 67:6-9).
- "[T]he term 'host device' means host systems, such as Personal Computers ('PCs') and other host devices as described in the patent written descriptions. (Casio's Ex. V, 66:25 - 67:2).
- "[T]he term 'data transmit/receive device' means a device that senses some physical property external to the sensor, and converts it into an electrical signal. The term 'data transmit/receive device' should be construed to cover an entire spectrum of sensors." (Casio's Ex. V, 68:16-19).
- "The term 'first connecting device' means the circuitry used to interface the interface device to the host PC." (Casio's Ex. V, 69:19-20).
- "The term 'second connecting device' as it is used in the '399 patent means the structure actually recited in claim 1, i.e., 'a sampling circuit for sampling the analog data provided by the data transmit/receive device' and 'an analog-to-digital converter for converting the data sampled by the sampling circuit into digital data.'" (Casio's Ex. V, 70:4-7).
- The phrase "configured by" should be given its plain and ordinary meaning. See, Casio's Ex. V, 65:22-23 ("Unless specifically discussed below, all claim terms should be given their plain and ordinary meaning.").
- "Virtual files means files which appear to be present on a simulated disk drive, yet which are not on rotating media." (Casio's Ex. V, 79:7-8).

3. Papst Has Provided the Prior Art

Casio next complains about a failure to identify prior art in a 2007 interrogatory answer. However, the only documents that Casio asserts that Papst failed to identify are documents that Casio states that Papst has recently produced. While Papst produced well over 20,000 pages of documents by the time that discovery was stayed in 2007, Papst should be entitled to make

supplementations in accordance with Rule 26(e). So Casio's complaint is that the documents were not produced fast enough, for which Papst already has been sanctioned. This is part of an old and resolved issue. In addition, it was only after the stay was imposed that Papst acquired many documents due to its own continuing investigation and to prior art being identified by third-parties with whom Papst was negotiating.

Furthermore, there are always an unlimited number of earlier documents. Judgment has to be exercised with respect to whether the alleged prior art is material or merely cumulative of other documents that have already been identified. With respect to the specific documents that Casio asserts that Papst failed to identify, Casio has not met its burden to demonstrate the materiality of the documents. Casio does not even attempt to explain the significance of the patent documents that it mentions. (Casio's Ex. R). Regarding the inventor Tasler's thesis (Casio's Ex. S), Casio quotes some general language from the thesis and compares it to general language in one of the patents in issue, but not to patent claim language. Identifying a problem in which the inventor was interested is not the same as disclosing a solution that ultimately constituted a claimed invention. Casio has not met its burden to demonstrate the materiality of the thesis to a claimed invention.

4. Papst Provided the Best Information It Has At This Time Regarding Conception of Invention

Casio argues that Papst identified a range of time ending in October 1996 during which the inventor's conception of invention may have occurred. To the extent that conception will make any difference in this lawsuit, it would be Papst's burden to establish that date. In any event, Papst has provided the best information that it has at this time regarding conception. Without justification, Casio erroneously argues that the "inventor surely knows when he conceived the alleged inventions." The claimed inventions are what ultimately ends up being

claimed in an issued patent. There is not necessarily any reason why the inventor would recall today the specific date in 1996 when he conceived what ultimately would become a claimed invention. The best a patentee can do is to present evidence he can find. Casio asserts that Papst has not identified anything “that could possibly support a conception any earlier than October of 1996.” Be that as it may, if Papst finds additional evidence, it will supplement its discovery responses.

5. Papst Has Been Diligently Processing and Producing a Voluminous Number of Documents, Many of Which Papst Did Not Possess Until After the Stay Was Imposed in 2007

Papst did not initiate this lawsuit. It has been pursuing its investigation, and reviewing voluminous electronic records and other materials it can find regarding the patents and the scores of different products made by the Camera Manufacturers. It has been producing the documents in stages as soon as they are reviewed. Casio concedes that Papst produced over 150,000 pages of documents, as of the time of Casio’s motion. Again, Casio’s complaint is that the documents were not produced fast enough, for which Papst already has been sanctioned. Again, this is part of an old and resolved issue. In effect, Casio now offers the fact that Papst has been supplementing its production of documents as a ground for additional sanctions.

After discovery was stayed in this action in 2007, Papst continued to investigate its infringement contentions against Casio and other Camera Manufacturers. In the course of its investigation, Papst acquired a very large amount of publicly available documents regarding potentially infringing cameras and related issues. In addition, third-parties identified additional alleged prior art during negotiations with Papst. Naturally, Papst could not produce those documents before it even acquired them.

Papst has diligently processed additional documents for production, including documents that were confidential to third-parties and for which Papst was first required to provide the third-

parties with an opportunity to object to the production of their confidential communications. As noted above, Papst had become aware of many documents during the last year due to its continuing investigation. On June 2, 2008, Casio and Papst filed their joint discovery plan. (Dkt. No. 116). At that time, Papst did not believe that the Court had set a deadline by which all documents must be produced. In an abundance of caution, and to the extent that there was disagreement about whether there was a deadline, Papst respectfully requested an extension until June 13, 2008 to complete its document production with respect to those documents that are not potentially privileged and/or protected by work product. On May 21, 2008, counsel for Papst and Casio conferred on this issue at which time Casio's counsel represented that Papst's plan for production of Papst documents by June 13, 2008 was reasonable given the large amount of documents that Papst still had to produce. As to those documents that are potentially privileged and/or protected by work product, Papst also requested an extension to complete its document production of those documents to within 30 days of the Court's ruling on Papst's motion for clarification concerning the scope of waiver. (Dkt. No. 101). At the hearing on June 5, 2008, Papst's counsel explained that the presentation targeted for June 13, 2008 would be substantially complete, but not 100% complete due to "clean-up." Casio did not object. On June 10, 2008, the Court set due dates for completing Papst production to Casio (Dkt. No. 125), and Papst produced an additional 145,000 pages of documents on June 13, 2008.

6. Papst's Discovery Requests to Casio Already Have Been Limited

Casio complains that Papst's discovery requests to Casio were too broad. It complains about Papst's initial discovery requests, but the Court already struck those requests. (Dkt. No. 77). It complains about its second set of discovery requests, but admits that Papst replaced those with a third set after counsel conferred. While denying Papst's request for formal discovery, the Court did state that reasonable discovery should still proceed. In its Order dated June 10, 2008,

the Court clarified the scope of Casio's document production obligations, and this is a resolved issue. Casio mischaracterizes Papst's latest requests as unreasonable. However, the Court agreed that various Papst document requests were sufficiently specific, and agreed with Papst's position that Casio had to apply an objective standard—rather than its own subjective beliefs—in responding to those document requests. (Dkt. No. 125, ¶¶ I.1-3).

III. CASIO'S MOTION SHOULD BE DENIED

Most of Casio's brief dwells on the matters on which the Court already has ruled and for which Papst already has been sanctioned. Casio's presentation regarding any new matters fails to demonstrate violation of any order. With respect to Papst's discovery from Casio, counsel conferred and tried to work out the scope of reasonable discovery, and the Court has issued an order resolving the issue. With respect to document production by Papst, it has conscientiously been reviewing and producing a voluminous number of documents as quickly as it can. Including the June 13, 2008 production, Papst has produced almost 300,000 pages of documents. The interrogatory answers are current. With respect to conception of invention (Casio Interrogatory No. 6), Papst has provided the best information that it has at this time. With respect to claim interpretation, Casio quotes from the May 9, 2008 supplement and ignores the earlier answers in April and the more comprehensive May 28, 2008 supplement. In short, Papst has been working very diligently to comply with its discovery responsibilities. There have not been any violations of any orders that have not already been considered and resolved by the Court. There is no basis for any new sanction.

The fact that Papst has not engaged in any misconduct for which it has not already been sanctioned should end the matter. Nevertheless, it also should be noted that Casio has failed to demonstrate that it has incurred any substantial prejudice from any alleged misconduct by Papst. *See, e.g., Federal Deposit Insurance Corp. v. Conner*, 20 F.3d 1376, 1380 (5th Cir. 1994) (“[W]e

have articulated several factors that must be present before a district court may dismiss a case as a sanction for violating a discovery order [T]he violating party's misconduct 'must substantially prejudice the opposing party.'"); *Webb v. District of Columbia*, 189 F.R.D. 180, 186 (D.D.C. 1999) (holding that misconduct that severely prejudices the opposing party's case might support a default judgment). Casio is receiving all discovery that it is entitled, and its own obligations have been limited in scope.

There is no legitimate basis for Casio's present motion, let alone clear and convincing evidence to support the dismissal that Casio seeks. *Shepherd*, 62 F.3d at 1472.

IV. CONCLUSION

The sanctions already imposed on Papst are substantial. Papst is making a good faith effort to comply with the Court's orders and to move forward to a full and fair trial on the merits. That should be the goal of all parties.

For the foregoing reasons, Papst requests the Court to Deny Casio's motion.

Respectfully submitted,

Dated: June 16, 2008

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **PAPST'S OPPOSITION TO CASIO'S MOTION TO DISMISS** was served on this 16th day of June, 2008 upon the attorneys for the Camera Manufacturers as follows:

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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

IN RE PAPST LICENSING GMBH & CO.
KG LITIGATION

This Document Relates To:
ALL CASES

Misc. Action No. 07-493 (RMC)

MDL Docket No. 1880

**PAPST'S OBJECTIONS AND ANSWERS TO PLAINTIFF CASIO INC.'S
SECOND SET OF INTERROGATORIES (NOS. 7-10)**

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

GENERAL OBJECTIONS

1. Papst objects to Casio Inc.'s Interrogatories to the extent that they call for information protected by any applicable privilege or doctrine, including without limitation the attorney-client privilege, the work product doctrine and/or information pertaining to Papst counsel's mental impressions and/or trial preparation materials, any jointly shared privilege, and other protections afforded by Rule 26(b)(4)(B). Papst hereby asserts all such applicable privileges. Papst further objects to identifying such documents created after the commencement of this lawsuit.

2. Papst objects to Casio Inc.'s Interrogatories to the extent that they call for information disclosing confidential or proprietary information, and/or trade secrets of Papst, or information restricted from dissemination because of confidentiality commitments with other entities or pursuant to court order, statute, or regulation.

Without waiving its objections, Papst will produce such information that is reasonably

EXHIBIT 1

responsive and non-privileged upon the entry of a protective order governing such confidential information, and only after the relevant third-parties are notified of the potential disclosure and provided an opportunity to object to the potential disclosure.

3. Papst objects to Casio Inc.'s Interrogatories to the extent that they call for the disclosure of any information that is not reasonably related to the subject matter of this action, that is not relevant to the claims or defenses asserted in this action, that is not reasonably calculated to lead to the discovery of admissible evidence, and/or to the extent that the interrogatories seek to impose discovery obligations beyond those imposed by or permitted under the Federal Rules of Civil Procedure.

4. Papst objects to Casio Inc.'s Interrogatories as unduly and unnecessarily burdensome to the extent the requests seek information already in Casio Inc.'s possession, custody, or control.

5. Papst objects to Casio Inc.'s Interrogatories to the extent the requests, instructions, and/or definitions are unreasonably broad, vague and ambiguous, and/or unduly burdensome.

6. Papst 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.

7. 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

EXHIBIT 1

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), after entry of a suitable protective order.

8. Papst objects to any and all interrogatories to the extent that they are repetitive, overlapping or duplicative. Moreover, Papst may attempt to designate for production relevant documents in response to Casio Inc.'s interrogatories. However, by so designating documents, Papst does not represent that the identified documents are the only relevant documents, nor does Papst represent that the identified documents are necessarily the most relevant documents. In addition, the designation of documents is not necessarily exhaustive and other relevant documents may or may not exist. However, Papst will make a good faith effort to identify relevant documents and/or categories of documents as provided in Rules 33 and 34, Fed.R.Civ.P.

9. Papst objects to Casio Inc.'s interrogatories to the extent that they request Papst to provide the names of persons with knowledge of certain facts and a summary of each person's knowledge. If known, Papst will identify those persons, or documents from which the identity of those persons may be ascertained, believed to be generally most knowledgeable regarding the requested subjects.

GENERAL OBJECTIONS TO INSTRUCTIONS AND DEFINITIONS

1. Papst objects to Casio Inc.'s Instructions and Definitions to the extent they seek to impose obligations beyond those set forth in Rules 26 and 33 of the Federal Rules

EXHIBIT 1

of Civil Procedure and any applicable local rules. Papst will respond to Casio Inc.'s Interrogatories in the manner required by the Federal Rules of Civil Procedure and applicable local rules.

2. Papst objects to Casio Inc.'s Instruction D as overly broad and unduly burdensome to the extent that it does not permit Papst to produce a copy of the document in lieu of providing the requested details.

3. Papst objects to Casio Inc.'s Instruction E as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence. Papst responds that it will identify the title of a proceeding when identifying a proceeding.

4. Papst objects to Casio Inc.'s Instruction F as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence.

5. Papst objects to Casio Inc.'s Instruction H as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence. Specifically, Papst objects to being required to supplement information "within 30 days after acquiring such knowledge or advise Casio in writing as to why such additional information cannot be provided within the specified period" as it imposes obligations beyond those required by Fed.R.Civ.P. 33 and 26.

SPECIFIC OBJECTIONS AND ANSWERS TO INTERROGATORIES

INTERROGATORY NO. 7

EXHIBIT 1

Provide, in full and complete detail, Papst's bases for refuting Casio's defenses of non-infringement and invalidity/unenforceability.

ANSWER:

Papst objects that Casio's Interrogatory is unclear as to what is meant by "refuting Casio's defenses of non-infringement and invalidity/unenforceability." Papst understands this interrogatory to mean the defenses articulated by Casio in Casio Inc.'s Objections And Responses To Papst Licensing GmbH & Co. KG's First Set of Interrogatories To Casio, Inc., served May 21, 2007 ("Casio's Interrogatory Responses"). The present response refutes the defenses articulated in Casio's Interrogatory Responses. Papst objects to the extent that Casio construes this interrogatory to require any refutation of any defense not articulated in Casio's Interrogatory Responses.

To the extent 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"), Papst objects that this interrogatory is premature. 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 contentions at the time set 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 also objects that this interrogatory is premature in that Casio has not fully responded to the discovery requests that Papst has served on Casio. For example, at the time of this response, Casio has not provided any design documentation, nor any detailed product specifications, nor any software code, for its digital cameras. Papst reserves the

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right to amend or supplement the present responses after it receives and evaluates any further substantive responses from Casio.

Without waiving any of the above objections, Papst responds to Interrogatory No. 7 as follows. Pages 6-14 of Casio's Interrogatory Responses, have the following captioned sections concerning infringement of the Patents-in-Suit: "Interface Device" (p.7), "Data transmit/receive device" (p. 9), "Communication between" (p. 10), "Configured by the processor and memory" (p. 12), "Input/output device customary in a host device, regardless of the device attached" (p. 13) and "Virtual file system" (p. 14). Casio's purported defenses are without merit.

Papst provided claim language analysis and application to Casio's digital cameras relevant to refuting Casio's defenses in Defendant Papst Licensing GmbH & Co. KG's First Supplemental Answers to Plaintiff Casio Inc.'s First Set of Interrogatories (Nos. 1-6) ("Papst's Responses to Nos. 1-6"), served June 11, 2007. Those responses are incorporated herein by reference. Based on currently available information, additional responses individually addressing each of the portions of Casio's Interrogatory Responses are provided below. 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.

"Interface Device"

Casio's contention in Casio's Interrogatory response, for example, that its digital cameras supposedly lack an "interface device" improperly imports limitations from the specification into the claims. There is no recitation in the claims themselves for the limitations that Casio seeks to impose on the patents. The language of Claim 1 of the

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'399 patent, for example, recites that the "interface device" includes the following parts: a processor, a memory, a first connecting device, and a second connecting device. In one portion of claim 1 of the '399 patent, for example, relating to how the data transmit/receive device relates to the interface device, is silent as to whether the data transmit receive device is separable from the interface device:

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 word "interfacing" does not require, nor does it prohibit, a permanent interface with a permanently attached data transmit/receive device. Moreover, Casio's digital camera's have "a sampling circuit for sampling the analog data" provided by an image sensor (typically by way of a charge-coupled device, or "CCD"), and Casio does not deny the same. Also, Casio's digital cameras include an "analog-to-digital converter for converting data sampled by the sampling circuit into digital data," and Casio does not deny the same. It is generally improper to look to the specification, for example, in an attempt to add limitations that are not recited in the claim. Because the claim language does not recite any limitation as to whether the data transmit/receive device is separable from the interface device, and because Casio's digital cameras have the structure that is recited for the second connecting device, Casio's digital cameras literally include "a second connecting device" as that element is defined in claim 1 of the '399 patent.

Additional support that the "second connecting device" is not necessarily limited to any particular embodiment found in the specification is found in the varying ways that a "second connecting device" is recited in the independent claims. For example,

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independent claim 11 of the '399 patent recites the same language with respect to the second connecting device. Independent claim 17 of the '399 patent recites the step of interfacing a data transmit/receive device with a second connecting device, which happens to be about the same in scope as the second connecting device as recited in claims 1 and 11. These claim elements read on the Casio digital cameras for the same reasons as set forth above with respect to claim 1. However, 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. Thus, the way that the claims are drafted also indicates that the recitation of "second connecting device" in the independent claims is not limited to one particular embodiment.

Casio's Interrogatory Response also takes issue with the word "attached." That word appears in the following phrase of claim 1 of the '399 patent: "regardless of the type of the data transmit/receive device attached to the second connecting device of the interface device." The word "attached," for example, is broad enough to cover removably attached and permanently attached. The same is true in the other claims reciting the word "attached."

In summary, the independent claims are silent as to whether the data transmit/receive device may be separable or may be part of the interface device.

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Therefore, whether the image sensors on the Casio digital cameras are separable from the interface device is irrelevant to the issue of infringement. Casio's digital cameras include a second connecting device as that term is variously defined in the independent claims.

Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the second connecting device, and therefore no refutation is necessary or even possible.

"Data transmit/receive device"

Casio's Interrogatory Responses next argue that the claims require a data transmit/receive device. The claims neither expressly require, nor prohibit, a permanently attached data transmit/receive device. Instead, the inquiry should be directed to whether the interface portion of a device meets the limitations in the claims for the interface device.

For example, Casio's Interrogatory Responses state, incorrectly, "No Casio Digital Camera has the required limitation of a 'data transmit/receive device' ('T/R device') as that term is properly construed." There are several things wrong with Casio's argument. For example, there is no limitation in any of the independent claims for a data transmit/receive device. Also, since the data transmit/receive device is not positively recited as a limitation, it need not be "properly construed." Additionally, the Casio digital cameras include a lens and an image sensor that satisfies any plausible interpretation of a "data transmit/receive device." The data transmit/receive device is recited in the 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

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

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.

Casio's Interrogatory Response further incorrectly argues: "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." Casio provides no support for this incorrect statement. Moreover, Casio's argument is directly contrary to examples given in the patents-in-suit. For example, the data transmit/receive devices are described as covering an *entire spectrum* of sensors, and give as the first example an **image-acquisition system**, which is a diagnostic radiology system:

The devices from which data is to be acquired cover the *entire electrical engineering spectrum*. In a typical case, it is assumed that a customer who operates, for example, a *diagnostic radiology system* in a medical engineering environment reports a fault.

In this example, the data transmit/receive device does not receive and transmit information in the same form. The image sensors in Casio's digital cameras satisfy any plausible construction of a "data transmit/receive device."

The attempt by Casio to impose improper limitations on the data transmit/receive devices is further refuted by the way that the data transmit/receive devices are recited in different claims. For example, in claim 1 of the '399 patent, the data transmit/receive device is recited as "being arranged for providing analog data." (Casio's 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. The data

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transmit/receive devices of the '449 patent therefore should, for example, be construed more broadly than the data transmit/receive devices of the '399 patent, and should be construed that there is no limitation on the form of the data transmitted by such devices.

The various independent claims of the patents in suit have different preambles. However, Casio does not address each claim independently, and therefore a refutation concerning each independent claim is not called for by the present Interrogatory No. 7. Also, Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the data transmit/receive device, and therefore no refutation is necessary or even possible.

“Communication between”

In Casio's Interrogatory Response concerning “communication between,” Casio improperly states: “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.” Casio is wrong for several reasons. For example, the “communications between” language is in the preamble to provide context, and is not a limitation of the claims. For this reason, it need not be construed. Also, even if it were a limitation and were construed, it should be construed to require only those communications expressly recited in the body of the claim. Additionally, Casio's digital cameras perform the “communications” that are expressly claimed in the independent claims of the patents-in-suit.

Regarding the body of claim 1 of the '399 patent, for example, one form of communication is recited from the host device (e.g., PC) to the interface device (not the data transmit/receive device):

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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 Casio digital camera 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 actual 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).

Another aspect of "communication" recited in the body of claim 1 of the '399 patent includes the "second command interpreter" responding to 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 "interface device" was previously recited in claim 1 of the '399 patent to include a "second command interpreter." Also, the transfer of "the digital data" refers to the data

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that was digitized in the analog-to-digital converter of the “second connecting device,” which is also part of the “interface device.” None of this claim language requires or precludes two-way communication between the data transmit/receive device and the host PC. Instead, claim 3, for example, requires a buffer to buffer data to be transferred from the transmit receive device to the host PC. Thus, claim 1 of the ‘399 patent should be, for example, broad enough to cover this situation, where the host PC does not communicate directly with the data transmit/receive device.

Independent Claim 1 of the ‘449 patent, for example, does not recite all of the communications that are recited in the independent claims of the ‘399 patent. For example, instead of reciting the configuration of a second command interpreter, claim 1 of the ‘449 patent recites a virtual file system:

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

This claim language does not require communication directly between a data transmit/receive device and the host PC.

Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the “communication between” issue, and therefore no refutation is necessary or even possible. Also, Casio is believed to hold information relevant to this response, which is the subject of pending discovery requests. Papst reserves the right to amend or supplement this response as discovery progresses in this case.

“Configured by the processor and memory”

Casio argues that the command interpreters are “software,” and that: “This software is simply loaded into memory. The Casio processor has nothing to do with that operation.” However, Casio, to date, has not provided documents regarding the software

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and its use, which is believed to refute Casio's contentions. For these reasons, Papst objects to responding to this interrogatory as premature, and reserves the right to supplement this response after Casio provides the requested discovery and Papst has reviewed and analyzed the documents.

Notwithstanding the above objection due to Casio's failure to make discovery, Papst states that Casio's cameras appear to be configured to include at least first and second command processors. First, Casio's cameras appear to interpret and respond to USB commands, SCSI commands, and PTP commands. Further discovery from Casio is likely to provide evidence that the portions of the software that interpret USB commands, SCSI commands, and PTP commands are distinct software modules, routines, or objects.

Even if the above command processors comprise "software," as argued by Casio in its Interrogatory Response, such software 1) would have to be stored somewhere when the camera is shut off (e.g., non-volatile memory, ROM, or a programmable ROM), 2) would have to be loaded into working memory when the camera is operating, and 3) would have to be executed on a processor. Casio admits that the command interpreters reside in software. Software residing on memory, however, without more, generally does not function. It is believed that a processor within the camera executes the software for the first and second command interpreters. In this respect, for example, the memory (which holds the software) and the processor (which executes the software) configure the interface device to include a first command interpreter and a second command interpreter as claimed.

Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the "configured by the processor and memory" issue, and therefore no

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refutation is necessary or even possible. Also, Casio is believed to hold information relevant to this response, which is the subject of pending discovery requests. Papst reserves the right to amend or supplement this response as discovery progresses in this case.

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

Casio incorrectly contends, for example: “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.’” Casio further incorrectly contends: “As above, Casio cameras never lie to the host computer. Rather, the Casio cameras identify themselves as Casio cameras.” These statements are incorrect because, for example, the claim does not recite “a lie,” moreover, the Casio cameras, when configured in USB Mass Storage Mode, for example, identify themselves as hard disk drives, and when in PTP mode, for example, identify themselves as imaging devices.

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 believed to return an Interface Descriptor which identifies the Casio Exilim Z75 Digital Camera as having a bInterfaceClass = 0x08, a bInterfaceProtocol = 0x50, and having a bInterfaceSubClass = 0x05. 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

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Interface Descriptor information would recognize the Exilim Z75 digital camera as a disk drive. In this regard, the Interface Descriptor believed to be returned by the Casio Exilim Z75 Digital Camera may be said to be a “lie” to the host PC because it signals the host PC that it is a disk drive when the Casio Exilim Z75 Digital Camera is a digital camera. The host PC is believed to accept this “lie,” because it loads and communicates with the interface device of the camera by means of Microsoft standard software drivers, such as usbstor.sys, disk.sys and PartMgr.sys. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with actual hard disk drives.

In another example, in USB Mass Storage mode, the Casio Exilim Z75 Digital Camera is believed to respond to a SCSI INQUIRY command. The response includes a “peripheral device type” of 0x00. Such a response signals to the host PC that the Casio Exilim Z75 Digital Camera is a “Direct-access device (e.g., magnetic disk).” The response to the INQUIRY command does not identify the Casio device as a digital camera. In this example, the Casio Exilim Z75 Digital Camera could be said to “lie” to the host PC by indicating that it is a magnetic disk, when it is in fact a digital camera.

In another example, in PTP mode, 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 PTP mode, is believed to return an Interface Descriptor which identifies the Casio Exilim Z75 Digital Camera as having a bInterfaceClass = 0x06. An Interface Descriptor having bInterfaceClass = 0x06 is believed to signal to the host PC that the Casio Exilim Z75 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

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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.

While the above examples are given with respect to one camera, Papst has served an interrogatory on Casio requesting that Casio provide the Interface Descriptor information returned by all of its cameras in this lawsuit. Papst objects to this interrogatory as premature until Casio provides the requested discovery, and Papst has adequately reviewed and analyzed the information.

Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the “input/output device customary in a host device, regardless of the device attached” issue, and therefore no refutation is necessary or even possible. Also, Casio’s Interrogatory Response does not provide any evidence or information as to why it contends that its cameras identify themselves as cameras. For example, Casio does not identify what inquiries are made by the host PC, nor does Casio describe precisely what responses are made by any particular digital camera which would indicate that the attached device is a digital camera. If and when Casio amends this response or provides such information or contentions, Papst reserves the right to amend or supplement this response with further rebuttal.

“Virtual file system”

Casio incorrectly contends in Casio’s Interrogatory Responses that “In the Casio cameras, the computer directly accesses a real file system. The system is not ‘virtual’ in any sense of the word.” Casio is wrong, for example, because the Casio Exilim Z75 Digital Camera, and its file system, simulates the existence of sectors, read/write heads (also known as tracks), and cylinders, even though flash memory cards do not have any

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physical “sectors,” “heads,” or “cylinders.” This is an example of virtualization of the file system. Also, CHS addressing (Cylinder, Head, Sector) is a form of addressing that was used in the earliest IDE hard disk drives. The fact that the Casio digital cameras provide such addressing information indicates a virtualization of the old CHS addressing scheme. This is another example of how the file system used in the Casio cameras is virtual.

Casio also is wrong because, in another example, the Casio Exilim Z75 Digital Camera is believed to accommodate long file names (i.e., file names in excess of the 8 and 3 character convention). When the FAT file system was modified to accommodate long file names, it was known as VFAT, which stands for “virtual FAT.” The so-called “real” file system believed to be used by the Casio camera is known as a virtual file system.

At pages 15-16, Casio’s Interrogatory Responses respond to Papst’s interrogatory seeking Casio’s invalidity defenses. However, Casio responded only by making objections, and did not provide any substantive invalidity defenses. Accordingly, there is nothing for Papst to refute with respect to Casio’s purported defenses concerning the validity of the patents-in-suit. Papst reserves the right to amend or supplement this response in the event that Casio articulates defenses concerning the validity and/or enforceability of the patents-in-suit. Papst also states that 35 U.S.C. §282 provides a presumption that the patents-in-suit are valid, and that the burden for establishing invalidity rests on the party asserting invalidity.

INTERROGATORY NO. 8

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Identify each person who was involved with the decision to file and the prosecution of the applications that matured into the patents-in-suit, and separately for each person identified, state the nature of such person's involvement and identify all documents and things relating to that involvement.

ANSWER:

In addition to all of its general objections incorporated herein, Papst specifically objects to Interrogatory No. 8 to the extent that it seeks, or may be construed to seek, information immune from discovery by reason of the attorney-client privilege, the work product doctrine, and/or the protections afforded by Rule 26(b)(4)(B). Papst further objects because it was not involved with the decision to file and the prosecution of the applications that matured into the patents-in-suit.

Subject to all of its objections above which are incorporated herein, Papst states that Michael Tasler was involved in the decision to file and the prosecution of the applications that matured into the patents-in-suit. Papst further states that non-privileged prosecution file history documents have been provided under Rule 33(d) which disclose the identity of people who may have been involved, and the nature of their involvement, in the decision to file and the prosecution of the applications that matured into the patents-in-suit to the extent Papst is aware of it. Papst will later provide a letter identifying responsive documents by Bates number.

INTERROGATORY NO. 9

Describe, in detail, all damages that Papst contends it may be entitled to receive as a result of any alleged infringement by Casio of the patents-in-suit, and identify all facts that support or refute that contention.

ANSWER:

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In addition to all of its general objections incorporated herein, Papst specifically objects to Interrogatory No. 9 to the extent that it seeks, or may be construed to seek, information immune from discovery by reason of the attorney-client privilege, the work product doctrine, and/or the protections afforded by Rule 26(b)(4)(B). Nothing contained in this response is intended to be, nor should be considered, a waiver of any attorney-client privilege, work product immunity, Rule 26(b)(4)(B) protection, the right of privacy, or any other applicable privilege or doctrine. Papst further objects to the Interrogatory to the extent it calls for a legal conclusion or any other information for which discovery is still ongoing or for which discovery is otherwise premature at this point in the litigation, including expert discovery. Papst further objects to the Interrogatory to the extent it calls for premature contention answers. Papst also objects on the ground that it has not received the necessary discovery materials requested from Casio Inc. and Casio Computer Co., Ltd. on this issue. Papst further objects on the basis that this request seeks only information relating to damages which has been stayed by the Court's order dated April 8, 2008.

INTERROGATORY NO. 10

Describe, in detail, the bases for Papst's claims of willfulness and exceptional case, including all facts that support or refute those allegations.

ANSWER:

In addition to all of its general objections incorporated herein, Papst specifically objects to Interrogatory No. 10 to the extent that it seeks, or may be construed to seek, information immune from discovery by reason of the attorney-client privilege, the work product doctrine, and/or the protections afforded by Rule 26(b)(4)(B). Nothing

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contained in this response is intended to be, nor should be considered, a waiver of any attorney-client privilege, work product immunity, Rule 26(b)(4)(B) protection, the right of privacy, or any other applicable privilege or doctrine. Papst further objects to the Interrogatory to the extent it calls for a legal conclusion or any other information for which discovery is still ongoing or for which discovery is otherwise premature at this point in the litigation, including expert discovery. Papst further objects to the Interrogatory to the extent it calls for premature contention answers. Papst also objects on the ground that it has not received the necessary discovery materials requested from Casio Inc. and Casio Computer Co., Ltd. on this issue. Papst further objects on the basis that this request seeks only information relating to willful infringement which has been stayed by the Court's order dated April 8, 2008.

AS TO OBJECTIONS:

Dated: April 11, 2008

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing PAPST'S OBJECTIONS AND ANSWERS TO PLAINTIFF CASIO INC.'S SECOND SET OF INTERROGATORIES (NOS. 7-10) was served on this the 11th day of April, 2008 upon the attorneys for the Camera Manufacturers as follows:

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Attorney for Papst Licensing GmbH & Co.
KG

EXHIBIT 2

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

IN RE PAPST LICENSING GMBH & CO.
KG LITIGATION

This Document Relates To:
ALL CASES

Misc. Action No. 07-493 (RMC)

MDL Docket No. 1880

**PAPST'S OBJECTIONS AND SUPPLEMENTAL ANSWERS TO CASIO INC.'S
INTERROGATORY NO. 7**

Pursuant to Rules 33 and 26(e) of the Federal Rules of Civil Procedure, Defendant Papst Licensing GmbH & Co. KG ("Papst"), objects to and supplements its answers Casio Inc.'s Interrogatory No. 7 as follows:

GENERAL OBJECTIONS

1. Papst objects to Casio Inc.'s Interrogatories to the extent that they call for information protected by any applicable privilege or doctrine, including without limitation the attorney-client privilege, the work product doctrine and/or information pertaining to Papst counsel's mental impressions and/or trial preparation materials, any jointly shared privilege, and other protections afforded by Rule 26(b)(4)(B). Papst hereby asserts all such applicable privileges. Papst further objects to identifying such documents created after the commencement of this lawsuit.

2. Papst objects to Casio Inc.'s Interrogatories to the extent that they call for information disclosing confidential or proprietary information, and/or trade secrets of Papst, or information restricted from dissemination because of confidentiality commitments with other entities or pursuant to court order, statute, or regulation.

Without waiving its objections, Papst will produce such information that is reasonably

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responsive and non-privileged upon the entry of a protective order governing such confidential information, and only after the relevant third-parties are notified of the potential disclosure and provided an opportunity to object to the potential disclosure.

3. Papst objects to Casio Inc.'s Interrogatories to the extent that they call for the disclosure of any information that is not reasonably related to the subject matter of this action, that is not relevant to the claims or defenses asserted in this action, that is not reasonably calculated to lead to the discovery of admissible evidence, and/or to the extent that the interrogatories seek to impose discovery obligations beyond those imposed by or permitted under the Federal Rules of Civil Procedure.

4. Papst objects to Casio Inc.'s Interrogatories as unduly and unnecessarily burdensome to the extent the requests seek information already in Casio Inc.'s possession, custody, or control.

5. Papst objects to Casio Inc.'s Interrogatories to the extent the requests, instructions, and/or definitions are unreasonably broad, vague and ambiguous, and/or unduly burdensome.

6. Papst 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.

7. 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), after entry of a suitable protective order.

8. Papst objects to any and all interrogatories to the extent that they are repetitive, overlapping or duplicative. Moreover, Papst may attempt to designate for production relevant documents in response to Casio Inc.'s interrogatories. However, by so designating documents, Papst does not represent that the identified documents are the only relevant documents, nor does Papst represent that the identified documents are necessarily the most relevant documents. In addition, the designation of documents is not necessarily exhaustive and other relevant documents may or may not exist. However, Papst will make a good faith effort to identify relevant documents and/or categories of documents as provided in Rules 33 and 34, Fed.R.Civ.P.

9. Papst objects to Casio Inc.'s interrogatories to the extent that they request Papst to provide the names of persons with knowledge of certain facts and a summary of each person's knowledge. If known, Papst will identify those persons, or documents from which the identity of those persons may be ascertained, believed to be generally most knowledgeable regarding the requested subjects.

GENERAL OBJECTIONS TO INSTRUCTIONS AND DEFINITIONS

1. Papst objects to Casio Inc.'s Instructions and Definitions to the extent they seek to impose obligations beyond those set forth in Rules 26 and 33 of the Federal Rules

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of Civil Procedure and any applicable local rules. Papst will respond to Casio Inc.'s Interrogatories in the manner required by the Federal Rules of Civil Procedure and applicable local rules.

2. Papst objects to Casio Inc.'s Instruction D as overly broad and unduly burdensome to the extent that it does not permit Papst to produce a copy of the document in lieu of providing the requested details.

3. Papst objects to Casio Inc.'s Instruction E as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence. Papst responds that it will identify the title of a proceeding when identifying a proceeding.

4. Papst objects to Casio Inc.'s Instruction F as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence.

5. Papst objects to Casio Inc.'s Instruction H as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence. Specifically, Papst objects to being required to supplement information "within 30 days after acquiring such knowledge or advise Casio in writing as to why such additional information cannot be provided within the specified period" as it imposes obligations beyond those required by Fed.R.Civ.P. 33 and 26.

**SPECIFIC OBJECTIONS AND SUPPLEMENTAL ANSWERS TO
INTERROGATORY NO. 7**

INTERROGATORY NO. 7

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Provide, in full and complete detail, Papst's bases for refuting Casio's defenses of non-infringement and invalidity/unenforceability.

ANSWER:

Papst objects that Casio's Interrogatory is unclear as to what is meant by "refuting Casio's defenses of non-infringement and invalidity/unenforceability." Papst understands this interrogatory to mean the defenses articulated by Casio in Casio Inc.'s Objections And Responses To Papst Licensing GmbH & Co. KG's First Set of Interrogatories To Casio, Inc., served May 21, 2007 ("Casio's Interrogatory Responses") and Casio Inc.'s Supplemental Objections And Responses To Papst Licensing GmbH & Co. KG's First Set of Interrogatories To Casio, Inc., served June 22, 2007 ("Casio's Supplemental Interrogatory Responses"). The present response refutes the defenses articulated in Casio's Interrogatory Responses and Casio's Supplemental Interrogatory Responses. Papst objects to the extent that Casio construes this interrogatory to require any refutation of any defense not articulated in such responses.

To the extent 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"), Papst objects that this interrogatory is premature. 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 contentions at the time set 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.

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Papst also objects that this interrogatory is premature in that Casio has not fully responded to the discovery requests that Papst has served on Casio. For example, at the time of this response, Casio has not provided any design documentation, nor any detailed product specifications, nor any software code, for its digital cameras. Papst reserves the right to amend or supplement the present responses after it receives and evaluates any further substantive responses from Casio.

Without waiving any of the above objections, Papst responds to Interrogatory No. 7 as follows. Pages 6-14 of Casio's Interrogatory Responses, have the following captioned sections concerning infringement of the Patents-in-Suit: "Interface Device" (p.7), "Data transmit/receive device" (p. 9), "Communication between" (p. 10), "Configured by the processor and memory" (p. 12), "Input/output device customary in a host device, regardless of the device attached" (p. 13) and "Virtual file system" (p. 14). Casio's purported defenses are without merit.

Papst provided claim language analysis and application to Casio's digital cameras relevant to refuting Casio's defenses in Defendant Papst Licensing GmbH & Co. KG's First Supplemental Answers to Plaintiff Casio Inc.'s First Set of Interrogatories (Nos. 1-6) ("Papst's Responses to Nos. 1-6"), served June 11, 2007. Those responses are incorporated herein by reference. Based on currently available information, additional responses individually addressing each of the portions of Casio's Interrogatory Responses are provided below. 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.

"Interface Device"

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Casio's contention in Casio's Interrogatory response, for example, that its digital cameras supposedly lack an "interface device" improperly imports limitations from the specification into the claims. There is no recitation in the claims themselves for the limitations that Casio seeks to impose on the patents. The language of Claim 1 of the '399 patent, for example, recites that the "interface device" includes the following parts: a processor, a memory, a first connecting device, and a second connecting device. In one portion of claim 1 of the '399 patent, for example, relating to how the data transmit/receive device relates to the interface device, is silent as to whether the data transmit receive device is separable from the interface device:

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 word "interfacing" does not require, nor does it prohibit, a permanent interface with a permanently attached data transmit/receive device. Moreover, Casio's digital cameras have "a sampling circuit for sampling the analog data" provided by an image sensor (typically by way of a charge-coupled device, or "CCD"), and Casio does not deny the same. Also, Casio's digital cameras include an "analog-to-digital converter for converting data sampled by the sampling circuit into digital data," and Casio does not deny the same. It is generally improper to look to the specification, for example, in an attempt to add limitations that are not recited in the claim. Because the claim language does not recite any limitation as to whether the data transmit/receive device is separable from the interface device, and because Casio's digital cameras have the structure that is

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recited for the second connecting device, Casio's digital cameras literally include "a second connecting device" as that element is defined in claim 1 of the '399 patent.

Additional support that the "second connecting device" is not necessarily limited to any particular embodiment found in the specification is found in the varying ways that a "second connecting device" is recited in the independent claims. For example, independent claim 11 of the '399 patent recites the same language with respect to the second connecting device. Independent claim 17 of the '399 patent recites the step of interfacing a data transmit/receive device with a second connecting device, which is about the same in scope as the second connecting device as recited in claims 1 and 11. These claim elements read on the Casio digital cameras for the same reasons as set forth above with respect to claim 1. However, 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. Thus, the way that the claims are drafted also indicates that the recitation of "second connecting device" in the independent claims is not limited to one particular embodiment.

Casio's Interrogatory Response also takes issue with the word "attached." That word appears in the following phrase of claim 1 of the '399 patent: "regardless of the type of the data transmit/receive device attached to the second connecting device of the interface device." The word "attached," for example, is broad enough to cover

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removably attached and permanently attached. The same is true in the other claims reciting the word “attached.”

In summary, the independent claims are silent as to whether the data transmit/receive device may be separable or may be part of the interface device. Therefore, whether the image sensors on the Casio digital cameras are separable from the interface device is irrelevant to the issue of infringement. Casio’s digital cameras include a second connecting device as that term is variously defined in the independent claims.

Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the second connecting device, and therefore no refutation is necessary or even possible.

“Data transmit/receive device”

Casio’s Interrogatory Responses next argue that the claims require a data transmit/receive device. The claims neither expressly require, nor prohibit, a permanently attached data transmit/receive device. Instead, the inquiry should be directed to whether the interface portion of a device meets the limitations in the claims for the interface device.

For example, Casio’s Interrogatory Responses state, incorrectly, “No Casio Digital Camera has the required limitation of a ‘data transmit/receive device’ (‘T/R device’) as that term is properly construed.” There are several things wrong with Casio’s argument. For example, there is no limitation in any of the independent claims for a data transmit/receive device. Also, since the data transmit/receive device is not positively recited as a limitation, it need not be “properly construed.” Additionally, the Casio digital cameras include a lens and an image sensor that satisfies any plausible

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interpretation of a “data transmit/receive device.” The data transmit/receive device is recited in the 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:

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.

Casio’s Interrogatory Response further incorrectly argues: “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.” Casio provides no support for this incorrect statement. Moreover, Casio’s argument is directly contrary to examples given in the patents-in-suit. For example, the data transmit/receive devices are described as covering an *entire spectrum* of sensors, and give as the first example an **image-acquisition system**, which is a diagnostic radiology system:

The devices from which data is to be acquired cover the *entire electrical engineering spectrum*. In a typical case, it is assumed that a customer who operates, for example, a *diagnostic radiology system* in a medical engineering environment reports a fault.

In this example, the data transmit/receive device does not receive and transmit information in the same form. The image sensors in Casio’s digital cameras satisfy any plausible construction of a “data transmit/receive device.”

The attempt by Casio to impose improper limitations on the data transmit/receive devices is further refuted by the way that the data transmit/receive devices are recited in different claims. For example, in claim 1 of the ‘399 patent, the data transmit/receive

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device is recited as “being arranged for providing analog data.” (Casio’s 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. The data transmit/receive devices of the ‘449 patent therefore should, for example, be construed more broadly than the data transmit/receive devices of the ‘399 patent, and should be construed that there is no limitation on the form of the data transmitted by such devices.

The various independent claims of the patents in suit have different preambles. However, Casio does not address each claim independently, and therefore a refutation concerning each independent claim is not called for by the present Interrogatory No. 7. Also, Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the data transmit/receive device, and therefore no refutation is necessary or even possible.

“Communication between”

In Casio’s Interrogatory Response concerning “communication between,” Casio improperly states: “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.” Casio is wrong for several reasons. For example, the “communications between” language is in the preamble to provide context, and is not a limitation of the claims. For this reason, it need not be construed. Also, even if it were a limitation and were construed, it should be construed to require only those communications expressly recited in the body of the claim. Additionally, Casio’s digital cameras perform the “communications” that are expressly claimed in the independent claims of the patents-in-suit.

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Regarding the body of claim 1 of the '399 patent, for example, one form of communication is recited from the host device (e.g., PC) to the interface device (not the data transmit/receive 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 Casio digital camera 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).

Another aspect of "communication" recited in the body of claim 1 of the '399 patent includes the "second command interpreter" responding to 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

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signaled by the first command interpreter as a data transfer command for initiating a transfer of the digital data to the host device.

The “interface device” was previously recited in claim 1 of the ‘399 patent to include a “second command interpreter.” Also, the transfer of “the digital data” refers to the data that was digitized in the analog-to-digital converter of the “second connecting device,” which is also part of the “interface device.” None of this claim language requires or precludes two-way communication between the data transmit/receive device and the host PC. Instead, claim 3, for example, requires a buffer to buffer data to be transferred from the transmit receive device to the host PC. Thus, claim 1 of the ‘399 patent should be, for example, broad enough to cover this situation, where the host PC does not communicate directly with the data transmit/receive device.

Independent Claim 1 of the ‘449 patent, for example, does not recite all of the communications that are recited in the independent claims of the ‘399 patent. For example, instead of reciting the configuration of a second command interpreter, claim 1 of the ‘449 patent recites a virtual file system:

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

This claim language does not require communication directly between a data transmit/receive device and the host PC.

Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the “communication between” issue, and therefore no refutation is necessary or even possible. Also, Casio is believed to hold information relevant to this response, which is the subject of pending discovery requests. Papst reserves the right to amend or supplement this response as discovery progresses in this case.

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“Configured by the processor and memory”

Casio argues that the command interpreters are “software,” and that: “This software is simply loaded into memory. The Casio processor has nothing to do with that operation.” However, Casio, to date, has not provided documents regarding the software and its use, which is believed to refute Casio’s contentions. For these reasons, Papst objects to responding to this interrogatory as premature, and reserves the right to supplement this response after Casio provides the requested discovery and Papst has reviewed and analyzed the documents.

Notwithstanding the above objection due to Casio’s failure to make discovery, Papst states that Casio’s cameras appear to be configured to include at least first and second command processors. First, Casio’s cameras appear to interpret and respond to USB commands, SCSI commands, and PTP commands. Further discovery from Casio is likely to provide evidence that the portions of the software that interpret USB commands, SCSI commands, and PTP commands are distinct software modules, routines, or objects.

Even if the above command processors comprise “software,” as argued by Casio in its Interrogatory Response, such software 1) would have to be stored somewhere when the camera is shut off (e.g., non-volatile memory, ROM, or a programmable ROM), 2) would have to be loaded into working memory when the camera is operating, and 3) would have to be executed on a processor. Casio admits that the command interpreters reside in software. Software residing on memory, however, without more, generally does not function. It is believed that a processor within the camera executes the software for the first and second command interpreters. In this respect, for example, the memory (which holds the software) and the processor (which executes the software) configure the

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interface device to include a first command interpreter and a second command interpreter as claimed.

Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the “configured by the processor and memory” issue, and therefore no refutation is necessary or even possible. Also, Casio is believed to hold information relevant to this response, which is the subject of pending discovery requests. Papst reserves the right to amend or supplement this response as discovery progresses in this case.

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

Casio incorrectly contends, for example: “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.’” Casio further incorrectly contends: “As above, Casio cameras never lie to the host computer. Rather, the Casio cameras identify themselves as Casio cameras.” These statements are incorrect because, for example, the claim does not recite “a lie,” moreover, the Casio cameras, when configured in USB Mass Storage Mode, for example, identify themselves as hard disk drives, and when in PTP mode, for example, identify themselves as imaging devices.

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 believed to return an Interface Descriptor which identifies the Casio Exilim Z75 Digital Camera as having a bInterfaceClass = 0x08, a bInterfaceProtocol = 0x50, and having a bInterfaceSubClass = 0x05. An Interface Descriptor having the above information does

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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 a disk drive. In this regard, the Interface Descriptor believed to be returned by the Casio Exilim Z75 Digital Camera may be said to be a "lie" to the host PC because it signals the host PC that it is a disk drive when the Casio Exilim Z75 Digital Camera is a digital camera. The host PC is believed to accept this "lie," because it loads and communicates with the interface device of the camera by means of Microsoft standard software drivers, such as usbstor.sys, disk.sys and PartMgr.sys. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with hard disk drives.

In another example, in USB Mass Storage mode, the Casio Exilim Z75 Digital Camera is believed to respond to a SCSI INQUIRY command. The response includes a "peripheral device type" of 0x00. Such a response signals to the host PC that the Casio Exilim Z75 Digital Camera is a "Direct-access device (e.g., magnetic disk)." In this example, the Casio Exilim Z75 Digital Camera could be said to "lie" to the host PC by indicating that it is a magnetic disk, when it is not.

In another example, in PTP mode, 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 PTP mode, is believed to return an Interface Descriptor which identifies the Casio Exilim Z75 Digital Camera as having a bInterfaceClass = 0x06. An Interface Descriptor having

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bInterfaceClass = 0x06 is believed to signal to the host PC that the Casio Exilim Z75 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.

While the above examples are given with respect to one camera, Papst has served an interrogatory on Casio requesting that Casio provide the Interface Descriptor information returned by all of its cameras in this lawsuit. Papst objects to this interrogatory as premature until Casio provides the requested discovery, and Papst has adequately reviewed and analyzed the information.

Casio presented no substantive defense on the issue of doctrine of equivalents with respect to the “input/output device customary in a host device, regardless of the device attached” issue, and therefore no refutation is necessary or even possible. Also, Casio’s Interrogatory Response does not provide any evidence or information as to why it contends that its cameras identify themselves as cameras. For example, Casio does not identify what inquiries are made by the host PC, nor does Casio describe precisely what responses are made by any particular digital camera which would indicate that the attached device is a digital camera. If and when Casio amends this response or provides such information or contentions, Papst reserves the right to amend or supplement this response with further rebuttal.

“Virtual file system”

Casio incorrectly contends in Casio’s Interrogatory Responses that “In the Casio cameras, the computer directly accesses a real file system. The system is not ‘virtual’ in

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any sense of the word.” Casio is wrong, for example, because the Casio Exilim Z75 Digital Camera, and its file system, simulates the existence of sectors, read/write heads (also known as tracks), and cylinders, even though flash memory cards do not have any physical “sectors,” “heads,” or “cylinders.” This is an example of virtualization of the file system. Also, CHS addressing (Cylinder, Head, Sector) is a form of addressing that was used in the earliest IDE hard disk drives. The fact that the Casio digital cameras provide such addressing information indicates a virtualization of the old CHS addressing scheme. This is another example of how the file system used in the Casio cameras is virtual.

At pages 15-16, Casio’s Interrogatory Responses respond to Papst’s interrogatory seeking Casio’s invalidity defenses. However, Casio responded only by making objections, and did not provide any substantive invalidity defenses. Accordingly, there is nothing for Papst to refute with respect to Casio’s purported defenses concerning the validity of the patents-in-suit. Papst reserves the right to amend or supplement this response in the event that Casio articulates defenses concerning the validity and/or enforceability of the patents-in-suit. Papst also states that 35 U.S.C. §282 provides a presumption that the patents-in-suit are valid, and that the burden for establishing invalidity rests on the party asserting invalidity.

Casio makes certain non-infringement arguments in Casio’s Supplemental Interrogatory Responses. Papst incorporates by reference the above refutation of Casio’s arguments concerning “Interface Device,” “Data transmit/receive device,” “Communication between,” “Configured by the processor and memory,” “Input/output

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device customary in a host device, regardless of the device attached,” and “Virtual file system.” Papst provides additional rebuttal below.

On page 10 of Casio’s Supplemental Interrogatory Responses, Casio mistakenly argues that its cameras “have nothing to do with any ‘customary’ drivers for hard disks . . .” Also, on page 15, Casio misconstrues the claim language “by means of the driver for the input output device customary in a host device.” The claims do not recite “customary drivers.” Instead, it is the input/output device that is customary in a host device (e.g., claim 1 of the ‘399 patent), or a storage device that is customary in a host device (e.g. claim 1 of the ‘449 patent).

Casio’s digital cameras signal to a host PC that the cameras are input/output devices customary in a host device, and/or are storage devices customary in a host device. 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 believed to return an Interface Descriptor which identifies the Casio Exilim Z75 Digital Camera as having a bInterfaceClass = 0x08, a bInterfaceProtocol = 0x50, and having a bInterfaceSubClass = 0x05. 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 a disk drive, which is an input/output device customary in a host device, and which is a storage device customary in a host device. The host PC loads and communicates with the interface device of the camera by

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means of Microsoft standard software drivers, such as usbstor.sys, disk.sys and PartMgr.sys. The host PC also uses the disk.sys and PartMgr.sys drivers to communicate with hard disk drives. That is, disk.sys and PartMgr.sys are drivers for input/output devices customary in host devices and storage devices customary in a host devices.

On pages 15-16, Casio's Supplemental Interrogatory Responses make an argument concerning the "second command interpreter" and "receiving a data request command" from a host computer. 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 an 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.

In another example, in USB Mass Storage mode, the Casio Exilim Z75 Digital Camera is believed to respond to a SCSI INQUIRY command. The response includes a "peripheral device type" of 0x00. Such a response signals to the host PC that the Casio Exilim Z75 Digital Camera is a "Direct-access device (e.g., magnetic disk)." The response to the INQUIRY command signals to a host PC that the camera is a magnetic disk, which is a storage device customary in a host device.

On page 13-14, Casio's Supplementary Interrogatory Responses make an argument concerning "a distinct first command interpreter and a distinct second command interpreter." Casio's use of the word "distinct" is vague and ambiguous, in that

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it is unknown what Casio means by inserting this word into the claim language. Papst responds, for example, that the claims do not use the word “distinct.”

Section 112 and “customary”

Casio’s Supplemental Interrogatory Responses erroneously argues for the invalidity of the claims reciting the term “customary.” Casio does not identify what paragraph of Section 112 Casio purportedly relies upon for its argument.

Referring to claim 1 of the ‘399 patent, the meaning of 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.

U.S. Patent No. 6,088,532

Casio’s Supplemental Interrogatory Responses erroneously contends that the ‘399 patent and the ‘449 patent are invalid as being anticipated by U.S. Patent No. 6,088,532. Casio’s Supplemental Interrogatory Responses, however, only provide contentions with regard to claim 1 of each patent. Papst objects to providing any response regarding

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claims not specifically addressed in Casio's Supplemental Interrogatory Responses, because no "defense" was articulated by Casio regarding those claims.

Claim 1 of the '399 patent recites, in part,

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

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

* * *

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.

There is no disclosure, for example, of such first and second command interpreters in the '532 patent, nor is there any disclosure that the interface is configured by the processor and the memory to include a first command interpreter and a second command interpreter. Additionally, contrary to Casio's erroneous contentions, there is no disclosure in the '532 patent that a "'send command interpreter' is adapted to cause the microprocessor to interpret a data request from command from a PC."

Casio's Interrogatory Response incorrectly asserts that an "instruction set is programmed" into an "on-chip memory." However, there is no mention of an "instruction set," nor any mention of any instructions being programmed into an on-chip memory, in the '532 patent. Casio's contentions regarding any "data stored in the on-chip memory" or "instruction set stored in the on-chip memory" are not supported by the

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'532 patent. The "defenses" articulated in Casio's Supplemental Interrogatory Responses with respect to both the '399 and '449 patents, are deficient for this additional reason.

Claim 1 of the '449 patent recites, in part, "wherein the interface device is arranged for simulating a virtual file system to the host, the virtual file system including a directory structure." There is no disclosure in the '532 patent corresponding to this claim element. For example, there is no explanation or description of any file system or directory structure discussed in the '532 patent. Also, as set forth above, there is no mention of an "instruction set," nor any mention of any instructions being programmed into an on-chip memory, in the '532 patent, so Casio's contentions regarding a virtual file system are unsupported.

Casio's QV-10 camera

Casio's Supplemental Interrogatory Responses erroneously contends that the '399 patent and the '449 patent are invalid as being anticipated by Casio's QV-10 camera. Casio's Supplemental Interrogatory Responses, however, only provide contentions with regard to claim 1 of each patent. Papst objects to providing any response regarding claims not specifically addressed in Casio's Supplemental Interrogatory Responses, because no "defense" was articulated by Casio regarding those claims.

Papst further objects that while Casio purportedly bases this defense on a QV-10 camera, Casio has not yet provided such a camera in discovery in this case, and Papst has not had an opportunity to inspect or test such a device. Papst reserves the right to amend or supplement this interrogatory response until such time as it has completed its investigation and analysis of an actual QV-10 camera. Also, Papst objects that Casio's

EXHIBIT 2

Supplemental Interrogatory Response cites to pages of a “QV-LINK Owner’s manual,” yet Casio does not provide any reference to any production numbers where such a document may be found. Papst bases the current response on the user manual provided by Casio at CAP-010511 – CAP-010533, the pages produced by Casio and identified in Casio’s Supplemental Interrogatory Response.

The claims of the ‘399 and ‘449 patents are not invalidated by the Casio QV-10 because, for example, there is no support in the documents provided by Casio in discovery to support Casio’s contentions that “An instruction set is programmed into the memory of the QV-10 camera,” or that “a portion of the instruction set forms a ‘first command interpreter’ and a ‘second command interpreter.’” Also, there is nothing in the user manual for the Casio QV-10 which would indicate that it would to satisfy the limitation that a first command interpreter signals to the host device that it is an input/output device customary in a host device, or that it is a storage device customary in a host device. Instead, the manual for the QV-10 (and Casio’s description of the QV-LINK software) indicates that the QV-10 does not signal that it is an input/output device, or a storage device, customary in a host device. Additionally, there is nothing in the user manual for the Casio QV-10 which would indicate that a host PC would communicate with any part of the QV-10 by means of a driver for an input/output device customary in a host device, or by means of a driver for a storage device customary in a host device. Instead, according to Casio’s description, it would appear that “QV-LINK driver software” is necessary for a host PC to be able to communicate with the QV-10 camera. Also, there is no description in the user manual for the QV-10 camera concerning any file system, virtual or otherwise.

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Kodak DCS 200 camera

Casio's Supplemental Interrogatory Responses erroneously contends that the '399 patent and the '449 patent are invalid as being anticipated by a Kodak DCS 200 camera. Casio's Supplemental Interrogatory Responses, however, only provide contentions with regard to claim 1 of each patent. Papst objects to providing any response regarding claims not specifically addressed in Casio's Supplemental Interrogatory Responses, because no "defense" was articulated by Casio regarding those claims.

Papst further objects that while Casio purportedly bases this defense on a DCS-200 camera, Casio has not yet provided such a camera in discovery in this case, and Papst has not had an opportunity to inspect or test such a device. Papst reserves the right to amend or supplement this interrogatory response until such time as it has completed its investigation and analysis of an actual DCS-200 camera. Papst bases the current response on the pages identified in Casio's Supplemental Interrogatory Response, i.e., CAP-22804-05.

The claims of the '399 and '449 patents are not invalidated by the Kodak DCS-200 camera because, for example, there is no support in the documents provided by Casio in discovery to support Casio's contentions that "An instruction set is inherently programmed into the on-chip memory of the DCS200 camera," or that "a portion of the instruction set forms a 'first command interpreter' and a 'second command interpreter.'" Also, there is nothing in documents for the Kodak DSC-200 camera provided by Casio in discovery which would indicate that it would to satisfy the limitation that a first command interpreter signals to the host device that it is an input/output device customary in a host device, or that it is a storage device customary in a host device. Instead, Casio's

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description of the Kodak DCS-200 camera indicates that it does not signal that it is an input/output device, or a storage device, customary in a host device. Additionally, according to Casio's description, a host PC would not communicate with any part of the Kodak DCS-200 by means of a driver for an input/output device customary in a host device, or by means of a driver for a storage device customary in a host device. Instead, according to Casio's description, the DCS-200 "needs a software driver to retrieve images stored in the camera's memory."

AS TO OBJECTIONS:

Dated: April 18, 2008

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing PAPST'S OBJECTIONS AND SUPPLEMENTAL ANSWERS TO CASIO INC.'S INTERROGATORY NO. 7 was served on this the 18th day of April, 2008 upon the attorneys for the Defendants as follows:

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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

IN RE PAPST LICENSING GMBH & CO. KG
LITIGATION

This Document Relates To:
ALL CASES

Misc. Action No. 07-493 (RMC)

MDL Docket No. 1880

**MATERIAL
REDACTED**

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

**PAPST’S OBJECTIONS AND ANSWERS TO CAMERA MANUFACTURERS’ FIRST
SET OF INTERROGATORIES (NOS. 1-10)**

Pursuant to Rule 33 of the Federal Rules of Civil Procedure, Defendant Papst Licensing GmbH & Co. KG ("Papst"), objects to and answers the Camera Manufacturers’ (the “Defendants’ ”) First Set of Interrogatories as follows:

GENERAL OBJECTIONS

1. Papst objects to Defendants’ Interrogatories to the extent that they call for information protected by any applicable privilege or doctrine, including without limitation the attorney-client privilege, the work product doctrine and/or information pertaining to Papst counsel’s mental impressions and/or trial preparation materials, any jointly shared privilege, and other protections afforded by Rule 26(b)(4)(B). Papst hereby asserts all such applicable privileges. Papst further objects to identifying such documents created after the commencement of the earliest Casio lawsuit.

2. Papst objects to Defendants’ Interrogatories to the extent that they call for information disclosing confidential or proprietary information, and/or trade secrets of Papst, or information restricted from dissemination because of confidentiality commitments with other

entities or pursuant to court order, statute, or regulation. Without waiving its objections, Papst will produce such information that is reasonably responsive and non-privileged upon the entry of a protective order governing such confidential information, and only after the relevant third-parties are notified of the potential disclosure and provided an opportunity to object to the potential disclosure.

3. Papst objects to Defendants' Interrogatories to the extent that they call for the disclosure of any information that is not reasonably related to the subject matter of this action, that is not relevant to the claims or defenses asserted in this action, that is not reasonably calculated to lead to the discovery of admissible evidence, and/or to the extent that the interrogatories seek to impose discovery obligations beyond those imposed by or permitted under the Federal Rules of Civil Procedure.

4. Papst objects to Defendants' Interrogatories as unduly and unnecessarily burdensome to the extent the requests seek information already in Defendants' possession, custody, or control.

5. Papst objects to Defendants' Interrogatories to the extent the requests, instructions, and/or definitions are unreasonably broad, vague and ambiguous, and/or unduly burdensome.

6. 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.

7. In those instances where the responses to Defendants' interrogatories can be

derived from the business records of Papst 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 Defendants and Papst, Papst will specify the records from which an answer may be ascertained and afford Defendants' 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), in accordance with the Court's protective order.

8. Papst objects to any and all interrogatories to the extent that they are repetitive, overlapping or duplicative. Moreover, Papst may attempt to designate for production relevant documents in response to Defendants' interrogatories. However, by so designating documents, Papst does not represent that the identified documents are the only relevant documents, nor does Papst represent that the identified documents are necessarily the most relevant documents. In addition, the designation of documents is not necessarily exhaustive and other relevant documents may or may not exist. However, Papst will make a good faith effort to identify relevant documents and/or categories of documents as provided in Rules 33 and 34, Fed.R.Civ.P.

9. Papst objects to Defendants' interrogatories to the extent that they request Papst to provide the names of persons with knowledge of certain facts and a summary of each person's knowledge. If known, Papst will identify those persons, or documents from which the identity of those persons may be ascertained, believed to be generally most knowledgeable regarding the requested subjects.

GENERAL OBJECTIONS TO INSTRUCTIONS AND DEFINITIONS

1. Papst objects to Defendants' Instructions and Definitions to the extent they seek to impose obligations beyond those set forth in Rules 26 and 33 of the Federal Rules of Civil Procedure and any applicable local rules. Papst will respond to Defendants' Interrogatories in the

manner required by the Federal Rules of Civil Procedure and applicable local rules.

2. Papst objects to Definition B as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence. Papst further objects to Defendants' Definition B on the ground that the phrase "patent applications that (i) relate to or claim priority to or from any of the applications that led to the Patent-In-Suit or (ii) relate to or claim in whole or in part any of the subject matter disclosed or claimed in the Patents-In-Suit" in the context of this definition is vague and ambiguous.

3. Papst objects to Defendants' Definition C as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence. Papst further objects to Defendants' Definition C on the ground that the phrase "patents, other than the Patents-In-Suit, associated with or granted by the United States or any other jurisdiction that (i) relate to or claim priority to or from any of the applications that led to the Patent-In-Suit or (ii) relate to or claim in whole or in part any of the subject matter disclosed or claimed in the Patents-In-Suit" in the context of this instruction is vague and ambiguous.

4. Papst objects to Defendants' Definition E as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence.

5. Papst objects to Defendants' Definition F as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence.

6. Papst objects to Defendants' Definition G as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence.

7. Papst objects to Defendants' Definition H as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence.

8. Papst objects to Defendants' Definition I as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence in the context of Defendants' interrogatories.

9. Papst objects to Defendants' Instruction F to the extent it seeks to impose obligations beyond those set forth in the Federal Rules of Civil Procedure and any applicable local rules. Papst will respond to Defendants' Interrogatories in the manner required by the Federal Rules of Civil Procedure and applicable local rules.

SPECIFIC OBJECTIONS AND ANSWERS TO INTERROGATORIES

INTERROGATORY NO. 1:

State in full the basis for your contention that each Camera Manufacturer has infringed the Patents-in-Suit, including without limitation, an identification of each claim you contend has been infringed by each Camera Manufacturer (the "asserted claims"), an identification of the products you contend infringe each asserted claim, a claim chart describing where each element of each asserted claim is found in each accused product, and an identification of each document or thing that refers or relates to such alleged infringement.

ANSWER:

Papst objects that Interrogatory No. 1 is premature to the extent 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 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 objects that this interrogatory is premature in 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. Also, at the time of this response, the Camera Manufacturers have not provided design documentation, nor any detailed product specifications, nor software code, for their digital cameras (Papst received a letter indicating that it would receive tens of thousands of documents on the day that these responses are due, but Papst has not had an opportunity to review those documents yet). Nevertheless, and without waiving any of the objections stated herein, 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 identify "the products you contend infringe each asserted claim," Papst objects that, at the time of service of this response, Papst has not had an opportunity to receive discovery from the Camera Manufacturers concerning the individual models each Camera Manufacturer has made and/or sold, or the geographical locations of such manufacturing and sales.

Nevertheless, and without waiving the above objections, 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 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

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

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 objections 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
	Digimax S800

Camera Brand	Model
	Digimax L85
	PRO815

Subject to the above objections 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 objections 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
Casio	EXILIM EX-Z80
	EXILIM EX-Z1200
	EXILIM EX-Z120
	EXILIM EX-Z50

Camera Brand	Model
	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
	EXILIM EX-S3
	EXILIM EX-Z40
	EXILIM EX-Z4/EX-Z4U
	EXILIM EX-S20U

Camera Brand	Model
	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
	FinePix A900
	FinePix A920
	FinePix F480
	FinePix F50fd

Camera Brand	Model
	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
	FinePix F450 ZOOM
	FinePix F810 ZOOM
	FinePix E510 ZOOM
	FinePix F402

Camera Brand	Model
	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
	PHOTOSMART R967
	PHOTOSMART E327/E327V
	PHOTOSMART R727
	PHOTOSMART M417

Camera Brand	Model
	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
	GC-A70
	XA-C210
Olympus	LS-10
	WS-110

Camera Brand	Model
	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
	IR-300
	C-120/D-380
	C-220 Zoom/D-520 Zoom
	C-300 Zoom/D-550 Zoom

Camera Brand	Model
	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
	SP-550 UZ
	E-3
	FE-290
	μ 1020/Stylus 1020

Camera Brand	Model
	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
	SP-350
	FE-200
	FE-115
	μ 750/Stylus 750

Camera Brand	Model
	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
	Lumix DMC-FS5
	Lumix DMC-FX35
	Lumix DMC-LZ10
	Lumix DMC-TZ4

Camera Brand	Model
	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
	Lumix DMC-FZ15
	Lumix DMC-LC80
	Lumix DMC-FZ3
	DMC-LS80

Camera Brand	Model
	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
	Digimax A503
	GX-1L
	Digimax S500
	GX-1S

Camera Brand	Model
	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
	Digimax 301
	Digimax 202
	Digimax (Cyber) 530
	Digimax U-CA 3

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

Camera Brand	Model
	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.

Papst objects to the extent that Interrogatory No.1 could be read to call for a claim chart for each and every potentially infringing device. Such a requirement would be unduly burdensome, as each set of claim charts would be several pages long, and there are hundreds of digital cameras at issue in this case. 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 any of the objections stated herein, in the present response, 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 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

'399 Patent Claims	MSC Digital Cameras
device being arranged for providing analog data, comprising:	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 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.

399 Patent Claims	MSC Digital Cameras
	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 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 an 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

‘399 Patent Claims	MSC Digital Cameras
	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 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

'399 Patent Claims	MSC Digital Cameras
	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 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)

'399 Patent Claims	MSC Digital Cameras
	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 disk driver, and the signal indicates to the host device that the host device is communicating with a hard disk.	Windows XP drivers disk.sys and PartMgr.sys are the same drivers that would be used to communicate with a 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

'399 Patent Claims	MSC Digital Cameras
	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 virtual files which are present on the signaled hard disk drive and which can be accessed from the host device.	The MSC Digital Cameras are believed to comply with, for example, 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

'399 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 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	The interface device of MSC Digital

'399 Patent Claims	MSC Digital Cameras
processor and the memory to include a first command interpreter and a second command interpreter,	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 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

'399 Patent Claims	MSC Digital Cameras
	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 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.
wherein the second command interpreter is	As set forth above, the first command

'399 Patent Claims	MSC Digital Cameras
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.	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 host device, which comprises drivers for input/output devices customary in a host device and a	This claim covers a method of communicating between a host device interface device and a data

'399 Patent Claims	MSC Digital Cameras
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:	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 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.
inquiring by the host device at the interface device	When a MSC Digital Camera is plugged

'399 Patent Claims	MSC Digital Cameras
as to the type of device to which the multi-purpose interface of the host device is attached;	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 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

399 Patent Claims	MSC Digital Cameras
	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 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	A MSC Digital Camera is believed to interpret SCSI Block Commands (SBC) and/or ATAPI commands. For example,

'399 Patent Claims	MSC Digital Cameras
initiating a transfer of the digital data to the host device.	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 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.

'499 Patent Claims	MSC Digital Cameras
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.
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	The interface device is believed to be configured by the processor and a program

'499 Patent Claims	MSC Digital Cameras
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,	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 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

'499 Patent Claims	MSC Digital Cameras
	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 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.

'499 Patent Claims	MSC Digital Cameras
2. An interface device in accordance with claim 1, in which the directory structure 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.	MSC Digital Cameras may include configuration files and files used for 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.

'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 structure to the host PC.
12. An interface device in accordance with	In FAT file systems believed to be used in the

'499 Patent Claims	MSC Digital Cameras
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.	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 with claim 1 wherein the storage device is a hard disk.	The Interface Descriptor sent by the MSC 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

'499 Patent Claims	MSC Digital Cameras
	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 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.

'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 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 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 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). MSC Digital Cameras are believed, for example, to send a signal to the

'499 Patent Claims	MSC Digital Cameras
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, 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 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

499 Patent Claims	MSC Digital Cameras
	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.
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	User manuals for the various MSC Digital Cameras instruct users, including users of

'499 Patent Claims	MSC Digital Cameras
the multi-purpose interface of the host device;	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 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	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,

'499 Patent Claims	MSC Digital Cameras
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	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 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

'499 Patent Claims	MSC Digital Cameras
	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 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	Generally, a preamble is not limiting. This claim covers an interface device as defined in the body

'399 Patent Claims	PTP Digital Cameras
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:	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.
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	The PTP Digital Cameras include a second connecting device comprising a sampling circuit and an analog to digital converter. This circuitry

'399 Patent Claims	PTP Digital Cameras
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,	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).
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	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

'399 Patent Claims	PTP Digital Cameras
device customary in a host device,	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 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

'399 Patent Claims	PTP Digital Cameras
	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 transferred between the data transmit/receive device and the host device.	PTP 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 PTP Digital Cameras may also comprise a memory buffer used during processing of images acquired by the image

'399 Patent Claims	PTP Digital Cameras
	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.
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	The PTP Digital Cameras include first connecting device comprising a Universal Serial Bus (USB) circuit for interfacing the interface

'399 Patent Claims	PTP Digital Cameras
device; and	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 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 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	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

'399 Patent Claims	PTP Digital Cameras
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,	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 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

'399 Patent Claims	PTP Digital Cameras
	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 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.
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	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

‘399 Patent Claims	PTP Digital Cameras
data transmit/receive device, the data transmit/receive device being arranged for providing analog data, via an interface device, comprising:	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 PTP Digital Cameras instruct users, including users of 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	When a PTP Digital Camera is plugged in to a

'399 Patent Claims	PTP Digital Cameras
device as to the type of device to which the multi-purpose interface of the host device is attached;	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	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 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

'399 Patent Claims	PTP Digital Cameras
	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 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.

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.

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:

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 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):

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 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 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 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).

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 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 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 (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. 2:

For each asserted claim of the Patents-in-Suit, if you assert infringement under the doctrine of equivalents, state in full the basis for your contention that each accused product performs substantially the same function in substantially the same way to obtain the same result as the subject matter claimed in the patent, describe the range of equivalents to which you contend the claimed invention is entitled, and state in full the basis for your contention that the claimed invention is entitled to such range of equivalents.

ANSWER:

Papst objects that Interrogatory No. 2 is premature to the extent 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 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 objects that this interrogatory is premature in 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. Also, at the time of this response, the Camera Manufacturers have not provided design documentation, nor any detailed product specifications, nor software code, for their digital cameras (Papst received a letter indicating that it would receive tens of thousands of documents on the day that these responses are due, but Papst has not had an opportunity to review those documents yet). Nevertheless, and without waiving any of the objections stated herein, 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.

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.

INTERROGATORY NO. 3

If you contend that the Camera Manufacturers have infringed the Patents-in-Suit indirectly, state in full the basis for that contention by, without limitation, describing each act performed by each Camera Manufacturer which you contend induced or contributed to infringement, the direct infringement allegedly induced or contributed to by each such act, including the identity of the person committing the direct infringement, and how each such act of inducement or contribution resulted in such direct infringement.

ANSWER:

Papst objects that Interrogatory No. 3 is premature to the extent 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 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 objects that this interrogatory is premature in 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. Also, at the time of this response, the Camera Manufacturers have not provided design documentation, nor any detailed product specifications, nor software code, for their digital cameras (Papst received a letter indicating that it would receive tens of thousands of documents on the day that these responses are due, but Papst has not had an opportunity to review those documents yet). Nevertheless, and without waiving any of the objections stated herein, 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.

Papst objects to the extent that Interrogatory No.3 could be read to call for a claim chart for each and every potentially infringing device. Such a requirement would be unduly burdensome, as each set of claim charts would be several pages long, and there are hundreds of digital cameras at issue in this case. 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 any of the objections stated herein, in the present response, Papst provides claim charts for two representative devices: 1) digital cameras configured to operate in USB Mass Storage mode (“Mass Storage Class Digital Cameras,” or “MSC Digital Cameras”); and 2) digital cameras configured to operate in PTP mode (“PTP Digital Cameras”). Papst believes that discovery to be provided by the Camera Manufacturers will confirm that most, if not all, of the digital cameras-in-suit may be configured to operate as MSC Digital Cameras and as PTP Digital Cameras.

Papst incorporates the response to Interrogatory No. 1, above, by reference as if fully restated herein. 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 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.

INTERROGATORY NO. 4

State what Papst contends to be the proper construction of each claim of the Patents-in-Suit and state in full the basis for each such contention by, without limitation, stating the substance of the proposed construction, identifying any special or uncommon meanings of words or phrases in the claim, and identifying all intrinsic and extrinsic evidence you contend supports your proposed construction.

ANSWER:

Papst objects that Interrogatory No. 4 is premature to the extent 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." At Paragraph 20, the Court orders that: "Papst shall file its Markman hearing brief no later than July 9, 2008," and "Papst may reply no later than July 30, 2008." Papst reserves the right to present its asserted claims, infringement contentions, and proposed claim construction at the times 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. Nevertheless, and without waiving any of the objections stated herein, Papst provides its response based on currently available information.

The response to Interrogatory No. 1, above, is incorporated herein by reference. The remarks concerning the interpretation of claim terms stated in that response are adopted herein.

INTERROGATORY NO. 5

Identify the specific dates of conception and actual reduction to practice for each claim of the Patents-in-Suit (both within the United States and outside of the United States if earlier) and state in full the basis for each such contention, including an identification of each person witnessing and/or participating in the acts of conception and reduction to practice, an identification of any other corroborating evidence, and a statement as to where the alleged acts of conception and reduction to practice occurred.

ANSWER:

Papst objects to this interrogatory as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence.

Papst further objects to this interrogatory to the extent that it calls for a legal conclusion.

Subject to the general objections and the specific objections above which are incorporated herein, and without waiving any of the above objections, Papst answers as follows.

**MATERIAL
REDACTED**

**MATERIAL
REDACTED**

~~FOIA(b)(7)(C), (b)(7)(D)~~

Papst will be providing documents and things that corroborate Mr. Tasler's work to develop his interface device, and will identify those documents that concern the subject matter of this interrogatory.

Papst 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

Describe all transfers of ownership, interest or assignment of each of the Patents-in-Suit by identifying the date of the transfer, the consideration for the transfer, the persons or entities involved, and all documents reflecting or relating to the transfer.

ANSWER:

Subject to the general objections above which are incorporated herein and without waiving any of the above objections, Papst answers as follows. On June 15, 2001, Michael Tasler, in consideration of one dollar "and other good and valuable consideration" assigned to Labortechnik Tasler GmbH, the entire right, title and interest in all U.S. patent applications and the corresponding Patents issued for the invention described as "Flexible Interface" at that time. The specific patent applications thereby assigned include Application No. 09/331,002 which issued as U.S. Patent No. 6,470,399, and Application 10/219,105 which issued as U.S. Patent No. 6,895,449. This assignment document was recorded at the United States Patent Office on July 23, 2001 and has a corresponding reel/frame number of 012023/0515.

On February 28, 2006, LTT Labortechnik Tasler GmbH entered into a contract with Papst Licensing GmbH & Co. KG whereby LTT Labortechnik Tasler GmbH agreed to assign its rights to U.S. Patent No. 6,470,399 and U.S. Patent No. 6,895,449, among other patents and patent applications, in exchange for certain compensation. The details of the compensation are found in the contract that Mr. Tasler signed on February 28, 2006 which Papst will designate under Rule 33(d) after the document is produced. Papst further states that a previous draft of this contract was previously produced to Casio at PAP0013103-PAP0013115.

On March 8, 2006, LTT Labortechnik Tasler GmbH sold, assigned and transferred to Papst Licensing GmbH & Co. KG its entire right, title and interest in and to: United States Patent No. 6,470,399 B1, United States Patent No. 6,895,449 B2, and United States Patent Application No. 11/078,778. This assignment document was recorded at the United States Patent Office on March 15, 2006.

INTERROGATORY NO. 7

For each Patent-in-Suit, describe in detail where, when, how, and by whom the subject matter described in each of its claims was publicly used, publicly disclosed, offered for sale, or sold prior to the filing date of the Patent-in-Suit, along with the factual basis for such dates and all facts and circumstances relating thereto, including, but not limited to, by or to whom such subject matter was first used, first disclosed, first offered for sale, or first sold, and identify each such person involved in such acts (and state each person's role) and identify each document or thing which refers or relates to such acts.

ANSWER:

Papst objects on the ground that the phrase "the subject matter described in each of its claims" and "filing date of the Patent-in-Suit" is vague and ambiguous in the context of this interrogatory. Papst objects to this interrogatory as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence. Papst further objects to the extent that this interrogatory calls for a legal conclusion. Subject to the general and specific objections above which are incorporated herein, and without waiving any of the above objections, Papst answers as follows. Papst is unaware of any public use,

public disclosure, offer for sale or sale of a Tasler product covered by the Patents-In-Suit before the earliest priority filing date of the Patents-In-Suit of March 4, 1997.

**MATERIAL
REDACTED**

incorporated by reference herein

If further information become available that is responsive to this interrogatory, Papst plans 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.

INTERROGATORY NO. 8

State in detail Papst's contentions, and the factual basis for such contentions, as to any "objective evidence" or "secondary considerations" of any alleged non-obviousness of any of the claims of each Patent-in-Suit in accordance with, for example, *Graham v. John Deer Co.*, 383 U.S. 1, 17 (1966), identify each person with knowledge of such prior art or facts, and identify each document or thing which refers or relates to such prior art or such facts.

ANSWER:

Papst objects that this interrogatory is premature in that Defendants have not fully responded to the discovery requests that Papst has served on Defendants. For example, at the time of this response, Defendants have not provided any evidence of their research and development documents which will likely demonstrate a long felt need for the solution addressed by the invention and the failure of others to solve the need addressed by the invention. Papst further objects on the ground that the phrases "identify each person with knowledge of such prior art" and "identify each document or thing which refers or relates to such prior art" is vague and ambiguous in the context of this interrogatory. Papst reserves the right to amend or supplement the present responses after it receives and evaluates any further substantive responses from Defendants.

Subject to the general and specific objections above which are incorporated herein and without waiving any of the above objections, Papst responds as follows

**MATERIAL
REDACTED**

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..

**MATERIAL
REDACTED**

Papst has accused many other Casio models and many other models from the other Defendants, but Papst has not yet received the corresponding U.S. or worldwide sales numbers for those models. Papst incorporates by reference herein its answers to Interrogatory Nos. 1, 3 and 4 above.

INTERROGATORY NO. 9

State in detail each argument, claim, or contention that has ever been asserted by any entity that any claim of the Patents-in-Suit is invalid, unenforceable, or not infringed, identify the party making such argument, claim or contention, identify all prior art asserted in each such argument, claim, or contention, identify each person having knowledge of facts relating to each argument, claim, or contention, and identify each document or thing which relates to such facts.

ANSWER:

Papst objects to this interrogatory as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence. Papst further objects to this interrogatory to the extent that it calls for information protected by any applicable privilege or doctrine, including without limitation the attorney-client privilege, the work product doctrine and/or information pertaining to Papst counsel's mental impressions and/or trial preparation materials, any jointly shared privilege, and other protections afforded by Rule 26(b)(4)(B). Subject to all the general and specific objections above which are incorporated herein

and without waiving any of the above objections, non-privileged documents that identify the arguments, claims and contentions by specific third-parties that certain claims of the Patents-In-Suit are invalid, unenforceable, or not infringed have been provided to one of the Camera Manufacturers in this action, Casio, and further documents will be produced in response to defendants' production requests. Pursuant to Rule 33(d), Papst previously identified such documents to Casio. See, Ex. A attached. Papst further states that it soon will be producing additional such documents responsive to this interrogatory, and also will identify those documents under Rule 33(d). Papst asserts that all such documents are protected in accordance with Rule 802 of the Federal Rules of Evidence. Papst further states that Casio's original and supplemental answers to interrogatories served on Papst in United States District Court for the District of Columbia, Docket No. 06-cv-1751, have further identified its arguments, claims and contentions that the claims of the Patents-in-Suit are invalid, unenforceable and/or not infringed. Papst assumes that Casio has already shared its original and supplemental answers to interrogatories with all of the Camera Manufacturers by this time given the Court's orders requiring cooperation between the Defendants. If not, Papst will produce Casio's interrogatory answers to the Camera Manufacturers upon written request. Papst incorporates by reference herein its answers to Interrogatory Nos. 1, 3 and 4 above.

INTERROGATORY NO. 10

Separately for each asserted claim, state the date on which Papst first became aware that each Camera Manufacturer was allegedly infringing each such claim and the circumstances surrounding Papst's acquisition of such knowledge, identify each person who became aware that each Camera Manufacturer was allegedly or might be infringing the Patents-in-Suit, identify each document or thing which refers or relates to such facts, and explain all of the reasons for any delay between the date on which Papst first became aware of the alleged infringement and the date Papst filed suit against each Camera Manufacturer.

ANSWER:

Papst objects to this interrogatory as overly broad, unduly burdensome, and as calling for irrelevant information not reasonably calculated to lead to the discovery of admissible evidence. Papst further objects to this interrogatory to the extent that it calls for information protected by any applicable privilege or doctrine, including without limitation the attorney-client privilege, the work product doctrine and/or information pertaining to Papst counsel's mental impressions and/or trial preparation materials, any jointly shared privilege, and other protections afforded by Rule 26(b)(4)(B). Papst further objects on the basis that the phrases "the date on which Papst first became aware" and "each person who became aware that each Camera Manufacturer was allegedly or might be infringing the Patents-In-Suit" are vague and ambiguous in the context of this interrogatory. Papst further objects to this interrogatory on the grounds that the requested information concerns the doctrine of laches which is irrelevant in this case because Papst did not learn of the patents-in-suit until some unknown time in 2004 at the earliest and because Papst was not assigned the rights to enforce the Patents-In-Suit until 2006. *See, e.g., A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1032 (Fed. Cir. 1992) (en banc)(A presumption of laches only arises "upon proof that the patentee delayed filing suit for more than six years after actual or constructive knowledge of the defendant's alleged infringing activity.").

Subject to all the general and specific objections above which are incorporated herein and without waiving any of the above objections, Papst does not know when it specifically first became aware that each Camera Manufacturer was allegedly infringing each claim, but it would have been sometime between 2004 and the time each Camera Manufacturer was provided with its written notice of infringement by Papst's attorneys, Welsh & Katz, Ltd. Papst's attorneys provided Casio Inc., the Hewlett-Packard Company, the Olympus Corporation, and the Samsung Corporation with written notice of infringement of its products on March 14, 2006. Papst's

attorneys provided Fuji Photo Film USA, Inc. with written notice of infringement of its products on March 31, 2006. Papst's attorneys provided Panasonic Corporation of North America and Matsushita Electric Ind. Co., Ltd. with written notice of infringement of its products on April 26, 2006. Papst's attorneys provided Ricoh Company Ltd. with written notice of infringement of its products on April 28, 2006.

AS TO OBJECTIONS:

Dated: May 7, 2008

/s/ Jerold B. Schnayer

James P. White

Jerold B. Schnayer

Joseph E. Cwik

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Attorneys for Papst Licensing GmbH & Co. KG

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing PAPST'S OBJECTIONS AND ANSWERS TO CAMERA MANUFACTURERS' FIRST SET OF INTERROGATORIES (NOS. 1-10) was caused to be served on this the 7th day of May, 2008 upon the attorneys for the Camera Manufacturers via e-mail in .pdf format as follows:

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/s/ Jerold B. Schnayer

Attorney for Papst Licensing GmbH & Co. KG

EXHIBIT A

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GERALD S. SCHUR
GERALD T. SHEKLETON
JAMES A. SCHEER
DANIEL R. CHERRY
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JAMES P. WHITE
R. MARK HALLIGAN
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EDWARD P. GAMSON, Ph.D.
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JON P. CHRISTENSEN
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June 29, 2007

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LAURA A. LABEOTS, Ph.D.

DONALD L. WELSH (1925-1998)

* ALSO ADMITTED IN DISTRICT OF COLUMBIA
** ALSO ADMITTED IN ALABAMA

VIA E-MAIL

Jeffrey Gold, Esq.
Morgan Lewis & Bockius, LLP
101 Park Avenue
New York, New York 10178

Re: Casio Inc. v. Papst Licensing, Case No. 1:06 CV 011751 (GK)

Dear Jeffrey:

In response to Casio Inc. Interrogatory No. 2, Papst hereby identifies the following documents pursuant to Rule 33(d):

Beginning Bates No. For Each Document	End Bates No. For Each Document
PAP0001093	PAP0001355
PAP0002914	PAP0002914
PAP0002915	PAP0002919
PAP0002920	PAP0002923
PAP0002924	PAP0002929
PAP0002930	PAP0002934
PAP0002935	PAP0002935
PAP0002936	PAP0002941
PAP0002942	PAP0002960
PAP0002961	PAP0003352
PAP0003353	PAP0003353
PAP0003354	PAP0003367
PAP0003368	PAP0003474
PAP0003475	PAP0003525

EXHIBIT A

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PAP0003526	PAP0003667
PAP0003668	PAP0003669
PAP0003670	PAP0003670
PAP0003671	PAP0003676
PAP0003677	PAP0003723
PAP0003724	PAP0003724
PAP0003725	PAP0004091
PAP0004092	PAP0004094
PAP0004095	PAP0004098
PAP0004099	PAP0004102
PAP0004103	PAP0004105
PAP0004106	PAP0004108
PAP0004109	PAP0004110
PAP0004111	PAP0004113
PAP0004114	PAP0004114
PAP0004115	PAP0004117
PAP0004118	PAP0004120
PAP0004121	PAP0004124
PAP0004125	PAP0004127
PAP0004128	PAP0004129
PAP0004130	PAP0004131
PAP0004132	PAP0004134
PAP0004135	PAP0004136
PAP0004137	PAP0004142
PAP0005150	PAP0005159
PAP0005160	PAP0005198
PAP0005199	PAP0005209
PAP0005210	PAP0005235
PAP0005236	PAP0005242
PAP0005243	PAP0005263
PAP0005264	PAP0005275
PAP0005276	PAP0005288
PAP0005289	PAP0005296
PAP0005297	PAP0005427
PAP0005428	PAP0005529
PAP0005530	PAP0005537
PAP0005538	PAP0005560
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PAP0005634	PAP0005641
PAP0005642	PAP0005665
PAP0005666	PAP0005690
PAP0005691	PAP0005706
PAP0005707	PAP0005718
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PAP0005731	PAP0005744
PAP0005745	PAP0005758
PAP0005759	PAP0005772
PAP0005773	PAP0005780
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PAP0005805	PAP0005827
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EXHIBIT A

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PAP0005837	PAP0005846
PAP0005847	PAP0005859
PAP0005860	PAP0005882
PAP0005883	PAP0005898
PAP0005899	PAP0005926
PAP0005927	PAP0005942
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PAP0013856	PAP0013873

In response to Casio Inc. Interrogatory No. 4, Papst hereby identifies the following documents pursuant to Rule 33(d):

Beginning Bates No. For Each Document	End Bates No. For Each Document
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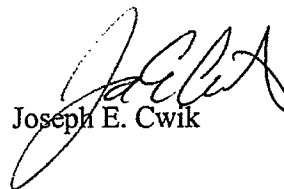
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By:



Joseph E. Cwik

JEC/pm

cc: Jerold B. Schnayer
Campbell Killefer

EXHIBIT 4

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

IN RE PAPST LICENSING GMBH & CO.
KG LITIGATION

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

Misc. Action No. 07-493 (RMC)

MDL Docket No. 1880

**PAPST LICENSING GMBH & CO. KG'S THIRD SUPPLEMENTAL ANSWERS TO
CASIO INC.'S FIRST SET OF INTERROGATORIES (NO. 5)**

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, and Papst's Second Supplemental Answers to Casio's First Set of Interrogatories served on May 9, 2008.
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, or not reasonably calculated to lead to the discovery of admissible evidence.

ANSWERS TO INTERROGATORIES

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 the art area relates to the transfer of data and in particular to interface devices for communications between a computer or host device and a data transmit/receive device from which data is to be acquired or with which two-way communication is to take place. *See*, United States Patent No. 6,470,399, Col. 1, ln. 9-14; United States Patent No. 6,895,449, Col. 1, ln. 12-17.

A person having ordinary skill in this field would have practical experience sufficient to provide an understanding of communications protocols between computers and computer peripheral devices, and the ability to read and understand specifications relating to such communications and protocols. A person having ordinary skill in this

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field would also have basic computer programming skills. A typical educational background would include an undergraduate degree in electrical engineering and/or computer sciences. However, as evidenced by Mr. Tasler's educational background (including degrees in physics), an undergraduate degree in electrical engineering and/or computer sciences is not absolutely necessary, as long as there is sufficient practical experience.

Papst reserves its right to later amend and/or supplement this response, 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.

Dated: May 14, 2008

AS TO PRELIMINARY STATEMENTS
AND GENERAL OBJECTION:

/s/ Joseph E. Cwik

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Jerold B. Schnayer

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**Attorneys Papst Licensing GmbH & Co.
KG**

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing PAPST'S THIRD SUPPLEMENTAL ANSWERS TO CASIO INC'S FIRST SET OF INTERROGATORIES was caused to be served on this the 14th day of May, 2008 upon the attorneys for the Camera Manufacturers via .pdf format as follows:

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