IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ST. CLAIR INTELLECTUAL PROPERTY CONSULTANTS, INC., Plaintiff, v. MATSUSHITA ELECTRONIC INDUSTRIAL CO., LTD., et al., Defendants.	:	Civil Action No. 04-1436-JJF-LPS
ST. CLAIR INTELLECTUAL PROPERTY CONSULTANTS, INC., Plaintiff, v. VERIZON COMMUNICATIONS, INC., et al., Defendants.	:	Civil Action No. 06-403-JJF-LPS
ST. CLAIR INTELLECTUAL PROPERTY CONSULTANTS, INC., Plaintiff, v. PALM, INC., et al., Defendants.	:	Civil Action No. 06-404-JJF-LPS

ST. CLAIR INTELLECTUAL PROPERTY CONSULTANTS, INC., Plaintiff, v. RESEARCH IN MOTION, LTD., et al., Defendants.	:	Civil Action No. 08-371-JJF-LPS
ST. CLAIR INTELLECTUAL PROPERTY CONSULTANTS, INC., Plaintiff, v. FUJIFILM HOLDINGS CORPORATION, et al., Defendants.	:	Civil Action No. 08-373-JJF-LPS

REPORT AND RECOMMENDATION
REGARDING CLAIM CONSTRUCTION

In these patent infringement actions I have been asked to provide recommended constructions of numerous claim terms from multiple patents. Many of the claim terms now in dispute have been previously construed by this Court in earlier litigation. Below I provide the constructions I recommend that the Court adopt in the instant cases.

I. Background

A. The Patents-In-Suit

In these actions, St Clair asserts six patents: (i) U.S. Patent No. 5,576,757 ("the '757 patent"), issued on November 19, 1996; (ii) U.S. Patent No. 6,094,219 ("the '219 patent"), issued on July 25, 2000; (iii) U.S. Patent No. 6,233,010 ("the '010 patent"), issued on May 15, 2001; (iv) U.S. Patent No. 6,323,899 ("the '899 patent"), issued on November 27, 2001; (v) U.S. Patent No. 5,138,459 ("the '459 patent"), issued on August 11, 1992; and (vi) U.S. Patent No. 6,496,222 ("the '222 patent"), issued on December 17, 2002.

Four of the patents – the '757, '219, '010, and '459 – share the same title: "Electronic Still Video Camera With Direct Personal Computer (PC) Compatible Digital Format Output." The '899 patent is entitled "Process for Use In Electronic Camera." The '222 patent is entitled "Digital Camera with Memory Format Initialization."

The inventors on each of the patents are Marc K. Roberts, Matthew A. Chikosky, and Jerry A. Speasl. Collectively, the patents-in-suit are referred to as the "Roberts Patents." The Roberts Patents share a common specification. (D.I. 258 at 2)[1]

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[1]The column and line numbers differ from one patent to another because the preliminary information, e.g., bibliography, is different. Because it would be cumbersome to cite six specifications for each point, this Report & Recommendation typically cites to just a single specification at a time. Each of the Roberts Patents appear as exhibits to the parties' Joint Claim Construction Chart (D.I. 248) as follows: '459 patent is Exhibit A; '757 patent is Exhibit B; '219 patent is Exhibit C; '010 patent is Exhibit D; '899 patent is Exhibit E; and '222 patent is Exhibit F.

Unless otherwise noted, all references to Docket Index (D.I.) numbers are to entries in the docket for C.A. No. 04-1436-JJF-LPS.

B. The Technology At Issue

Each of the six patents-in-suit relate to digital camera technology. Judge Farnan has generally described the technology at issue as follows:

> . . . Using the patented cameras, analog image signals are converted into their digital equivalents. The digital equivalents are then compressed into a user-determined format and saved for later decompression and use with a personal computer.
>
> Under the conventional prior art, electronic still cameras produced analog equivalents for a captured image. Using this prior art, the conversion of the analog equivalent into a digital format for use with personal computers was expensive and burdensome. The object of the patents-in-suit was to create the more facile conversion of analog images into digital formats for utilization with personal computers.

St. Clair Intellectual Property Consultants, Inc. v. Canon Inc., 2004 WL 1941340, at *1 (D. Del. Aug. 31, 2004) (hereinafter "*Canon Construction*"). Judge Farnan has further observed that several of the Roberts Patents cover electronic cameras that can save digital photographs in multiple memory formats for use on personal computers. *See St. Clair Intellectual Property Consultants, Inc. v. Sony Corporation*, 2002 WL 31051605, at *1 (D. Del. Sept. 3, 2002) (hereinafter "*Sony Construction*"). [2]

C. Disputed Claim Terms

The parties present seven groupings of disputed claim terms for the Court's construction:

(1) "***plurality of different data formats for different types of computer apparatus***" ('459 patent, claim 16; '219 patent, claim 10) and variations thereof ('010 patent, claim 1; '899

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[2]The 2002 *Sony Construction* and 2004 *Canon Construction* construed claims from four of the Roberts Patents: the '459, '219, '010, and '899 patents. The '757 and '222 patents were not asserted in the earlier cases.

patent, claims 1 and 3; '219 patent, claims 1 and 16);

(2) "***electronic camera***" ('219 patent, claims 1, 10, and 16; '899 patent, claims 1 and 3) and "***digital camera***" ('010 patent, claim 1);

(3) "***image***" ('459 patent, claim 16; '219 patent, claims 1, 10, and 16; '010 patent, claim 1) and related terms ('899 patent, claims 1 and 3);

(4) "***storage device***" ('899 patent, claims 1 and 3), "***digital memory***" ('459 patent, claim 16), and "***memory element***" ('219 patent, claim 1);

(5) "***generating***," "***converting***," "***selecting***," and "***storing***" ('459 patent, claim 16);

(6) claims one party contends are means-plus-function claims: "***image pick-up unit***" ('010 patent, claim 1; '899 patent, claims 1 and 3), "***memory means***" ('219 patent, claims 10 and 16), "***analog to digital converter means***" ('219 patent, claim 16), and "***logic means***" ('219 patent, claims 10 and 16); and

(7) claims the parties agree are means-plus-function claims: "***output data [format] control means***" ('219 patent, claims 1, 10, and 16), "***means for digitizing captured image data***" ('219 patent, claims 1 and 10), "***[picture] image resolution determining means***" ('219 patent, claims 12 and 17), and "***means for capturing image data corresponding to a selected image***" ('219 patent, claim 10).

In the *Sony Construction* and the *Canon Construction*, Judge Farnan construed many of the terms the parties dispute in the instant actions. Where applicable, these prior constructions are discussed throughout this Report & Recommendation.

D. Procedural History

The parties filed a Joint Claim Construction Chart on April 9, 2009 (D.I. 166) (hereinafter "JCCC") and, thereafter, briefed their respective positions. The parties presented tutorials to the Court as well as their arguments on claim construction on June 11, 2009. (D.I. 311) (hereinafter "Tr.")

II. Legal Standards

"It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotation marks omitted). Construing the claims of a patent is a question of law. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977-78 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 388-90 (1996). "[T]here is no magic formula or catechism for conducting claim construction." *Phillips*, 415 F.3d at 1324. Instead, the court is free to attach the appropriate weight to appropriate sources "in light of the statutes and policies that inform patent law." *Id.*

"[T]he words of a claim are generally given their ordinary and customary meaning . . . [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1312-13 (internal citations and quotation marks omitted). "[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Id.* at 1321 (internal quotation marks omitted). The patent specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of

a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

While "the claims themselves provide substantial guidance as to the meaning of particular claim terms," the context of the surrounding words of the claim also must be considered. *Phillips*, 415 F.3d at 1314. Furthermore, "[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment . . . [b]ecause claim terms are normally used consistently throughout the patent . . . ." *Id.* (internal citation omitted).

It is likewise true that "[d]ifferences among claims can also be a useful guide . . . . For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id.* at 1314-15 (internal citation omitted). This "presumption is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim." *SunRace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003).

It is also possible that "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316. It bears emphasis that "[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (internal quotation marks omitted), *aff'd*, 481 F.3d 1371 (Fed. Cir. 2007).

In addition to the specification, a court "should also consider the patent's prosecution

history, if it is in evidence." *Markman*, 52 F.3d at 980. The prosecution history, which is "intrinsic evidence," "consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent." *Phillips*, 415 F.3d at 1317. "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

A court also may rely on "extrinsic evidence," which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980. For instance, technical dictionaries can assist the court in determining the meaning of a term to those of skill in the relevant art because such dictionaries "endeavor to collect the accepted meanings of terms used in various fields of science and technology." *Phillips*, 415 F.3d at 1318. In addition, expert testimony can be useful "to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field." *Id.* Nonetheless, courts must not lose sight of the fact that "expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence." *Id.* Overall, while extrinsic evidence "may be useful" to the court, it is "less reliable" than intrinsic evidence, and its consideration "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Id.* at 1318-19.

Finally, "[t]he construction that stays true to the claim language and most naturally aligns

with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that "a claim interpretation that would exclude the inventor's device is rarely the correct interpretation." *Osram GmbH v. Int'l Trade Comm'n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007) (internal quotation marks omitted). Thus, if possible, claims should be construed to uphold validity. *See In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984).

III. Construction Of Disputed Claim Terms

A. Whether the patents require one-to-one correspondence of file format with computer hardware architecture?

(Construction of category (1) claim terms: "*plurality of different data formats for different types of computer apparatus*" and variations thereof)

The parties' first dispute centers on whether the patents-in-suit require what has been referred to as a "one-to-one correspondence" between file formats and computer hardware architecture. St. Clair contends that the claim terms are not limited to such a one-to-one correspondence. Therefore, St. Clair proposes that the disputed claim term "plurality of different data formats for different types of computer apparatus" be construed as:

> a plurality of different data formats for different types of computer apparatus where: (1) a 'data format' is the arrangement of digital data in a file including image, audio, text or other data and includes, at least, MPEG, JPEG, GIF, TIFF, PICT, BMP, JFIF, DCF, TXT, DOC, WPD and WAV, and (2) a 'computer apparatus' is a computer and any operating system or application software loaded on the computer.

Judge Farnan has adopted St. Clair's proposed construction twice before. *See Canon Construction*, 2004 WL 1941340, at *2-4; *Sony Construction*, 2002 WL 31051605, at *2.

Defendants, on the other hand, insist that the patents require the one-to-one correspondence. Accordingly, they propose that "plurality of different data formats for different types of computer apparatus" be construed as "two or more different arrangements of digital data in a file, wherein each different arrangement is in one-to-one correspondence with a particular type of computer architecture (*e.g.*, IBM PC/Clone or Apple Macintosh)." (D.I. 259 at 7)

On this dispute I agree with St. Clair. Having reviewed the claims, the specification, the prosecution history (including that generated during the re-examinations), and the extrinsic evidence of record, I conclude that the patents-in-suit are not limited to the one-to-one correspondence Defendants propose.

As an initial matter, Defendants are correct that Judge Farnan's two prior claim construction rulings are not dispositive. Among the Defendants contesting claim construction here are parties who were not parties to the prior actions and who are not barred by collateral estoppel or res judicata from pursuing their proposed constructions here. *See Novartis Pharms. Corp. v. Abbott Labs.*, 375 F.3d 1328, 1333 (Fed. Cir. 2006).[3] Also, Defendants here have a non-frivolous argument that the intrinsic evidence has expanded – due to reexamination proceedings with respect to four of the patents-in-suit – and that the applicable legal framework may have changed as well (since both the *Sony Construction* and the *Canon Construction* pre-date *Phillips*). Hence, I have undertaken my own analysis and have reached my own conclusions. Having conducted my own review, I find that I agree with Judge Farnan's prior conclusion and, like him, I reject Defendants' proposed limitation of a one-to-one correspondence.

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[3]I make no ruling at this time as to whether any party before the Court in the current actions who was also a party in a prior action is bound by a claim construction order entered in a prior case.

Importantly, there is no reference in the asserted claims to a "one-to-one correspondence" between a file format and a particular type of computer architecture. Indeed, as St. Clair emphasizes, the claims "don't mention IBM, don't mention Macintosh, don't mention architecture." Tr. at 67. Hence, there is no indication in the claims themselves that the claims require a one-to-one correspondence.

Nor does the specification mention a "one-to-one correspondence." To the contrary, the specification demonstrates that the inventors understood that while certain relationships were predominant between particular file formats and particular computer architectures, these predominant relationships were not the only relationships the claimed invention could accommodate.[4] The specification states:

> The compressed digital frame is then formatted into either an IBM PC/Clone (such as GIFF) or Apple Macintosh (such as PICT II) image file format depending on the setting selected by the operator for a user switch 17 . . . .

'010 patent, col. 4 lines 61-65 (emphasis added). In writing that an IBM PC user, for instance, would want data files in a format "such as GIFF," the inventors recognized that while an IBM PC user might likely want data files in a GIFF format, she might also want them in a format other than GIFF.

Similarly, the specification states:

> It should be noted that a large number of image formats for PCs

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[4]Defendants observe that in connection with claim construction in the *Canon* litigation, St. Clair stated: "in the experience of most consumers of digital photography in 1990 . . . IBM equal[ed] GIF and Apple equal[ed] PICT." (D.I. 282 at Defs. Ex. E at 8) This marketplace reality is neither disputed nor relevant. The issue is not what a consumer thought in 1990; rather, it is how one having ordinary skill in the art would have read the asserted claims of the Roberts Patents at that time.

> exist. PICT and GIFF are the most common for the Apple and IBM PC's and are therefore the preferred formats for the present invention although other formats can be easily incorporated into the design by changing the software format routines. These software image formats are commercially available from many sources most notably Apple computers for PICT and IBM for GIFF.

'459 patent, col. 11 lines 36-44 (emphasis added)

As St. Clair explains, the Roberts Patents are addressed to resolving multiple problems in the prior art: one involving software and one involving hardware:

> The inventors identified two distinct shortcomings in the prior art. First, the inability of digital cameras to allow users a choice of multiple image files for immediate use in various computer applications. Second, hardware incompatibilities such as different storage or memory formats between IBM and Apple computers. The inventors sought and obtained different claims which separately address each short-coming.

(D.I. 172 at 15) "[T]he asserted claims address the first shortcoming, i.e., the failure of prior art cameras[] . . . to allow users the ability to select in the camera between at least two of many common image file formats such as JPEG, GIF, TIFF, PICT, MPEG, BMP, and JFIF which are designed for use by any number of computer programs." *Id.* Other – unasserted – claims relate to the second issue: hardware incompatibility.[5] In this way, the specification again supports St. Clair: software and hardware problems are addressed separately by separate claims of the Roberts Patents; nowhere is the software problem addressed by requiring a one-to-one correspondence between a file format and a type of computer architecture. There is no requirement that the

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[5]*See, e.g.*, D.I. 172 at 20 (citing '222 patent, claims 1-12, ensuring diskette in camera is compatible with "memory format" used with particular hardware brand); '459 patent, claims 7 and 11; '219 patent, claims 7, 11, 14, and 15; '757 patent, claim 10 (all foregoing being dependent claims focusing on selection of particular memory, data storage, or hardware formats)).

asserted claims accomplish all of the objectives of the patents-in-suit. *See Phillips*, 415 F.3d at 1327 ("We have held that the fact that a patent asserts that an invention achieves several objectives does not require that each of the claims be construed as limited to structures that are capable of achieving all of the objectives.") (internal quotation marks and citations omitted).

On this point, too, I agree with Judge Farnan. In the *Canon Construction*, Judge Farnan wrote:

> . . . The specification of the '459 patent explains that the patent is directed to the incorporation of digital image files into different software applications. As the Background of the Invention explains:
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> > The digital diskette is removable from the electronic camera for direct insertion into a PC which contains the previously loaded corresponding decompression algorithm whereby the digital image is in a format compatible *for immediate use with word processing, desk top publishing, data base, and multi-media applications*.
>
> '459 patent, col. 1, 11. 19-25 (emphasis added). Describing the problem addressed by the '459 patent and distinguishing the claimed invention from the prior art, the specification further explains that "with the current state of the art, it is expensive and time consuming to convert the analog image equivalent to a digital format for direct utilization with *PC software applications*." '459 patent, col. 1, ll. 57-60 (emphasis added). The objective of the patent to provide compatibility with different types of software is also confirmed in the Summary of the Invention, which explains that "[i]t is a further object of this invention to provide an improved electronic still camera that provides digital image files for immediate and direct incorporation into popular word processing, desktop publishing, and other software programs on PCs." '459 patent, col. 2, 11. 15-19. The specification goes on to discuss the selection of software formats in the patented camera, further demonstrating that the patent is not limited to the computer architecture problem. '459 patent, col. 4, 1. 68-col. 5, l. 9; col. 11, ll. 32-49.

2004 WL 1941340, at *3.

Defendants point to Figure 6 of the specification, which depicts switch 17 as enabling the user to choose between "IBM" and "Apple" formats, as purported support for their construction. (D.I. 259 at 16) (citing '459 patent, JCCC Ex. A at STCLR000006) However, Figure 6 is a preferred embodiment. *See* '459 patent, col. 3 lines 23-24 ("FIG. 6 is an example of the control panel logic in accordance with one aspect of the present invention."); *id.* col. 3 lines 62-63 & col. 6 lines 42-54 (stating, in "DESCRIPTION OF THE PREFERRED EMBODIMENT," "The user must then select the desired PC format (IBM PC/Clone or Apple Macintosh, etc.) via switch 17 (FIG. 6) on the control panel 2."). It would be improper to import this feature of the preferred embodiment into the claim. *See Liebel-Flarsheim,* 358 F.3d at 906.

Defendants also find support for their proposed construction in the prosecution history, most particularly in the reexaminations of four of the Roberts Patents that occurred subsequent to Judge Farnan's issuance of the *Sony Construction* and the *Canon Construction.* In the course of these reexaminations, various PTO Examiners stated or suggested that they disagreed with this Court's construction of the "plurality of data formats" terms.[6] The PTO allowed the claims to

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[6]The '459 and '219 patents proceeded through reexamination at approximately the same time as one another. Tr. at 89. In allowing the reexamined claims to stand, the PTO noted in its "Statement of Reasons for Patentability and/or Confirmation:"

> Roberts et al. explicitly state that switch 17 on the control logic panel of figure 6 is provided for allowing a user to select between image file formats (PICT II, GIFF, etc.) for formatting a compressed digital image into a selected file format, wherein the image file formats provided for selection (PICT II or GIFF) are in one-to-one correspondence with a particular type of computer system (Apple Macintosh or IBM PC, respectively) . . . . In other words, Roberts et al. DO NOT provide selecting between various sub-species on the same computer species . . . . Roberts et al.

emerge from reexamination without amendment based, at least in part, on the PTO's interpretation of the claims as being limited to a one-to-one correspondence.

I agree with Defendants that the reexamination history needs to be considered in connection with construing the claims. *See, e.g.*, Tr. at 111 ("[W]e're not suggesting that you are bound [by what] happened in the re-exam. But we are suggesting that it's an important part of the intrinsic record."). I do not, however, agree with the conclusion Defendants would have this Court draw from that history.

Statements by patentees and Examiners are part of a patent's prosecution history, which is intrinsic evidence a court should consider in construing patent claims. *See SRAM Corp. v. AD-II Eng'g, Inc.*, 465 F.3d 1351, 1359 (Fed. Cir. 2006); *Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1345 (Fed. Cir. 2005). This is as true of statements made during a reexamination as it is of statements made during the initial prosecution. *See Laitram Corp. v. NEC Corp.*, 952 F.2d 1357, 1361 (Fed. Cir. 1999). This is one reason courts sometimes stay patent litigation pending the

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> disclose and precisely claim selecting an image file format (PICT II, GIFF, etc.) from a plurality of image file formats for formatting a digital image into the selected image file format, wherein each of the image file formats provided for selection (PICT II or GIFF) are in one-to-one correspondence with a particular type of computer system (Apple Macintosh or IBM PC).

JCCC, Defs. Ex. 6 at ¶¶ 3, 6.

The '010 and '899 patents proceeded on essentially the same schedule as one another. *See* Tr. at 89, 115. They emerged from reexamination without amendment – but only after the PTO expressly distinguished its claim construction from that previously adopted by this Court. *See* JCCC Defs. Ex. 30 at 2-3 ("[I]n light of the disclosure a very different interpretation tha[n] that adopted by the court must be made. . . . [I]n light of the specification, the claim limitation 'formatting the digital image signal in one of a plurality of computer image formats' is interpreted to mean formatting the image signal as one of an IBM PC/Clone, Apple Macintosh, or other PC Format.") (emphasis added). At no point did the patentees indicate agreement with the PTO's construction.

resolution of a simultaneous reexamination. *See, e.g.*, *Procter & Gamble Co. v. Kraft Foods Global, Inc.*, 549 F.3d 842, 848 (Fed. Cir. 2008). Also consistent with this conclusion is the Federal Circuit's guidance to district courts (at least in the context of preliminary injunction motions) to "monitor the proceedings before the PTO to ascertain whether its construction of any of the claims has been impacted by further action at the PTO or any subsequent proceedings." *Kraft*, 549 F.3d at 848.

There are important differences, however, between the legal standard applicable to claim construction before the PTO and claim construction before an Article III Court. A PTO Examiner construing claims is required apply the broadest reasonable construction consistent with the specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997); *see also In re American Academy of Science Tech Center*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) ("The broadest reasonable construction rule applies to reexamination as well as initial examinations.") (internal quotation marks omitted). Courts do not apply this "broadest reasonable construction" rule. Also, before the PTO, any ambiguity or excessive breadth in a patent claim may be corrected by amending the claim. *See Burlington Indus. Inc. v. Quigg*, 822 F.2d 1581, 1583 (Fed. Cir. 1987). This is not a possible outcome of judicial claim construction.

That the PTO is required by law to apply the broadest reasonable construction does not mean, however, that the PTO's claim construction is, *per se*, the broadest reasonable construction. The PTO – like a court – may make mistakes. *See SRAM*, 465 F.3d 1351, 1359 (Fed. Cir. 2006) (finding that PTO "paradoxically" failed to give disputed claim term its broadest reasonable construction and construed claim in an improperly narrow manner).

Hence, once claim construction is before a court, the court is obligated to construe claims

de novo as a matter of law, without according any deference to the PTO's construction. *See SRAM*, 465 F.3d at 1359 (noting *de novo* standard of judicial review and rejecting construction adopted by district court and by PTO Examiner – after three reexaminations); *see also Salazar*, 414 F.3d at 1343, 1347-48 ("[T]he examiner's unilateral remarks did not alter the scope of the claim. An examiner's statements cannot amend a claim."); *Inverness Med. Switzerland v. Princeton Biomeditech Corp.*, 309 F.3d 1365, 1372-73 (Fed. Cir. 2002) (rejecting contention that statement in examiner's Reasons for Allowance governed construction of disputed claim term).[7]

Having reviewed the extensive prosecution history here, including especially the history generated during the reexaminations, I conclude that the "plurality of data formats" terms should be construed in a manner so as to not require the one-to-one correspondence proposed by Defendants. I have considered the portions of the specification on which the PTO relied in reaching its contrary conclusion and continue to believe, as this Court has previously ruled, that the patent does not require a one-to-one correspondence.[8] Although the PTO appears to have

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[7]Of course, a district court can – and must – adopt the same construction as the PTO when the court concludes for itself that the PTO's construction is correct. *See, e.g., Biogen, Inc. v. Berlex Labs., Inc.*, 318 F.3d 1132, 1140 (Fed. Cir. 2003) (affirming district court's construction, which itself was consistent with PTO Examiner's view that scope of disputed term had been limited during prosecution, as advocated by alleged infringer).

[8]*See* JCCC Defs. Ex. 30 at 2 & Defs. Ex. 27 at 2 ("Examiner believes the confusion of the interpretation of the claim language arises out of the apparent disclosure that a user is selecting between two different image file types, such as between GIFF or PICT II. However, upon further inspection of the disclosure this is not found to be the case. Examiner notes that the disclosure goes on to teach that the user selects 'the desired PC format (IBM PC/Clone or Apple Macintosh, etc.) via switch 17 (Fig. 6) on the control panel 2.' (column 6, lines 42-25) As such, a user is selecting between the PC format by using switch 17, not the image file type."); JCCC Defs. Ex. 30 at 3 & Defs. Ex. 27 at 3 ("In looking at the disclosure on the whole a user is given an option for selecting between PC formats by using switch 17, wherein a particular image file type is assigned to each of the PC formats. . . . There is no disclosure in the Roberts et al. patents to suggest that once the user selects that the image is to be output as an IBM PC/Clone, for

found such a limitation in construing the disputed claims under the "broadest reasonable construction" standard, I accord the PTO's views on claim construction no deference.[9] I do not find support in the claims or the specification for the one-to-one correspondence limitation and I am not persuaded by the reexamination history that I am wrong.

Accordingly, I recommend that the Court construe the disputed "plurality of data formats" claim terms in the manner proposed by St. Clair, and reject the one-to-one correspondence limitation proposed by Defendants.[10]

B. Whether the patents are limited to a self-contained camera?
(Construction of category (2) claim terms: "electronic camera" and "digital camera")

In his previous claim construction, Judge Farnan construed the term "electronic camera" to mean a "self-contained, portable electronic camera, with the capability to take still pictures,

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example, that the user is further given the option of selecting between various image file formats such as GIFF, TIFF, BMP, JFIF, etc.").

[9]Defendants observe that given the evident disagreement between the PTO and this Court as to the proper construction of the disputed claim terms, if this Court adheres to its construction there is a risk that, at trial, Plaintiffs will obtain a greater-than-appropriate benefit from the presumption of patent validity. *See* D.I. 258 at 11 n.9 (citing *Applied Materials, Inc. v. Advanced Semiconductor Materials Am., Inc.*, 98 F.3d 1563, 1569 (Fed. Cir. 1996)). That is, on Defendants' reading of the prosecution history, it is plain that the PTO does not view the patents-in-suit as validly extending beyond a one-to-one correspondence; without a one-to-one correspondence limitation, the PTO would find these patents invalid. It seems to me that this risk is inherent in the legal relationship between the PTO and district courts: while the PTO has sole authority to grant patent rights in the first instance, once the PTO does so a district court asked to construe claim terms is required to determine, *de novo*, as a matter of law, the scope of the patent protection granted by the PTO (in accord with how one having ordinary skill in the art would read the claims in light of the intrinsic evidence). In any event, Defendants' concern is not one that affects claim construction. It may be necessary, however, to consider this issue in connection with jury instructions.

[10]The specific constructions are set out in full at the end of this Report and Recommendation. *See infra* Part IV.1.

the components of which are contained in a single housing." *Canon Construction*, 2004 WL 1941340, at *9. St. Clair contends that Judge Farnan's claim construction is correct and should not be altered because it is consistent with the plain and ordinary meaning of the word "camera," as well as with the specification and prosecution history of the patents-in-suit. Defendants contend that this construction is incorrect because Judge Farnan was not fully apprised of the applicability of the prosecution history of the '219 patent and did not consider that some of the claimed "cameras" include a remote control device. Defendants also contend that Judge Farnan used a "dictionary-based approach" to claim construction which the Federal Circuit has since rejected. According to Defendants, a proper construction of the terms "electronic camera" and "digital camera" should not be limited to a self-contained device. In this regard, Defendants propose that the terms "electronic camera" and "digital camera" be construed as "electronic equipment that may be self-contained or not, and has the capability to take still pictures." (D.I. 259 at 24)

After considering the parties' arguments in light of the claim language, specification, and prosecution history, I agree with the claim construction proposed by St. Clair and adopted by Judge Farnan in the *Canon* litigation. I do not read the Federal Circuit's decision in *Phillips* to forbid the use of dictionaries in informing claim interpretation. Rather, *Phillips* cautions against a heavy reliance on dictionaries to the exclusion and/or contradiction of the specification, which is "the single best guide to the meaning of a disputed term," and is itself "a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." *Phillips*, 415 F.3d at 1321 (internal citations and quotation marks omitted). In his decision, Judge Farnan consulted a dictionary to inform the ordinary meaning of the term "camera," but he also

emphasized the specification and prosecution history of the patents-in-suit, which I agree are consistent with the ordinary meaning of the term "camera" and describe a self-contained, portable device.

For example, the common specification of the patents-in-suit notes that the object of the invention is "to provide an electronic still camera that is efficient in design and permits *extended periods of portable operation*." '010 patent, col. 2 lines 59-61 (emphasis added). This is consistent with other statements in the specification referring to the compression hardware and software as being incorporated "in the camera." '010 patent, col. 10 lines 48-55. It is also consistent with statements made during the prosecution history which distinguish the claimed device from prior art systems by its self-contained housing and portability. *See, e.g.*, JCCC Defs. Ex. 17, '219 patent 8/25/97 Amend. at 8 ("The claimed device instead stores a plurality of computer-ready digitized images on a removable mass memory element *in the device housing*.") (emphasis added).

Defendants contend that the reference to a remote control device in claim 15 of the '459 patent and Figure 6C means that the camera is not necessarily self-contained, portable, or contained in a single housing. In this regard, Defendants contend that "claim 15 requires that the remote control – which is not in the camera body – be part of the claimed 'camera.'" (D.I. 259 at 25) I do not read claim 15 in the manner proposed by Defendants. First, claim 15 refers to a camera "further comprising *remote activation means* for selectively activating said camera." '459 patent, col. 15 lines 17-19 (emphasis added). In my view, this phrasing does not claim a remote control within the camera itself. To the contrary, I agree with St. Clair that the "[t]he patents' description of how the Roberts camera could receive and process remote commands

does not transform a physical remote control into the camera." (D.I. 283 at 31-32) Rather, the patent describes how the camera processes external signals inside the body of the camera as depicted in Figure 6C, which shows a remote signal outside the camera activating an *internal* switch. '010 patent, col. 4 lines 28-30 ("Upon receipt of the externally generated 'shoot' command, the relay switch 32 is activated and provides internal switch closure.").

Defendants also contend that I should depart from Judge Farnan's previous ruling that the phrase "in an electronic camera" is implicit in claim 16 of the '459 patent. However, I am not persuaded that such a departure is justified.

In sum, I recommend that the terms "electronic camera" and "digital camera" be construed as a "self-contained, portable electronic camera, with the capability to take still pictures, the components of which are contained in a single housing."

C. Whether the images must be still?
(Construction of category (3) terms: "image" and related terms)

St. Clair proposes that the term "image," as used, for example, in claim 16 of the '459 patent, does not require construction and means "image." Defendants, on the other hand, argue that "image" should be construed as "still picture." I agree with St. Clair that no construction is necessary, and certainly not a construction that would limit the claims to "still pictures."

Although the Court has not been asked in the prior cases to construe the claim term "image" (D.I. 259 at 31; Tr. at 149), in resolving other issues in the *Canon Construction* Judge Farnan wrote: "neither the specification nor the language of the claims imposes a still picture limitation on the patented invention and the specification expressly contemplates the camera's capability to take both still and motion pictures." 2004 WL 1941340, at *7. I agree with Judge

Farnan's reading of the claims and the specification.[11]

It is true, as Defendants observe, that the word "'image' . . . is always used in its singular form in the asserted claims of the Patents-In-Suit." (D.I. 259 at 32) However, as St. Clair responds, the Federal Circuit "has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising.'" *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008). Therefore, as St. Clair concludes, "the use of the term 'image' . . . in a singular form in the claim does not limit the claims to a single still image." (D.I. 283 at 36) The claim limitation "image" also includes multiple images as well as movie images that might contain other data (e.g., difference coding).

The specification contains several references to how the patented camera might be used to take movies. The specification references two movie compression schemes:

> In the preferred embodiment of the present invention, the JPEG standard is the preferred algorithm chosen with the incorporation of the MPEG [Motion Picture Experts Group] standard or other similar standard in the future when available commercially. An alternate embodiment of the present invention would be the incorporation of various proprietary compression algorithm standards such as DVI [Digital Video Interface].

'010 patent, col. 10 lines 23-29 (emphasis added). The specification also states: "a new international standard called MPEG is due to be announced in the 1991 time frame from the

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[11]Defendants insist that Judge Farnan's conclusion was reached pursuant to a now-obsolete legal framework, and that, post-*Phillips*, a court may not conclude that an embodiment is within the scope of a patent claim simply based on the absence of anything in the patent excluding that embodiment. I need not decide whether Defendants have correctly stated the law. Here, as will be explained, I find sufficient affirmative indications in the patent to conclude that the inventors included movie images within the scope of the asserted claims.

JPEG and should offer compression ratios of 275:1 and greater." '010 patent, col. 10 lines 20-23. A compression ratio of 275:1 is achieved only when processing movie images. (Tr. at 26 (describing plaintiff's expert's testimony); Tr. at 163 (defense counsel acknowledging JPEG does not go as high as 275:1 compression)) In light of these statements, excluding movie images from the claims would exclude a preferred embodiment, something which rarely occurs when claims are properly construed. *See Chimie v. PPG Indus., Inc.* 402 F.3d 1371, 1377 (Fed. Cir. 2005).

There is also much discussion in the specification about the ability of the disclosed "electronic still camera" to rapidly capture multiple images. The specification states that the camera circuitry of a preferred embodiment "allows for approximately 20 images to be captured in a one second period." '010 patent, col. 8 lines 18-19. The "object of this invention is to provide an electronic still camera device that can rapidly capture a series of images automatically as well as singularly." '010 patent, col. 2 lines 31-33. Defendants assert that, in 1990, one having ordinary skill in the art would understand that "rapid capture" of multiple still images involved a qualitatively different process than taking "full-motion video." Even assuming, however, Defendants are correct, no reason has been given for why a still camera capable of rapid capture could not also be capable of capturing "full-motion video." To the contrary, it appears that any electronic camera that can capture a single, still image is an electronic still camera, whether or not it can also perform "rapid capture" and/or capture "full-motion video." Nor have Defendants identified any portion of the claims, specification, or prosecution history suggesting that the patentees intended – or one having ordinary skill in the art would understand them to have intended – not to claim movie images as part of the asserted claims.

Defendants argue that construing "image" to include movie images would render the

claims invalid under 35 U.S.C. § 112 for lack of adequate description, and would improperly permit Defendants to patent an invention they did not yet "possess" (since MPEG had not been introduced at the time the patent was granted). These arguments go to the validity of the patents, not claim construction. *See Ampex Corp. v. Eastman Kodak Co.*, 460 F. Supp. 2d 541, 543 n.1 (D. Del. 2006) ("The validity of a claim is not an issue of claim construction . . . . I will not convert Defendants' claim construction argument into a motion for summary judgment."). In any event, Federal Circuit "case law allows for after-arising technology to be captured within the literal scope of valid claims that are drafted broadly enough." *Innogenetics N.V. v. Abbott Labs.*, 512 F.3d 1363, 1371-72 (Fed. Cir. 2008).

Finally, both sides offered extrinsic evidence to support their contentions as to the import of the specification's references to MPEG and DVI. Unsurprisingly, the parties' experts do not agree with one another. *Compare* D.I. 260 Ex. 44 at ¶ 16 (Plaintiff's expert, Gafford, opining that one of skill in art would read specification as suggesting inclusion of image file movie formats when available commercially) *with* D.I. 282 at 22 (explaining that defense experts opine that one of skill in art would understand references to MPEG and DVI "as being illustrative of alternative compression algorithms" for still images, not movie images) (citing D.I. 284 Ex. O at ¶ 4; *id.* Ex. Q at ¶ 9). In reaching my conclusion, I have reviewed and considered this extrinsic evidence, but I have placed far greater weight on the intrinsic evidence in the record.

Accordingly, I agree with St. Clair that "image" and the related disputed claim terms are not limited to "still images" and do not require construction.

D. Whether the "memory" must be removable?
(Construction of category (4) claim terms: "storage device," "digital memory," and "memory element")

In his previous claim construction, Judge Farnan construed several terms related to "memory" that are in issue once again in these related actions. *Canon Construction*, 2004 WL 1941340, at *14-18. Specifically, Judge Farnan construed the terms "memory element," "storage device," and "digital memory." *Id.* at *18. Judge Farnan concluded that each of these terms includes as the main component of its definition "memory, e.g. floppy disks, optical disks, magnetic disks, magnetic media, memory storage disk drive, semiconductor memory, and solid state memory." *Id.* St. Clair contends that this definition is correct and that the limitation that the memory be "removable" should only be applied to terms that refer expressly to removable memory. Defendants contend that during prosecution of the Roberts Patents the patentees disclaimed non-removable memory, thereby limiting the patents to memory that must be removable.

"[A] patentee may limit the meaning of a claim by making a clear and unmistakable disavowal of scope during prosecution." *Computer Docketing Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (internal quotation marks omitted). However, unclear prosecution history may not be used to limit claims. *See Cordis Corp. v. Boston Scientific Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009).

In this case, I have examined the statements relied upon by Defendants to support their argument that the patentees disavowed non-removable memory. I conclude that those statements do not demonstrate a clear and unmistakable disavowal of non-removable memory for the inventions as a whole.

Under the doctrine of claim differentiation there is a "presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim." *Curtiss-Wright Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir. 2006). In this case, several of the asserted independent claims do not recite "removable" memory; instead, the "removable" limitation is added only in the dependent claims. *Compare* '219 patent, claim 1 *with* '219 patent, claim 3. At the time the patentees made the comments cited by Defendants, numerous claims that did not include a removable limitation were already allowed, and the patentees' acknowledged the allowed claims. (JCCC Def. Ex. 17 at 7) In these circumstances, I cannot read the patentees' remarks to clearly and unmistakably apply to claims already allowed. Rather, a reasonable interpretation of the prosecution history is that the statements made by the patentees were specifically made to claims which distinctly claim a removable component.

Defendants also highlight certain statements made during the reexamination proceedings. Again, however, I conclude that these remarks do not constitute a clear and unmistakable disavowal of non-removable memory. As a whole and in context, the patentees' remarks during reexamination appear to have been aimed at distinguishing the claimed invention from prior art that did not do processing within the housing of the camera. (JCCC Def. Ex. 28 at 6) Since these statements were not directed to illuminating the meaning of memory or whether such memory must be removable, they do not provide a basis for the disavowal Defendants would have this Court find. *See Elbex Video, Ltd. v. Sensormatic Elecs. Corp.*, 508 F.3d 1366, 1372-73 (Fed. Cir. 2007) (recognizing that statement read in isolation could be disclaimer but concluding, in context of entire prosecution history, it was not disclaimer).

Accordingly, I recommend a claim construction consistent with the construction adopted

by Judge Farnan in the *Canon* case. Therefore, I recommend the following constructions: (1) "storage device," as used in claims 1 and 3 of the '899 patent, means "any memory, e.g. floppy disks, optical disks, magnetic disks, magnetic media, memory storage disk drive, semiconductor memory, and solid state memory;" (2) "digital memory," as used in claim 16 of the '459 patent, means "any digital memory, e.g. floppy disks, optical disks, magnetic disks, magnetic media, memory storage disk drive, semiconductor memory, and solid state memory;" and (3) "memory element," as used in claim 1 of the '219 patent, means "memory, e.g. floppy disks, optical disks, magnetic disks, magnetic media, memory storage disk drive, semiconductor memory, and solid state memory."

E. Whether the method steps must be conducted in a particular order?
(Construction of category (5) terms: "generating," "converting," "selecting," and "storing")

Defendants contend that steps of the method claim must be performed in a particular order. Specifically, they contend that claim 16 of the '459 patent explicitly requires that the "generating," "converting," and "selecting" steps occur before the "storing" step. St. Clair disagrees.[12]

A method claim is not limited to performance of the steps in the order recited unless the claim explicitly or implicitly requires a specific order. *See Baldwin Graphic Sys., Inc. v. Siebert,*

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[12]In his *Canon Construction*, Judge Farnan construed the terms that are involved in this dispute in category (5) ("generating an analog image signal corresponding to the imagewise pattern of radiant light incident on a plurality of light sensing pixel elements," "converting the analog image signals," "selecting from said selectable addressable memory means," and "storing said digital electronic information signals"). 2004 WL 1941340, at *26-27. However, here the parties do not dispute the proper construction of these terms but, rather, whether the claim containing these terms (claim 16 of the '459 patent) is a method claim in which the steps of the method must be performed in a particular order. This is not a dispute that has been before this Court previously.

Inc., 512 F.3d 1338, 1344 (Fed. Cir. 2008). Defendants maintain that the asserted claim here "explicitly requires that 'generating,' 'converting,' and 'selecting' steps occur **before** the 'storing' step." (D.I. 259 at 41)

The pertinent language of the asserted method claim is as follows:

> A process for storing an electronically sensed video image comprising the steps of:
>
> **generating** an analog image signal . . .,
>
> **converting** the analog image signals into digital electronic information signal[s] . . .,
>
> **temporarily storing** the digital electronic information signals,
>
> **recording** in selectable addressable memory means at least one of a plurality of different digital output data format codes where each of said plurality of output data format codes corresponds respectively to one of a like plurality of different data formats for different types of computer apparatus,
>
> **selecting** . . . one of said different digital output format codes to be associated with each said digital electronic information signals, and
>
> **storing** said digital electronic information signals in a digital memory in accordance with said selected output format code.

'459 patent, col. 15 line 25 to col. 16 line 11 (emphasis added).

While I do not find within this claim language any explicit requirement that "generating," "converting," and "selecting" occur before "storing," I do conclude that this specific order of steps is an implicit requirement of the claim. The claim distinguishes between "temporarily storing" and a more permanent "storing . . . in a digital memory." The "temporarily storing" implicitly occurs before the "storing . . . in a digital memory." Yet the "temporarily storing" does

not occur until after the "generating" and "converting" – since it is necessary for an analog image signal to be generated and converted into digital electronic information signals before such digital electronic information signals exist and can be temporarily stored. It follows, then, that just as "generating" and "converting" occur before "temporarily storing," so, too, do "generating" and "converting" occur before the more permanent "storing . . . in a digital memory."

A similar analysis confirms that "selecting" must occur before "storing." The thing being selected is a "digital output format code." The thing being stored is "digital electronic information signals . . . in accordance with said selected output format code." It follows, implicitly, that the "output format code" must be selected before it can be stored.

St. Clair argues that "portions of an image file can be stored prior to the completion of the generating and converting steps" of the claims. (D.I. 283 at 45) While this may be true, it is also true – as Defendants point out – that the asserted claim is directed to "an . . . image," not to "portions of an image." (D.I. 282 at 36) As already noted, "an image" may, in patent parlance, refer to "one or more images," but St. Clair has identified no authority for reading "an image" also to include quantities less than a single image (i.e., "any portion of an image").

Accordingly, I recommend that the Court construe claim 16 of the '459 patent as requiring that the "generating," "converting," and "selecting" steps occur before the "storing" step.

F. Whether certain claim terms are in means-plus-function format?

(Construction of category (6) terms)

The parties next dispute whether four terms in the asserted claims are in means-plus-function format. These terms are: (1) "image pick-up unit," (2) "memory means," (3) "analog to

digital converter means," and (4) "logic means." In the *Canon* action, Judge Farnan construed these terms and concluded that they were not in means-plus-function format.

1. "image pick-up unit"

The term "image pick-up unit" does not use the word "means" and, therefore, it is presumed that the term is not in means-plus-function format. *See TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1373 (Fed. Cir. 2008). I conclude that Defendants have not overcome this presumption. As Judge Farnan observed in his *Canon Construction*, the "image pick-up unit" is a definite structure, and the claims do not recite a function that is separate from this structure or beyond its capabilities. 2004 WL 1941340, at *12-13.

With respect to the meaning of this term, St. Clair contends that Judge Farnan correctly construed the "image pick-up unit" to mean "an image sensor, such as, Charge Coupled Device (CCD), C-MOS sensor, Infrared sensor (IR), Ultra-Violent sensor (UV) alone or in combination with an analog to digital converter(s)." (D.I. 258 at 35-36) Defendants offer an alternative construction: that an image pick-up unit is "[a]n electro-optical sensor such as a CCD, Infrared sensor, or Ultraviolet sensor that is configured to generate and output a digital image signal." (D.I. 248 Ex. A at 31-32)

I have reviewed the relevant portions of the patents containing this language. *See, e.g.*, '010 patent, col. 1 lines 34-38. In light of the language of the claims and the specifications, I find no reason to depart from Judge Farnan's previous construction. Accordingly, I recommend that the phrase "image pick-up unit" be construed as "an image sensor, such as, Charge Coupled Device (CCD), C-MOS sensor, Infrared sensor (IR), Ultra-Violent sensor (UV) alone or in combination with an analog to digital converter(s)."

2. "memory means"

The term "memory means" is presumed to be in means-plus-function format. *See Sage Prods. v. Devon Indus.*, 126 F.3d 1420, 1427 (Fed. Cir. 1997). However, this presumption is overcome "[i]f in addition to the word 'means' and the functional language, the claim recites sufficient structure for performing the described functions in their entirety." *Trimed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259-1260 (Fed. Cir. 2008). In the *Canon Construction*, Judge Farnan concluded that this presumption was overcome based upon the claim language and the specification. *See* 2004 WL 1941340, at *14-18. I agree that "memory" itself is a sufficient structure, understood by one skilled in the art, so the presumption that a means-plus-function construction applies is overcome.

In arguing for a means-plus-function construction, Defendants seek to limit "memory" by citing to a portion of the specification that they contend "identifies two specific structures to perform the claimed function: a magnetic disk or an optical disk." (D.I. 259 at 49) (internal citations omitted) However, the claim language places no such limitation on the term "memory," and I am not persuaded that the specification limits the terms to these two devices. As Judge Farnan recognized, these structures are offered by way of example and other examples are also identified.[13] *See Canon Construction*, 2004 WL 1941340, at *17 (citing '219 patent, col. 6 lines 10, 24-26; *id.* col. 9 lines 8, 22; *id.* col. 1 lines 43-46). Accordingly, I recommend that the term "memory means" be construed as "any digital memory, e.g. floppy disks, optical disks, magnetic disks, magnetic media, memory storage disk drive, semiconductor memory, and solid state

[13]For this reason, even if I adopted a means-plus-function construction of this term, I would not limit the corresponding structure to the two devices identified by Defendants.

memory."

3. "analog to digital converter means"

Defendants contend that this term is in means-plus-function format and that the corresponding structure is the "A/D converters 8." (D.I. 259 at 48) St. Clair contends, consistent with Judge Farnan's construction in *Canon*, that an "analog to digital converter" itself is a sufficiently definite structure to overcome the presumption. (D.I. 258 at 36-37) I agree with St. Clair. As Judge Farnan recognized, an analog to digital converter is a structure well known in the art. *See Canon Construction*, 2004 WL 194130, at *13-14. That this is a sufficiently definite structure to perform the recited function is also evident in the fact that Defendants identify the A/D converter itself as the structure which performs the claimed function. Accordingly, I recommend that "analog to digital converter means" be construed as "analog to digital converter(s)."

4. "logic means"

Claim 1 of the '219 patent claims, in pertinent part, an electronic camera comprising:

> output data control means for selecting for each digitized captured image . . . one of a plurality of different output data format codes . . ., and
>
> ***logic means*** responsive to said output data control means for determining an output data format for each digitized captured image in accordance with the assigned output data format code.

'219 patent, col. 12 lines 45-59 (emphasis added).

Defendants contend that the term "logic means" is in means-plus-function format. According to Defendants, the function of the "logic means" is to "determin[e] an output data format for each digitized captured image in accordance with the assigned output data format

code." (D.I. 259 at 47) Defendants contend that the corresponding structure is a microprocessor which includes the disclosed algorithm corresponding to the recited function, specifically "the CPU 20 configured to perform the portions of the algorithm illustrated in the flow chart of Fig. 14B and described at '219 Patent col. 12 lines 11-39 that correspond to the function of this element." (JCCC at 34)

St. Clair contends that "logic means" is not in means-plus-function format and should be construed as "circuitry and/or a set of instructions." (JCCC at 34) Judge Farnan agreed with St. Clair on both points in his *Canon Construction*. 2004 WL 1941340, at *20-21. On this dispute, I agree with Defendants.

St. Clair asserts: "To one of ordinary skill in the art, the term 'logic' is a circuitry or set of instructions. Indeed, by the time the original patent application was filed, 'logic circuit' was defined as 'a circuit comprising one or more gates or flip flops that performs a particular logic function.'" (D.I. 258 at 37) (emphasis added) (quoting JCCC Ex. 48: *Van Norstrand Reinhold Dictionary of Information Technology* 307 (3d ed. 1989)) But, as Defendants point out, "'logic circuit' is not the claim term at issue. The term 'logic means' does not include the word 'circuit' . . . ." (D.I. 282 at 39) St. Clair's references to portions of the specification it insists are "consistent with" this dictionary definition are also unpersuasive. (D.I. 258 at 37) As Defendants explain, none of these specification excerpts relate to the function involved in the claim (i.e., "determining an output data format."[14] In other words, each of the portions of the

[14]*See* D.I. 282 at 39 & n.28 (distinguishing '010 patent, col. 5 lines 16-18 ("typical logic AND gate circuits 60a and 60b")); *id.* col. 7 lines 16-18 ("The general digital logic and timing and control signals for this circuitry."); *id.* col. 9 lines 13-17 ("issues a control signal to the optics logic in the shutter and control circuitry").

specification on which St. Clair relies deal with different "particular logic functions," making reliance on them somewhat inconsistent with St. Clair's own definition.

I have concluded that the term "logic means" does not recite sufficient structure to overcome the presumption that it is in a means-plus-function format. Accordingly, I recommend that the Court construe "logic means" as used in claim 1 of the '219 patent as a means-plus-function element, with the function being "to determin[e] an output data format for each digitized captured image in accordance with the assigned output data format code," and with the associated structure being "the CPU 20 configured to perform the portions of the algorithm illustrated in the flow chart of Fig. 14B and described at '219 Patent col. 12 lines 11-39 that correspond to the function of this element."[15]

G. Construction of the agreed-upon means-plus-function terms
(Construction of category (7) terms)

The parties agree that the following terms are in means-plus-function format: (1) "output data control means," (2) "means for digitizing captured image data," (3) "[picture] image resolution determining means," and (4) "means for capturing image data corresponding to a selected image." The parties disagree over the precise functions and structures corresponding to these terms.

1. "output data control means"

With respect to the term "output data control means" as used in claim 1 of the '219 patent, the parties agree that Judge Farnan correctly identified the function of this term as

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[15]For the same reasons, I recommend that the Court adopt Defendants' proposed means-plus-function constructions of claims 10 and 16 of the '219 patent, both of which also include "logic means." The specific recommended constructions are provided below. *See infra* Part IV.

"selecting for each digitized captured image to be stored in the memory element one of a plurality of different output data format codes stored in the camera and assigning the selected format code to the digitized captured image." *See* D.I. 248 at 38; D.I. 259 at 44. The parties' dispute centers on the structures required to perform this function. According to Defendants, Judge Farnan erroneously concluded that the structure associated with this function was a "general purpose microcomputer." (D.I. 259 at 44) Defendants contend that the structure must include the relevant portions of the disclosed algorithm of the '219 patent, as well as several switches and gates. St. Clair contends that Defendants misread Judge Farnan's claim construction, which includes more than a general microprocessor. In this regard, St. Clair points out that Judge Farnan identified the corresponding structure as a "microprocessor *programmed to perform the recited function of* selecting for each digitized captured image to be stored in the memory element of one of a plurality of different output data format codes stored in the camera and assigning the selected format code to the digitized captured image and equivalents thereof." *Canon Construction*, 2004 WL 1941340, at *20 (emphasis added). St. Clair contends that Defendants' proposed construction is erroneous because it includes more structure than is necessary to perform the described function. (D.I. 283 at 49-50)

In a series of recent cases, the Federal Circuit has addressed whether a patentee's reference to a computer constitutes sufficient disclosure of a structure to support a claimed function in a means-plus-function claim. The Federal Circuit has repeatedly held that a reference to an appropriately programmed computer is not a sufficient structure. *See Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*, 521 F.3d 1328, 1331 (Fed. Cir. 2008) (holding that "a standard microprocessor-based gaming machine with 'appropriate

programming'" was insufficient structure); *see also Blackboard, Inc. v. Desire2Learn Inc.*, 91 U.S.P.Q.2d 1481, 1490-93 (Fed. Cir. July 27, 2009) (holding that structure of "a server computer with an access control manager and equivalents thereof" was insufficient structure to perform the recited "means of assigning" function); *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1366-67 (Fed. Cir. 2008) (holding that reference to a "bank computer" was insufficient structure to support function of "generating an authorization indicia in response to queries containing a customer account number and amount," and rejecting argument that one skilled in the art would know the computer would be programmed to function in the claimed manner). These cases hold that language which "simply describes the function to be performed" by the computer is insufficient. *Aristocrat*, 521 F.3d at 1334 (noting that reliance on such general structure is the equivalent of saying "that the function is performed by a computer capable of performing the function"). Rather, the specification must disclose how the functions are performed. As the Federal Circuit explained in *Net MoneyIN*:

> To avoid purely functional claiming in cases involving computer-implemented inventions, we have consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor. Because general purpose computers can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to the corresponding structure, material, or acts that perform the function, as required by section 112 paragraph 6. Thus, in a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm. Consequently, a means-plus-function claim element for which the only disclosed structure is a general purpose computer is invalid if the specification fails to disclose an algorithm for performing the claimed function.

545 F.3d at 1367 (internal quotation marks and citations omitted).

In this case, the specification of the '219 patent discloses an algorithm for performing the claimed function, but it was not part of the claim construction proposed by St. Clair and adopted by Judge Farnan in the *Canon* action. In light of the *Aristocrat* line of cases, I am persuaded that the corresponding structure must be expanded to include the disclosed algorithm at Figure 14B. Defendants' proposed structure includes this algorithm, as well as several switches, gates, and format memory structures. However, I am not persuaded that the additional hardware structures identified by Defendants are necessary to perform the described function.

Accordingly, I recommend that the "output data control means" as used in claim 1 of the '219 patent be construed as a means-plus-function element, with a function of "selecting for each digitized captured image to be stored in the memory element one of a plurality of different output data format codes stored in the camera and assigning the selected format code to the digitized captured image," and a structure of a microprocessor programmed to perform the relevant portions of the algorithm recited in Figure 14B.[16]

2. "means for digitizing captured image data"

The parties agree that the function of this term is "digitizing captured image data." (D.I. 258 at 38; D.I. 259 at 48) Their dispute centers on the corresponding structure. Defendants contend that three analog to digital converters 8, one for each color component, are required. (D.I. 248 Ex. A at 33) In contrast, St. Clair contends that Judge Farnan correctly identified the

[16]To the extent this term is used in other claims, where the agreed-upon function is "storing" and not "selecting" and "assigning," the corresponding structure is a microprocessor programmed to perform the portions of the algorithm recited in Figure 14B relevant to storing. *See* D.I. 259 at 44-45 & n.34.

corresponding structure in the *Canon Construction* as "analog to digital converter(s) and equivalents thereof." (D.I. 258 at 38)

After reviewing the specifications of the patents-in-suit, I agree with the construction advanced by Judge Farnan, with one slight clarification. Judge Farnan's *Canon Construction* allows for the possibility of one or more than one A/D converters, and does not specify the precise number required. I agree this is correct, and recommend that the language describing the claimed structure make this point even more clear.

Accordingly, I recommend that the "means for digitizing captured image data" be construed as a means-plus-function element, with a function of "digitizing captured image data," and a structure of "one or more analog to digital converter(s) and equivalents thereof."

3. "[picture] image resolution determining means"

Judge Farnan construed this term in the *Canon Construction* as being in means-plus-function format, with a function of "selectively determining which of a plurality of compression algorithm parameters are to be applied to said digital data information signals." 2004 WL 1941340, at *23. The function proposed by Defendants is not substantially different from the function previously adopted by Judge Farnan and presently advocated by St. Clair. Nevertheless, Judge Farnan's defined function of this term more closely tracks the language of the asserted claims and, therefore, I will not depart from the function as set forth by Judge Farnan in *Canon*.

The parties' dispute centers again on the structures required to perform the recited function. St. Clair contends that Judge Farnan correctly identified the structure as "at least one switch, circuitry and/or a set of instructions programmed or configured to perform the recited function and equivalents thereof." (D.I. 258 at 39-40) Defendants contend that the

corresponding structures are more specifically claimed as "CPU 20 and the relevant algorithm, switches 14A and 14B, logic gates 60a and 60b, function & address decoder 19. The corresponding algorithm causes the CPU to read the setting of the switches 14A and 14B to determine the parameters to be applied to the image." (D.I. 259 at 49)

Although the specification identifies the specific switches, I am not persuaded that one skilled in the art would understand the algorithm to require the specific switches so identified. Indeed, Defendants have not explained how or why the specific structures they have identified are necessary to perform the claimed function. I find the structures proposed by St. Clair and adopted by Judge Farnan in the *Canon* litigation to be supported by the specification. *See* '219 patent, col. 4 lines 57-61; *id.* col. 5 lines 9-57.

Accordingly, I recommend that the term "[picture] image resolution determining means" as used in claims 12 and 17 of the '219 patent be defined as a means-plus-function element, with a function of "selectively determining which of a plurality of compression algorithm parameters are to be applied to said digital data information signals," and corresponding structure of "at least one switch, circuitry and/or a set of instructions programmed or configured to perform the recited function and equivalents thereof."[17]

4. "means for capturing image data corresponding to a selected image"

The parties agree that, in his *Canon Construction*, Judge Farnan correctly identified the function of the "means for capturing image data corresponding to a selected image" as "capturing image data corresponding to a selected image." (D.I. 248 Ex. A at 43) The parties dispute the

[17]Because the algorithm is already apparent in the function, I find no need under the *Aristocrat* line of cases to expressly reiterate its inclusion in the structure.

structures required to perform this function.

Defendants contend that the corresponding structures are:

> a lens to collect light; an electronic shutter that controls a charge storage time on a CCD array (1); a CCD array (1) ("or an Infrared (IR) or Ultraviolet (UV) sensor") that outputs analog still image data for a still picture; a pixel multiplexer (7) that is connected to the CCD array (1) and which separates the outputs of each array of pixel elements from the CCD array (1) into three primary color components (red, green and blue), putting each of the three red, green and blue color component outputs into its own channel; [and] three S/H circuits (18) that each take a primary color component analog still image data output from one of the three channels from the pixel multiplexer (7).

(JCCC at 43-44) St. Clair contends that Judge Farnan correctly identified the structure as "electro-optical sensors including Charge Coupled Device (CCD), C-MOS sensor, Infrared Sensor (IR), and Ultra-Violet sensor (UV), and equivalents thereof." (*Id.* at 44)

To the extent Defendants' claimed structures incorporate a still image requirement, I have already rejected the contention that the claims are limited to still images. As such, I cannot accept the structures identified by Defendants. Moreover, I am persuaded that the specification supports the structures identified by St. Clair and adopted by Judge Farnan in *Canon*, *see* '219 patent, col. 2 lines 42-44; *id.* col. 3 lines 62-67; *id.* col. 7 line 65 to col. 8 line 2, and that the additional structures identified by Defendants are not necessary to perform the recited function of this element.

Accordingly, I recommend that the term "means for capturing image data corresponding to a selected image" be construed as a means-plus-function element, with a function of "capturing image data corresponding to a selected image," and corresponding structure of "electro-optical sensors including Charge Coupled Device (CCD), C-MOS sensor, Infrared

Sensor (IR), and Ultra-Violet sensor (UV), and equivalents thereof."

IV. Recommended Constructions

For the reasons set forth above, I recommend that the Court construe the disputed claim terms as follows:

1. The "plurality of different data formats for different types of computer apparatus" terms ('459 patent, claim 16; '219 patent, claims 1, 10, and 16; '010 patent, claim 1; '899 patent, claims 1 and 3) be construed not to require a one-to-one correspondence between arrangements of digital data in a file and a particular type of computer architecture. Specifically, I recommend the following constructions:

a. "file format" means "the arrangement of digital data in a file, including image, audio, text or other data and includes, at least, MPEG, JPEG, GIF, TIFF, PICT, BMP, JFIF, DCF, TXT, DOC, WPD and WAV."

b. "image file format" means "an arrangement of digital image data in a file and includes, at least, the file formats JPEG, GIF, TIFF, PICT, MPEG, BMP, JFIF, and DCF."

c. "formatting said digital signal in one of a plurality of computer formats" means "arranging digital image data into one of a plurality of image file formats, including, at least, JPEG, GIF, TIFF, PICT, MPEG, BMP, JFIF, and DCF."

d. "plurality of different data formats for different types of computer apparatus" means "a plurality of different data formats for different types of computer apparatus where: (1) a 'data format' is the arrangement of digital data in a file including image, audio, text or other data and includes, at least, MPEG, JPEG, GIF, TIFF, PICT, BMP, JFIF, DCF, TXT,

DOC, WPD and WAV, and (2) a 'computer apparatus' is a computer and any operating system or application software loaded on the computer."

e. "information handling apparatus" and "information handling systems" mean "a collection of hardware and software for the purposes of handling information that includes both computers and peripheral devices."

f. "computer apparatus and information handling systems and apparatus are 'different types' within the meaning of the claims if they are loaded with different application software, even if they are otherwise the same."

2. The terms "electronic camera," as used in claims 1, 10, and 16 of the '219 patent and claims 1 and 3 of the '899 patent, and "digital camera," as used in claim 1 of the '010 patent, be construed as a "self-contained, portable digital camera, with the capability to take still pictures, the components of which are contained in a single housing."

3. The term "image," as used in the claim 16 of the '459 patent; claims 1, 10, and 16 of the '219 patent; claim 1 of the '010 patent; and claims 1 and 3 of the '899 patent do not require construction and should not be limited to "still picture." The related terms (cited at References 5, 6, and 8 of the JCCC, pages 10-12, 14-15) also do not require construction and should not be limited to "still picture."

4. a. "Storage device," as used in claims 1 and 3 of the '899 patent, be construed as "any memory, e.g. floppy disks, optical disks, magnetic disks, magnetic media, memory storage disk drive, semiconductor memory, and solid state memory."

b. "Digital memory," as used in claim 16 of the '459 patent, be construed as "any digital memory, e.g. floppy disks, optical disks, magnetic disks, magnetic media, memory storage

disk drive, semiconductor memory, and solid state memory."

c. "Memory element," as used in claim 1 of the '219 patent, be construed as "memory, e.g. floppy disks, optical disks, magnetic disks, magnetic media, memory storage disk drive, semiconductor memory, and solid state memory."

5. Claim 16 of the '459 patent be construed as to require the "generating," "converting," and "selecting" steps to occur before the "storing" step.

6. a. "Image pick-up unit" as used in claim 1 of the '010 patent and in claims 1 and 3 of the '899 patent be construed as "an image sensor, such as, Charge Coupled Device (CCD), C-MOS sensor, Infrared sensor (IR), Ultra-Violent sensor (UV) alone or in combination with an analog to digital converter(s)."

b. "Memory means" as used in claims 10 and 16 of the '219 patent be construed as "any digital memory, e.g., floppy disks, optical disks, magnetic disks, magnetic media, memory storage disk drive, semiconductor memory, and solid state memory."

c. "Analog to digital converter means" as used in claim 16 of the '219 patent be construed as "analog to digital converter(s)."

d. I recommend that "logic means" as used in claim 1 of the '219 patent be construed as a means-plus-function element, with the function being "to determin[e] an output data format for each digitized captured image in accordance with the assigned output data format code," and with the corresponding structure being "the CPU 20 configured to perform the portions of the algorithm illustrated in the flow chart of Fig. 14B and described at '219 Patent col. 12 lines 11-39 that correspond to the function of this element."

e. I recommend that "logic means" as used in claim 10 of the '219 patent be construed as a means-plus-function element, with the function being "to selectively control the formatting of said digitized captured image data in accordance with a selected one of said plurality of different output data format codes," and with the corresponding structure being "the CPU 20 configured to perform the portions of the algorithm illustrated in the flow chart of Fig. 14B and described in the '219 Patent at col. 12 lines 11-39 that correspond to the function of this element."

f. I recommend that "logic means" as used in claim 16 of the '219 patent be construed as a means-plus-function element, with the function being "to determine the output data format file structure of said digital data information signals in accordance with said assigned output data format code, and with the corresponding structure being "the CPU 20 configured to perform the portions of the algorithm illustrated in the flow chart of Fig. 14B and described in the '219 Patent at col. 12 lines 11-39 that correspond to the function of this element."

7. a. I recommend that "output data control means" as used in claims 1 and 16 of the '219 patent be construed as a means-plus-function element, with a function of "selecting for each digitized captured image to be stored in the memory element one of a plurality of different output data format codes stored in the camera and assigning the selected format code to the digitized captured image," and a structure of a microprocessor programmed to perform the relevant portions of the algorithm recited in Figure 14B.

b. I recommend that "output data format control means" as used in claim 10 of the '219 patent be construed as a means-plus-function element, with a function of "storing in

said camera at least one of a plurality of different output data format codes," and a structure of a microprocessor programmed to perform the relevant portions of the algorithm recited in Figure 14B

c. I recommend that "means for digitizing captured image data" as used in claims 1 and 10 of the '219 patent be construed as a means-plus-function element, with a function of "digitizing captured image data," and a structure of "one or more analog to digital converter(s) and equivalents thereof."

d. I recommend that "[picture] image resolution determining means" as used in claims 12 and 17 of the '219 patent be construed as a means-plus-function element, with a function of "selectively determining which of a plurality of compression algorithm parameters are to be applied to said digital data information signals," and corresponding structure of "at least one switch, circuitry and/or a set of instructions programmed or configured to perform the recited function and equivalents thereof."

e. I recommend that "means for capturing image data corresponding to a selected image" as used in claim 10 of the '219 patent be construed as a means-plus-function element, with a function of "capturing image data corresponding to a selected image," and corresponding structure of "electro-optical sensors including Charge Coupled Device (CCD), C-MOS sensor, Infrared Sensor (IR), and Ultra-Violet sensor (UV), and equivalents thereof."

This Report and Recommendation is filed pursuant to 28 U.S.C. § 636(b)(1)(B), Fed. R. Civ. P. 72(b)(1), and D. Del. LR 72.1. The parties may serve and file specific written objections **of no longer than ten (10) pages within ten (10) days after being served with a copy of this**

Report and Recommendation. Fed. R. Civ. P. 72(b). The failure of a party to object to legal conclusions may result in the loss of the right to de novo review in the district court. *See Henderson v. Carlson*, 812 F.2d 874, 878-79 (3d Cir. 1987); *Sincavage v. Barnhart*, 171 Fed. Appx. 924, 925 n.1 (3d Cir. 2006). **A party responding to objections may do so within ten (10) days after being served with a copy of objections; such response shall not exceed ten (10) pages. No further briefing shall be permitted with respect to objections without leave of the Court.**

The parties are directed to the Court's Standing Order In Non-*Pro Se* Matters For Objections Filed Under Fed. R. Civ. P. 72, dated April 7, 2008, a copy of which is available on the Court's website, www.ded.uscourts.gov/StandingOrdersMain.htm.

Dated: November 13, 2009

Leonard P. Stark
UNITED STATES MAGISTRATE JUDGE