IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

RESEARCH IN MOTION, LTD. and     §
RESEARCH IN MOTION CORP.,        §
                                 §
            Plaintiffs,          §
                                 §
v.                               §            Civil Action No. 3:08-CV-2075-K
                                 §
EASTMAN KODAK CO.,               §
                                 §
            Defendant.           §

## *MARKMAN* MEMORANDUM OPINION AND ORDER

Before the Court are the parties' briefs on the issue of claim construction of the patents-in-suit, U.S. Patent Number 6,292,218 ("the '218 Patent"), U.S. Patent Number 5,493,335 ("the '335 Patent"), and U.S. Patent Number 5,226,161 ("the '161 Patent"). The Court conducted a *Markman* hearing and has reviewed the parties' briefs and all related filings and evidence, including the patent-in-suit, the specification, the patent prosecution history to the extent it was submitted by the parties, as well as the parties' proposed claim constructions. The Court hereby construes the disputed claims according to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 360 (1996).

## I.     Background

### A.     Procedural

In a letter dated August 16, 2007, Defendant Eastman Kodak Company

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("Defendant" or "Kodak") claimed certain of Plaintiffs Research in Motion, Ltd. and Research in Motion Corporation's (collectively "Plaintiffs" or "RIM") products infringe various claims of Kodak's '218 Patent, '335 Patent, '510 patent, and '161 Patent. RIM, thereafter, filed this declaratory judgment action regarding the validity, enforceability, and/or infringement of these Kodak patents. The Court granted the parties' stipulation of dismissal related to the '510 patent on July 23, 2010.

B.      The '218 Patent

Issued on September 18, 2001, the '218 Patent, entitled "Electronic Camera for Initiating Capture of Still Images While Previewing Motion Images," was issued to Kenneth A. Parulski and Timothy J. Tredwell.  It was assigned to Kodak. The substance of the '218 Patent design relates, in general, to the ability to initiate capture of a high-quality color still image while previewing color motion images of lower quality.

The '218 Patent discloses an invention that addresses problems in the prior art regarding the architecture and processing of both still images and motion preview images. '218 Patent, col. 2, ll. 24-54. The invention provides a camera that has a unique architecture for processing and displaying both relatively high quality still images and relatively low quality motion preview images. *Id.* It does this by processing the still images and motion images by different methods. The images are processed by either a "still processor" or a "motion processor" depending on the need to capture still or motion images, respectively.  *Id.*

The disclosed invention provides the benefit of reducing the complexity of required circuitry in still photography oriented systems, including digital, and to minimize any incompatibility between channels in a completely digital system (i.e., where the recording and display channels are both digital). *Id.* The '218 Patent claims that it has achieved these objectives with this architecture that minimizes the cost and complexity of required circuitry while maximizing a user's employment of the device. '218 Patent, col. 2, ll. 13-21.

**C.    The '335 Patent**

Issued on February 20, 1996, the '335 Patent, entitled "Single Sensor Color Camera with User Selectable Image Record Size," was issued to Kenneth A. Parulski, Richard M. Vogel, and Seishi Ohmori. It was assigned to Kodak.

The substance of the '335 Patent "relates to the field of electronic imaging, and in particular, to electronic still imaging by means of an electronic still camera having a single color sensor and semiconductor memory." '335 Patent, col. 1, ll. 6-9.

The background of the '335 Patent discloses the prior art, including U.S. Pat. No. 5,018,017 ("the '017 patent"), as an electronic camera with various resolution modes which allows the required memory capacity to be changed if need be, such as "to cope with limited residual memory in the recording medium." *Id.*, col. 1, ll. 15-16. A problem with the prior art, including the '017 patent, is the amount of signal processing that occurs with multiple resolution modes between the point of capturing the image and reducing the data for storage; "the more processing that occurs, the more chance

for noise to enter the system before the new reduced resolution image is constructed." *Id.*, col. 1, ll. 55-60. Another, advantage of reduced resolution is to free up memory storage for taking and storing pictures. *See Id.*, col. 1, ll. 60-63. However, the restriction of this prior art, as disclosed in the '017 patent, is that the speed attained during continuous photography is limited by the time it takes to write into the removable memory, thereby not permitting the user to fully take advantage of the reduced resolution modes. *See Id.*, col. 1, ll. 52-54, 65 through col. 2, l. 1.

Three objectives intended to be achieved by the '335 Patent are set forth in the background: (1) "to collapse the processing chain between image capture and resolution reduction so that problems caused by intervening processing are avoided;" (2) "to fully utilize the collapsed processing interval for continuous photography so that a subsequent circuit element, such as the removable memory, does not appreciably limit the attainable speed;" and (3) to permit the user to select an image record size in accordance with the need, whether for continuous photography or added storage for any other reason." *Id.*, col. 2, ll. 4-15.

To address the problems in the prior art and achieve the stated goals, the '335 Patent discloses an invention that provides a modified architecture and method for reducing the resolution of captured images. *Id.*, col. 2, ll. 19-57. The '335 invention provides a resolution mode switch that causes the device to select a fewer number of images pixels from the image sensor than would be selected in full resolution mode. *Id.* Thus, the resolution of the image is reduced at the point where image pixels are selected

for processing from the image sensor. *Id.* This reduces the amount of image pixels that must be processed and therefore also increases the speed at which the images can be processed and stored. *Id.*, col. 2, ll. 19-58; col. 5, l. 52 – col. 6, l. 4.

This provides the claimed advantages of (1) "a truer representation of the image with less contamination noise," (2) "the processing channel before subsampling can be much simpler than in prior art," and (3) "the system can be designed to maximize incoming throughput into fast buffer memory, thus enhancing the speed of continuous photography." *Id.*, col. 2, ll. 48-57.

**D.    The '161 Patent**

Issued on July 6, 1993, the '161 Patent, entitled "Integration of Data Between Typed Data Structures by Mutual Direct Invocation Between Data Managers Corresponding to Data Types," was issued to Dana Khoyi, Marc S. Soucie, Carolyn E. Supenant, Laura O. Stern, and Ly-Houng T. Pham. It was assigned to Wang Laboratories, Inc.. It has since been assigned to Kodak.

The substance of the '161 Patent "relates to an object based data processing system and, in particular, to apparatus and methods for managing and integrating objects and programs for operating on objects." '161 Patent, col. 1, ll. 26-29.

Generally, the '161 Patent addresses problems in data processing systems where the system is presented with an ever increasing number of types of data and information processing applications. The Background of the Invention reveals that the prior art, which falls into two categories, has failed to sufficiently solve the problems

presented when there are different types of data and different kinds of software applications. *See Id.*, col. 1, ll. 32-68. The first category, the older systems, permitted the easy addition of new software applications and data types; however, it was "difficult to provide an integrated system and user environment and very difficult to communicate data between users and data type." *Id.*, col. 2, ll. 3-6. The second, and more recent, category of systems facilitated the ability of the users and data types to communicate; however, the ability to add new software applications and data types is limited unless they "fit within the applications and data types envisioned and defined" by the system. *Id.*, col. 2, ll. 16-17.

In summary, the invention of the '161 Patent addresses these issues in the prior art by disclosing a system of processing and integrating the various types of data that may be presented to a data processing system or an information processing application. '161 Patent, col. 2 ll. 21 – col. 4 ll. 14. The Court finds Defendant Eastman Kodak Company's Explanation of U.S. Patent No. 5,226,161 ("the '161 Explanation") helpful in providing a simplified summary of the invention of the '161 Patent. *See generally* Appendix in Support of Eastman Kodak Company's Opening Claim Construction Brief (Doc. No. 53)(hereafter "Def.'s App."), Exhibit F, pp. 114-115. The '161 Explanation refers to an "identify-and-call-when-needed" architecture that "supports the integration of different types of data and different kinds of software applications", thereby solving the problems of the prior art. *Id.*. This "identify-and-call-when-needed," in a simplistic form, allows for a first application to indentify and call on another application to

process a data type when the first application is unable to process a data type it has been presented with. *Id.*

Use of this disclosed system provides for improved exchange of data between data structures of different types, facilitates the communication routes required between object managers of different data structures for processing of the object managers' relevant data types, allows for integration of different applications programs, and generally facilitates communication and cooperation between essentially independent applications. '161 Patent, col. 3 l. 66 – col. 4 l. 12.

## II.      Applicable Law

### A.      Principles of Claim Construction

Claim construction is a matter of law. *See Markman*, 52 F.3d at 979.  The Federal Circuit Court has held 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) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)).   The Supreme Court has stated that the claims are "'of primary importance, in the effort to ascertain precisely what it is that is patented.'" *Phillips*, 415 F.3d at 1312 (quoting *Merrill v. Yeomans*, 94 U.S. 568, 570 (1876)).   A court looks to three primary sources when determining the meaning of claims: (1) the claims, (2) the specification, and (3) the prosecution history.   *Markman*, 52 F.3d at 979.   The claims of the patent must be read in view of the specification of which they are a part.   *Id.*   The specification consists of a written description of the

invention which allows a person of ordinary skill in the art to make and use the invention. *Id.* This description may act as a dictionary explaining the invention and defining terms used in the claims. *Id.* Although a court should generally give such terms their ordinary meaning, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, so long as the special definition of the term is clearly stated in the patent specification or file history. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

The court starts with the claim itself, read in light of the specification. *See Vivid Technologies, Inc. v. American Sci. & Eng'g, Inc.*, 200 F.3d 795, 804 (Fed. Cir. 1999). While the claims themselves provide significant guidance as to the meaning of a claim term, the specification is generally dispositive as "'it is the single best guide to the meaning of a disputed term.'" *Phillips*, 415 F.3d at 1314-1315 (quoting *Vitronics*, 90 F.3d at 1582). In addition to the claim language and specification, the prosecution history is often helpful in understanding the intended meaning, as well as the scope of technical terms in the claims. *See Vivid*, 200 F.3d at 804. In particular, the prosecution history is relevant in determining whether the patentee intends the language of the patent to be understood in its ordinary meaning. Using these tools, the court construes only the claims that are in controversy and only to the extent necessary to resolve the dispute. *Vivid*, 200 F.3d at 803.

The words of a claim are usually given their ordinary and customary meaning. *See Phillips*, 415 F.3d at 1312. Ordinary and customary meaning is the meaning the

claim term would have to a person of ordinary skill in the art (e.g., field of the invention). *See Id.* at 1313; *Markman*, 52 F.3d at 979. A person of ordinary skill in the art would read the claim term in the context of the entire patent, including the specification, not just the particular claim where the term appears. *Phillips*, 415 F.3d at 1313. There are instances where the ordinary meaning of claim language, as a person of skill in the art would understand it, "may be readily apparent even to lay judges," thereby requiring "little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314. In these situations, general purpose dictionaries are useful. *Id.*

But, in many cases, the court must determine the ordinary and customary meaning of the claim terms which have a certain meaning in a field of art. *Id.* The court can look to "'those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.'" *Id.* (quoting *Innova*, 381 F.3d at 1116). These sources can include "'the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of the technical terms, and the state of the art.'" *Id.* (quoting *Innova*, 381 F.3d at 1116).

Aside from the written description and the prosecution history, the claims themselves also offer assistance as to the meaning of certain claim terms. *Id.* (citing *Vitronics*, 90 F.3d at 1582).

When the intrinsic evidence, that is the patent specification and prosecution

history, unambiguously describes the scope of a patented invention, reliance on extrinsic evidence, which is everything outside the specification and prosecution history, is improper. *See Vitronics*, 90 F.3d at 1583. While the Court may consult extrinsic evidence to educate itself about the invention and relevant technology, it may not rely upon extrinsic evidence to reach a claim construction that is clearly at odds with a construction mandated by the intrinsic evidence. *See Key Pharm. v. Hercon Lab. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998).

### B.     "Means Plus Function" Language

One of the priority terms, as agreed upon by the parties, in this case deal with the use of so-called "means plus function" language. Generally, a court may not read limitations from the specification and prosecution history into the claims, despite the fact that claims often receive their interpretive context from the specification and prosecution history. *See Rambus Inc. v. Infineon Technologies Ag*, 318 F.3d 1081, 1088 (Fed. Cir. 2003).However, there is an exception to the rule that the Court does not import limitations from the specification.   When a patentee avails himself of the statutorily authorized "means plus function" claim form, certain structural limitations from the specification are imported into the claim construction process.   *See* 35 U.S.C. § 112, ¶ 6. Specifically, the statute provides that an element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and the claim shall be construed to cover the corresponding structure, material, or acts described in the

specification and equivalents thereof. *See Id.*

The intent of § 112, ¶ 6, is to permit use of means expressions without recitation of all the possible means that might be used in a claimed apparatus. *See O.I. Corp v. Tekmar Co.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997). However, the use of means plus function language carries a price. *See Id.* Specifically, the price that a patentee must pay for use of that convenience is the limitation of the claim to the means specified in the written description and equivalents thereof. *See Id.* As the Court of Appeals for the Federal Circuit (the "Federal Circuit") has stated, the quid pro quo for the convenience of employing § 112, ¶ 6 is the duty to link or associate structure in the specification to the recited function. *See Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1208 (Fed. Cir. 2002).

Use of the term "means" in a claim followed by a functional statement gives rise to a presumption that the patentee intended § 112, ¶ 6 to govern the claim's construction. *See Personalized Media Communications, LLC v. International Trade Com'n*, 161 F.3d 696, 703 (Fed. Cir. 1998). This presumption can be overcome in two ways: (1) a claim element that uses the word "means" but fails to recite function corresponding to the means does not invoke § 112, ¶ 6; and (2) even if the claim element specifies a function, if it also recites sufficient structure or material for performing that function, § 112, ¶ 6 does not apply. *See Allen Engineering Corp v. Bartell Industries, Inc.*, 299 F.3d 1336, 1347 (Fed. Cir. 2002) (internal citations omitted). In order to recite "sufficient structure," a claim term, as the name for structure, has to have

a reasonably well understood meaning in the art. *See Id.*

## III. Construction of the Patent Claims and Terms

### A. '218 Patent

According to the parties' briefing, the meaning of certain priority terms and phrases within Claim 15 of the '218 Patent are at issue. Claim 15 reads as follows:

> "An electronic still camera for initiating capture of a still image while previewing motion images on a display, comprising:
>   (a) an image sensor having a two-dimensional array of photosites covered by a mosaic pattern of color filters including at least three different colors for capturing images of a scene, each captured image having a first number of color pixel values provided in a first color pattern;
>   (b) a motion processor for generating from the captured images, a second number of color pixel values provided in a second color pattern having at least three different colors and representative of a series of motion images to be previewed, the second number of color pixel values being less than the first number of color pixel values, and the second color pattern being different from the first color pattern;
>   (c) a color display for presenting at least some of the motion images of the series of motion images corresponding to the captured images of the scene, the color display having an arrangement of color display pixels including at least three different colors in a pattern different from the first color pattern;
>   (d) a capture button for initiating capture of a still image while previewing the motion images presented on the color display;
>   (e) a still processor for generating a third number of color pixel values including at least three different colors representative of a captured still image; and
>   (f) a digital memory for storing the processed captured still image."

'218 Patent, col. 12 l. 38 – col. 13 l. 2.  Claim 15 is an independent claim, so-called

because it stands alone and does not incorporate any other claims within it.

### 1. Procedural History Related to the '218 Patent

At the time the *Markman* briefing was submitted in this case, an investigation initiated on behalf of Kodak related to the '218 Patent was pending at the International Trade Commission ("the Commission") before Chief Administrative Law Judge Paul J. Luckern ("Judge Luckern"). This ITC proceeding was conducted under the ITC's authority to prohibit the importation into the United States, the sale for importation, or the sale within the United States after importation of devices that allegedly infringed upon the '218 Patent. In this ITC proceeding, like in the current proceeding before this Court, the parties disputed infringement of the '218 patent and the proper construction of the '218 Patent. The parties to the ITC proceeding also presented RIM was one of the two respondents in that investigation. After conducting a *Markman* hearing, Judge Luckern issued his claim constructions in an *Initial Determination* on June 22, 2010. (This claim construction included the three terms of the '218 Patent in dispute in the instant case.) Judge Luckern then issued a *Final Initial and Recommended Determinations* on January 24, 2011 related to the validity and infringement claims. Kodak, RIM, the other respondent, and the Commission's investigative attorney each filed a petition for review of Judge Luckern's *Final Initial and Recommended Determinations*, and the Commission determined to review it. The Commission ultimately disagreed with certain of Judge Luckern's claim constructions, revised those claim constructions, and remanded to Judge Luckern for further proceedings in light of the revised claim constructions. Although this Court is not bound to follow the findings in these proceedings, this Court has carefully analyzed Judge Luckern's and the

Commission's opinions, and will give due consideration in light of the fact that the same patent and claim terms as well as the same parties, who advanced the same construction arguments, are involved. *See Tex. Instruments, Inc. v. Linear Techs. Corp.,* 182 F.Supp.2d 580, 588-89 (E.D. Tex. 2002)(courts may defer to previous claim constructions but these decisions are made on a case-by-case basis).

2.      **Person of Ordinary Skill in the Art**

Preferably, this Court gives the words of a claim their ordinary and customary meaning; in other words, the meaning the claim term would have to a person of ordinary skill in the art.   *See Phillips*, 415 F.3d at 1312-13; *Markman*, 52 F.3d at 979. A person of ordinary skill in the art would read the claim term in the context of the entire patent, not just the particular claim where the term appears. *Phillips*, 415 F.3d at 1313. Neither party briefed the Court on the qualifications of someone of ordinary skill in the art as to the '218 Patent. During the *Markman* hearing, however, RIM's expert Dr. Zeger testified that a person of ordinary skill in the art would be a person who "… would have typically a bachelor's degree in electrical engineering or computer engineering, or roughly the equivalent. And beyond that they would have maybe several years of graduate study or work in the industry, just kinda extra experience, specifically in the area of image coding." *Markman* Hearing Transcript, pg. 16, ll. 6-11. The Court agrees with Dr. Zeger's description of a person of ordinary skill in the art for the '218 Patent. The Court therefore holds that a person of ordinary skill in the art is a person with a bachelor's degree in electrical engineering, computer engineering, or an

equivalent degree with three to five years of work experience or graduate studies experience in the field of image coding.

### 3. Priority Terms Needing Construction

The parties have agreed that the following terms/phrases need to be construed by the Court: "motion processor", "still processor", and "capture of a still image while previewing the motion images".

### a. "Motion Processor" and "Still Processor"

Claim 15 of the '218 Patent clearly identifies that the disclosed invention comprises both a "motion processor" and a "still processor." '218 Patent, col. 12, ll. 47-65. The parties dispute the nature of these processors.

An examination of the parties' proposed constructions, briefings, and oral arguments for the phrases "motion processor" and "still processor" reveals that there are three key disputes regarding these terms, which are 1) Are the motion processor and the still processor two distinct processors?, 2) Does the still processor operate on motion images?, and 3) Does the still processor perform image processing at the same time as the motion image?

RIM asks this Court to construe "motion processor" as "a first processor unit, separate from the second processor unit, for motion image processing." Kodak requests the Court to construe "motion processor" as "a digital processor that processes a series of motion images."

The parties have analogous, in part, proposed constructions for the phrase "still

processor." RIM proposes that the term "still processor" be construed to mean "a second processor unit, separate from the first processor unit, for still image processing that operates on the motion images. The still processor performs image processing at the same time as the motion processor." Kodak requests the Court to construe "still processor" as "a digital processor that processes a captured still image."

RIM's proposed constructions for both of these terms include the notion that the two processors are separate processors. Additionally, RIM's construction of "still processor" imposes additional limitations on this processor, such that the processor operates on motion images and performs processing at the same time as the motion processor. Kodak, on the other hand, asserts that the still processor is simply the processor that processes still images and that the motion processor is simply the processor that processes motion images. Kodak further asserts that the limitations imposed by RIM's constructions of both the motion and still processor would improperly limit the claim.

### i. Are The Motion Processor and Still Processor Separate Processors With Distinct Circuitry?

The parties' disagreement focuses on whether the processors and circuitry for the processors must be separate or whether they can overlap. RIM argues that the specification and claim language of the '218 Patent requires two processors and expressly and repeatedly distinguishes the motion processor from the still processor; therefore, the motion processor must be separate from the still processor. Kodak argues

that the claim language does not require separate or even particular circuitry; rather, it distinguishes the processors by their functions.

The Court notes that there is a difference between having two different processors and having distinct non-overlapping or shared circuitry. The Court makes this note at the beginning of this discussion because it appears from the parties arguments and briefings and the ITC Judge Luckern and Commission opinions that this distinction is not always clearly defined. For example, the ITC Commission opinion clearly focuses on the overlapping circuitry while the ITC Luckern Opinion focuses on having two separate processors. The Court believes that emphasizing this distinction is important to the construction of these terms because a person of ordinary skill in the art would read the patent as a whole and understand this distinction. A person of ordinary skill in the art would understand that it is possible to have two processors that are separate, in that they independently perform their desired functions, but that have some overlapping or shared circuitry. This is especially true when the functions of the two processors are very similar, as is this case in the '218 Patent because the function of both processors is to processes images captured by the same imaging circuitry.

RIM proposes the Court construe the term "motion processor" as "a first processor unit, separate from the second processor unit, for motion image processing." In support of its construction, RIM points the Court to the language of the Abstract and the Background of the Invention which, RIM asserts, references the motion and

still processors as separate and distinct, with different circuitry. RIM cites to Figure 2 of the patent as evidence that the two processors are separate, in different and distinct locations in the device. RIM further argues that these two processors, the only ones referenced in the '218 Patent, distinguish this patent from prior art where the processing of both the still and motion images was identical. Therefore, according to RIM, these processors must be construed as separate and distinct from one another. Kodak, on the other hand, maintains that the claim language itself does not speak to certain required circuitry of the motion and still processors, and there is nothing requiring they be separate.

In addition to the parties' briefing and arguments, the Court has also reviewed the relevant ITC opinions construing the same terms of the '218 Patent. Specifically, the Court reviewed the ITC Administrative Judge Luckern's Opinion and the ITC Commission's review of Judge Luckern's constructions. The Court gives due deference to the decisions of theses Courts in construction of the patent phrases. In doing so, however, the Court finds that while an analysis of these opinions is instructive, they are not binding on this Court.

Furthermore, the Luckern and Commission Opions are at odds with one another because the Judge Luckern construed the terms in favor RIM's construction while the Commission construed the terms in favor of Kodak. Specifically Judge Luckern found that the '218 Patent requires that the processors be "different and distinct in circuitry." ITC Initial Determination 46-47. In coming to this conclusion, Judge Luckern largely

focused on the intrinsic evidence of the patent itself; that is: the claim language, patent specifications, and the prosecution history. The Commission, on the other hand, construed the phrases such that the still and motion processors are merely processors that process still and motion images, respectively. ITC Com. Op. at 24-25. In coming to this conclusion the Commission focused on the absence of language in the claim, specifications, or file history that would indicate that the inventor intended to claim a limitation of distinct circuitry in the invention. Therefore, the two opinions appear to be at odds with one another.

As noted above, however, Judge Luckern's Opinion and construction addressed both the concepts of having two separate processors and having distinct circuitry. The Commission, however, only addressed the concept of distinct circuitry, without making a distinction between the concepts or discussing the separate processor issue. Even though the Commission did not address the separate processors issue, the Commission removed the requirement for separate processors from Judge Luckern's construction along with the requirement for distinct circuitry. This Court finds that Judge Luckern's analysis of the separate processors issues is particularly instructive and that the Commission's analysis of the distinct circuitry issues is particularly instructive.

The Court starts with the language of the claim itself, read in light of the specification. *See Phillips*, 415 F.3d at 1314-1315 (quoting *Vitronics*, 90 F.3d at 1582); *Vivid Technologies, Inc. v. American Science & Engineering, Inc.*, 200 F.3d 795, 804 (Fed. Cir. 1999). Claim 15(b), which addresses the motion processor, states that from the

captured images, the motion processor must generate "a second number of color pixel values provided in a second color pattern having at least three different colors and representative of a series of motion images to be previewed." '218 Patent, col. 12, ll. 49-52. The claim language also indicates the limitation that "the second number of color pixel values be [ ] less than the first number of color pixel values, and the second color pattern be [ ] different from the first color pattern." *Id.*, col. 12 ll. 52-55. Claim 15(e), which addresses the still processor, states that the still processor generates "… a third number of color pixel values including at least three different colors representative of a captured image …" '218 Patent, col. 12, ll. 65-68.

Therefore, the claim language itself does not speak to whether or not the motion processor and still processor are required to be distinct processors. Nor does the claim language itself speak to whether or not the processors may or may not share circuitry. Based on the claim language alone, it would not be proper to import such limitations into the claim construction. However, the claim language alone is not dispositive. The claim language must be read in light of the specification.

The specification provides insight into whether or not a person of ordinary skill in the art would read that whole patent and understand that the invention required two distinct processors and/or non-overlapping circuitry. As pointed out by RIM and Judge Luckern the patent specification repeatedly describes the motion processor and still processor as being two separate processors.

The abstract of the '218 Patent reads in part as follows:

"An electronic camera uses a relatively more complex digital image processing technique in a still image mode to produce high quality still images, and a relatively more simple image processing technique in a motion preview mode to produce preview images of acceptable quality prior to initiation of the still image mode. The more complex digital technique is done in software in a general purpose processor …, while the more simple digital technique is implemented in a fixed digital circuit in an application specific integrated circuit …" '218 Patent, Abstract.

The relevant part of the Summary of the Invention read as follows:

"The advantage of the invention is that the two modes can be tailored for a relatively low quality "motion" mode and a much higher quality "still" mode. The motion mode images from the CCD sensor are processed by a hardwired digital signal processing circuit that generates low resolution, spatially subsampled digital image data which can directly drive the relatively low resolution LCD display…. The still mode image from the CCD sensor is processed by a general purpose processor (CPU) which executes an image processing software program in order to produce a high quality digital still image." '218 Patent, col. 2, ll. 42-55.

The Abstract and Summary of the Invention clearly speak to the nature of the still and motion processors as being two separate processors. As indicated by the language of the Abstract and Summary of Inventions above, the motion processors uses a relatively more simple processing technique that is implemented in a fixed digital circuit which is a hardwired digital signal processing circuit. On the other hand the still images are processed by a relatively more complex method that is implemented by a general purpose processor that executes image processing software to produce the

higher resolution still image. These descriptions of the two processors indicate that the two processors have very distinct natures and are separate processors.

Furthermore, Figure 2 and the single described preferred embodiment of the '218 Patent indicate that the motion and still processors are two separate processors. '218 Patent, Fig. 2. Figure 2 shows that still images are processed by the digital processor 36; while the motion images are processed by the preview mode processing circuit 58. *Id.* These two processors are clearly, in Figure 2, indicated as being two separate processors. *Id.* The single description of the preferred embodiment also provides that:

> " … In the motion mode, images from the sensor 20 are processed by the preview mode processing circuit 58; in still mode, images from the sensor 20 are processed in the processor 35. The processor 35 is a software driven digital processing system that is slower that the ASIC 27. The preview mode processing circuit 58 is a hardwired digital signal processing circuit (part of the ASIC 27) that generates low resolution, spatially subsampled digital image data which can directly drive the relatively low resolution color LCD display…." '218 Patent, col. 4, ll. 37-46.

While it would not be proper to limit a claim based on a description of a preferred embodiment alone, that is not the case here. Not only do the only preferred embodiment and Figure 2 describe the motion and image processors as being separate and very distinct in nature, but the Abstract and the Summary of Invention do so also. The '218 Patent does not speak processors otherwise. In every description of the structure and/or function of the two processors in the '218 Patent describes the two

processors as separate processors. The Court agrees with RIM that the '218 Patent

expressly and repeatedly distinguishes the motion processor from the still processor.

Furthermore, the testimony of Dr. Zeger, RIM's expert, supports the conclusion

that the motion and still processors are separate processors. At the *Markman* Hearing,

Dr. Zeger testified that the two processors are "fundamentally different" in their design

and the processes they use to process images. *Markman* Hearing Transcript, pgs. 29-31.

Additionally he testified to the fact that at the time of the invention, the state of the

technology was such that one processor could not be used to process both still and

motion images. *Id.* Dr. Zeger's testimony provides further support that a person of

ordinary skill in the art would understand that the '218 Patent requires that the motion

and still processors be two separate processors.

A person of ordinary skill in the art would understand Claim 15, when read in

light of the patent as a whole, to mean that the still processor and motion processor are

two separate processors as described by the patent. Therefore, the Court refuses to

adopt Kodak's proposed constructions of the phrases that do not indicate that the

motion and still processors are different processors.

Regarding the idea issue of the non-overlapping distinct circuitry between the

processors, the Court finds the ITC Commission Opinion persuasive. Kodak argues

that the preferred embodiment described by the patent and dependant Claim 17

support that certain circuitry of the two processors can be overlapping; therefore, to

limit Claim 15 to require non-overlapping circuitry would be improper. Specifically the

description of the preferred embodiment shows that overlap between the still processor and motion processer is disclosed in that the two processors can share timing and control units ('218 Patent, col. 3, ll. 47-51); analog gain and CDS circuitry ('218 Patent, col. 3, ll. 57-60), A/D convertor circuitry ('218 Patent, col. 9, ll. 4-7); and the image statistics processor ('218 Patent, col. 9, ll. 4-7). Furthermore, Dependant Claim 17 claims the electronic still camera of Claim 15 where the first processor and the second processor are integrated into a single integrated circuit. The Court finds that the above disclosures in the preferred embodiment would leave a person of ordinary skill in the art to understand that while, the actual motion and still processors must be separate processors, they may also share some circuitry where components of the invention provide function necessary to the processing of both still and motion images.

### ii. Does the still processor operate on motion images?

As noted above, RIM urges that this Court adopt a construction of the phrase "still processor" that includes a requirement that the still processor operates on motion images. Kodak urges a construction that does not include this limitation. The Court does not find support for inclusion of this limitation in the claim construction.

In support of its position that the still processor operates on motion images, RIM cites the prosecution history, in which RIM asserts Kodak claimed that the invention was distinguished from prior art by the fact that the invention operates on motion images. Kodak asserts that RIM mischaracterizes the prosecution history record, in that Kodak merely distinguished that the prior art motion imaging processing operated on

still images while the invention of the '218 Patent motion processing operated on motion images. Kodak further asserts that it never indicated in the prosecution history that the still processor also operated on motion images.

RIM's support for its argument is limited to sentences in the prosecution history in which Kodak stated "the processing of the electronic camera … operates on motion images." Pl. App. at 79, 85, and 106. While Kodak clearly makes these statements to the patent Examiner in the file history, it is clear from a reading of the entire argument being presented that Kodak is asserting that the motion processor operates on motion images. The paragraphs immediately preceding the statement clearly indicates that this discussion is talking about the motion processor. *See* Pl. App. 85 ("The electronic still camera also includes motion processing means…"); Pl. App. 106 ("… Pape and Ueda do not disclose or suggest … [a] motion processing means…")

A reading of the statements, in context, clearly indicates that RIM's argument is incorrect. These statements cited by RIM are taken out of context and read alone mischaracterize the record. While RIM attempts to apply these statements to still image processing, it is clear that the statements only apply to motion processing. In addition, RIM provides no other support for including this limitation in the claim construction. For these reasons, the Court rejects RIM's proposed constructions and agrees with Kodak that this limitation should not be included in the claim construction.

**iii.    Does the still processor perform image processing at the same time as the motion image?**

RIM also urges this Court to adopt a construction for the phrase "still processor" that includes the limitation that the still processor processes still images at the same time as the motion processor processes motion images. Kodak does not include such limitation in its proposed construction. Upon examination of the parties briefing, the Court finds that RIM has failed to adequately brief any argument for support of this limitation. To some extent, RIM's briefing on the phrase "capture of a still image while previewing the motion images" may be applied to the issue of whether or not the still processor processes images at the same time as the motion processor processes images. The application of the "capture" argument to the "processing at the same time" argument is a moot point because the Court rejects RIM's proposed construction of the "capture" phrase because RIM's proposed construction would improperly limit the claim. Therefore, the Court refuses to construe the phrase "still processor" in a manner that includes RIM's proposed limitation.

iv.     Construction of "motion processor" and "still processor"

Because the patent makes a clear distinction between the motion and still processors, does not require distinct circuitry between the processors, and does not require the still processor to operate on the motion images the Court construes the phrase "motion processor" to mean "a digital processor for processing motion images that is a different processor than the still processor." The Court construes the phrase "still processor" to mean "a digital processor for processing still images that is a different processor than the motion processor."

### b. "Capture of a Still Image While Previewing the Motion Images"

The parties also dispute the agreed priority phrase "capture of a still image while previewing the motion images." RIM proposes that this Court construe the phrase to mean "capture of a still image without interrupting the display of motion images." Kodak proposes that the phrase need not be construed and that the plain and ordinary language of the phrase should be submitted to the jury. In the alternative, Kodak proposes that, if a construction is necessary, the phrase should be construed in the context of the entire element 15(d), which is "a capture button for initiating capture of a still image while previewing the motion images."

In support of its proposed construction RIM cites to the prosecution history of the '218 Patent. Specifically RIM argues that Kodak argued to the patent Examiner and the patent Examiner understood the claim to mean that still images were captured without interrupting the motion image processing. According to RIM's argument Kodak emphasized this feature of the '218 Patent to distinguish it from the '218 Patent's parent patent, the '406 Patent, and to distinguish the '218 Patent from other prior art.

Kodak asserts that the inclusion of RIM's "without interruption" limitation would be improper because such a limitation is not included in the claim language, specifications, or file history. Furthermore, Kodak argues that RIM's construction would exclude the preferred embodiment disclosed by the patent in which the motion images are generated using a line skipping method. Finally, Kodak urges that any

construction of the phrase include the entire context of the claim element and specifically include the concept of "initiating," which immediately precedes the priority phrase.

In the ITC investigation, the parties disputed not only the "while previewing" language, but also "initiating capture." Judge Luckern determined that "one in the ordinary skill in the art would construe 'initiating capture of a still image while previewing the motion images' as sending a signal from the capture button to the timing and controls section, said signal starting the still image capture process and being sent during the display of motion images." ITC Initial Det., pg. 72. The Commission rejected Judge Luckern's construction as too narrow for importing limitations related to "initiating capture", and construed "initiating capture of a still image" as "'initiating the capture of an image by an image sensor of a still image.'" Commission Op. at 39. The Commission remanded for further proceedings, if necessary, in light of Kodak's demonstration of infringement under the new construction.

In accordance with the rules of claim construction, the Court starts with the language of the claim itself, read in light of the specification, along with the prosecution history, if appropriate. *See Phillips*, 415 F.3d at 1314-1315 (quoting *Vitronics*, 90 F.3d at 1582)(the specification is generally dispositive as "'it is the single best guide to the meaning of a disputed term.'"); *Vivid Technologies, Inc. v. American Science & Engineering, Inc.*, 200 F.3d 795, 804 (Fed. Cir. 1999). Claim 15(d) reads, "[A] capture button for

initiating capture of a still image while previewing the motion images presented on the color display." '218 Patent, col. 12, ll. 63-65.

The Court agrees with Kodak that the phrase must be construed in the context of the entire element of the claim, and in particular that it is necessary to consider that the disputed phrase is immediately preceded by the term "initiating." Failure to consider the word "initiating" entirely changes the meaning of the phrase. As pointed out by Kodak, in its briefing, the concept "initiating capture" is very different than "capture" alone. Initiating capture refers to starting the process that leads to capture of an image. Capture, on the other hand, without any qualifiers refers to the entire process of capturing an image. To not consider the context of the entire element would improperly limit the claim construction because a person of ordinary skill in the art would consider the disputed phrase in accordance with qualifier "initiating."

The primary dispute over the priority phrase "capture of a still image while previewing the motion images" is whether or not the display of motion images is interrupted during this process. However, as just described, the process in dispute is limited by the term "initiating." Therefore the proper question is whether or not the display of motion images is interrupted by the *initiation* of the capture process.

The specification, in detailing the preferred embodiment, describes the still image capture process:

> "To take a still picture, the user turns on the camera (using a power switch (not shown), which may be automatically enabled when the user depresses the zoom buttons 14 or the preview button 15, or

partially depresses the capture button 16).   The user composes the picture by depressing the "zoom in" and "zoom out" buttons 14, and by adjusting the position of the camera, while observing the display image.   When the user is satisfied with the composition on the color LCD display 10, *the user depresses the capture button 16.*   The camera then captures a single still image, firing a flash 18 if necessary when the ambient illumination level is low.   The still image is focused upon an image sensor 20 by a motor driven zoom lens 22.   The intensity of the image light upon the sensor 20 is regulated by a motor-driven, variable, mechanical aperture 24, while exposure time is regulated electronically by appropriate clocking of the sensor 20.   The still image from the image sensor 20 is processed and digitally stored on a removable memory card 26." '218 Patent, col. 3, ll. 29-46.

It goes on to state, "The foregoing description envisions taking a single still picture following the motion preview mode."   *Id.*, col. 9, ll. 25-26.

The reading of this preferred embodiment describes more than the initiation of capturing a still image; it describes a substantial amount of the entire process of capturing a still image. The portion of the specification that describe "initiating capture" is "… the user depresses the capture button …." It is this capture button that initiates the process that leads to a still picture. This conclusion is further supported by the testimony of Dr. Ramchandran, Kodak's expert at the *Markman* Hearing, at which he testified that "... the user can hit the control – the capture button that's provided …. And then once he hits the button he's ready to take the picture and then the camera goes into a still camera mode …." *Markman* Hearing Transcript, pg. 57, ll. 4-10. Therefore, the issue can be furthered refined to whether or not the motion image preview display is interrupted before the user depresses the capture button. There is

very little in the claim language or the specifications that indicates whether or not this interruption occurs.

The file history, however, does indicate that the correct construction of the phrase would be one in which the display of motion images is not interrupted by the initiation of capture of a still image. The file history contains a dialogue between Kodak and the Patent Examiner that indicates that Kodak and patent Examiner understood that the claim means that the motion display was not interrupted.

In an Amendment filed by Kodak on March 8, 2000, Kodak distinguished the claimed invention from the prior art described by the Parulski patent as follows: "These are features of an embodiment of the present invention which enable motion images displayed on the display to be used to compose a still image, and a still image to be captured while previewing the motion images on the display without having to switch modes in the electronic still camera. There is no suggestion in Parulski et al. to provide such features." Pl. Resp. App. pg. 47-48, Amendment, March 28, 2000, pgs 7-8. In addition to this way of distinguishing the invention from the prior art, Kodak went on to further distinguish the invention from the Parulski patent by addressing the fact the '218 Patent also allowed for an alternative method of processing the motion images when compared to the Parulski patent. *Id.*

The patent Examiner, in a later Office Action, stated that this feature was disclosed by another patent, the Ueda patent. In addressing this issue the Examiner - stated:

"Pape fails to specifically disclose the a [sic] still image is captured while previewing the motion images. Although, it is well known in the art as taught by Ueda.

Ueda disclose [sic] a camera system which also records motion and still images where upon imitation of a button (14) a still image is recorded while the motion images are being displayed. The still image can also be displayed (col. 4, lines 26-67 and col. 5, lines 8-11). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature in Pape, as taught by Ueda, such that still images can be recorded without interrupting the motion image processing and review, as taught by Ueda." Pl. Resp. App. pg. 55, Office Action, June 1, 2000, page 3.

In a further Amendment, Kodak did not urge that non-interruption of the motion display was not disclosed by the Ueda patent, like it did in the case of the Parluski patent. Instead of furthering that the Ueda patent did not disclose that the motion image display was not interrupted, Kodak urged that the '218 invention was different than the Ueda patent because of the manner of processing used to generate the images. Specifically Kodak stated:

"In addition, as the Examiner has acknowledged, Pape fails to disclose or suggest that a still image is captured while previewing the motion images. However, the Examiner cites the Ueda reference as providing such teachings.

Although Ueda is directed to a recording apparatus which records a moving image and a still image on the same recording medium, Ueda (and Pape in combination therewith) does not teach or suggest any processing which modifies the color pattern of the color pixel values provided by an image sensor to provide a different color pattern or a different number of color pixel values, as set forth in amended claims 32 and 42. In fact, Ueda does not provide any disclosure or suggestion at all regarding a color image sensor or a color display." Pl. App. pg. 85,

Response Under 37 CFR 1.116, August 8, 2000, page 7.

The above dialogue, between the patent Examiner and Kodak clearly indicates that the understood meaning of the phrase included the concept that the motion image display of Claim 15 of the '218 invention was not interrupted. Kodak asserted that the disclosed invention allowed for capture of a still image while previewing the motion images. The Examiner further described this feature as recording without interrupting the motion image display. In its response, Kodak did not urge that this was not the way in which the invention of the '218 Patent operated. Instead Kodak first argued that this feature, the non-interruption, was not disclosed in the prior art, as in the case of the Parluski patent. Then Kodak, again in the case of the Ueda patent, did not assert that this is not the way in which the invention of the '218 Patent operated. Instead, Kodak distinguished the '218 invention from Ueda based on the processing used to generate images. Therefore, the phrase should be properly construed as it was presented and understood by the Examiner as indicated by the file history. Specifically, that the motion image display is not interrupted.

This limitation is to be applied in the context of all of the language of the claim element, and in particular to the introductory word to the phrase, "initiating" because to ignore this introductory word would improperly alter the meaning of the claim element. Therefore, the limitation that the motion display be uninterrupted only applies to the initiation of capture, not to the entire process of capture, as suggested by RIM. The dialogue between Kodak and the patent Examiner does not make the

distinction between non-interruption during initiating capture and non-interruption during the entire capture process. However, the '218 Patent, with the phrase as written, was ultimately issued by the Patent Office, including the qualifier "initiating." Therefore the dialogue must necessarily be applied to only the claim as it was written and issued.

Further support for a construction that applies the non-interruption of the motion image display to only the initiation phase of the capture process is provided by the fact that a possible embodiment of the '218 invention uses a line skipping method for processing the motion images. As explained by Dr. Ramchandran, Kodak's expert, line skipping is a method used to reduce the amount of processing needed for an image. *Markman* Hearing Transcript, pgs. 58 – 63. Line skipping is particularly useful for processing images for the motion processor; it however is not useful for generating high quality still images. *Id.* As described by the specifications, the line skipping operation is performed upstream from the processing of either motion or still images. '218 Patent, col. 6, ll. 27-50. Since images that have been subjected to the line skipping operation are unsuitable for still image processing, the invention must make a switch between applying the line skipping operation and not applying the line skipping operation depending on whether a motion image or a still image is to be processed. Due the inability to use line skipping processed image data for still images these two modes cannot be operated at the same time. Therefore, it would be impossible for this implementation of the invention to continue processing and displaying motion images

while it is also processing the capture of a still image.

The line skipping feature will work, however, when the non-interruption of the motion image is limited to only initiation of capture. In this instance, the invention can continue to send line skipping processed image data to the motion processor until capture is initiated. Upon initiation of capture of a still image, motion image processing can stop, which allows line skipping to stop so a high resolution still image can be processed. This possible embodiment of the invention would be excluded by a construction that required processing of motion images to continue during the entire processing of a still image. Therefore it would be incorrect to construe the phrase in the way urged by RIM. Furthermore, the Court finds no merit in RIM's argument that line skipping is not applicable to the '218 Patent.

Therefore, the '218 Patent does require interruption of the motion display at least until the point at which capture of a still image is initiated. However, there is no support in the claim language, specifications, or file history for continuing the non-interruption limitation beyond the point at which a initiation of capture of a still image is complete (i.e. after the user depresses the capture button.)

For the foregoing reasons, the Court refuses to adopt the constructions of the phrase as urged by either party in their entirety. Additionally, the Court construes the priority phrase as submitted by the parties with the addition of the word "initiating" to the priority phrase. The Court construes the phrase "initiating capture of a still image while previewing the motion images" to mean "displaying a preview motion image at

the same time that capture of a still image is initiated, without interruption of the

preview motion image until after capture is initiated."

B.    '335 Patent

According to the parties' briefing, the meaning of certain terms/phrases within

Claim 1 of the '335 are at issue. Claim 1 reads as follows:

> "An electronic camera adapted for processing images of different resolution, said camera comprising:
>> an image sensor for generating a baseband image signal representative of color image pixels arranged in vertical and horizontal directions as obtained from a two-dimensional array of photosites covered by a pattern of luminance and chrominance color filters;
>> a buffer memory having sufficient capacity for storing the color image pixels as baseband signals corresponding to at least one image;
>> an output memory, connected subsequent to the buffer memory, for storing processed image signals obtained from the buffer memory;
>> a resolution mode switch for selecting a pixel resolution of the image by specifying an order in which the color image pixels are selected for storage in both vertical and horizontal directions, said order including a full resolution mode in which all color image pixels are selected and at least one reduced resolution mode in which less than all color image pixels are selected;
>> a controller responsive to the pixel resolution selected by the resolution mode switch for accordingly changing the number of horizontal and vertical pixels that represent the image, said controller effecting a subsampling of the color image pixels for the reduced resolution mode; and
>> means for storing the selected color image pixels in said output memory, whereby said output memory is able to store more images in said reduced resolution mode than in said full resolution mode." '335 Patent, col. 8, ll. 29-59.

Claim 1 is an independent claim, so-called because it stands alone and

does not incorporate any other claims within it.

### 1.    Person Of Ordinary Skill In The Art

Dr. Storer, Kodak's expert, described a person of ordinary skill in the art as a person who "would have had a bachelor's degree or the equivalent in electrical engineering or image science and three or more years of work experience relating to image capture, processing, and/or display. Alternatively, a person of ordinary skill may have more education, e.g., a master's degree, but less work experience." Supplemental Expert Report of James A. Storer, Ph. D Regarding U.S. Patent No 5,493,335, pg. 32, par. 94. The Court agrees with Dr. Storer and adopts Dr. Storer's description of a person of ordinary skill in the art.

### 2.    Priority Term/Phrase Needing Construction

The parties agree that the Claim 1 phrase of "processed image signals obtained from the buffer memory" needs to be construed by the Court. The relevant claim language reads as follows: "an output memory, connected subsequent to the buffer memory, for storing processed image signals obtained from the buffer memory." '335 Patent, col. 8, ll. 40-42. However, from the parties proposed constructions it is evident that the real dispute between the parties, is the meaning of "processed image signals."

RIM proposes the Court construe this phrase to mean "image signals taken from the buffer memory that have been subjected to image formatting (e.g., color conversion, subsampling, compression, etc.)." Kodak proposes the Court construe the phrase to mean "image signals taken from the buffer memory that are subjected to image

compression."

Reading the term of the claim in the context of the entire specification, the Court finds that the intrinsic evidence supports Kodak's proposed construction. The specification language offers clear insight into what "processed image signals" means in terms of the '335 Patent and what a person of ordinary skill in the art would understand the phrase to mean. The specification states, "The buffered image signals are processed, e.g., compressed, in a digital signal processor (DSP) and then stored in an output memory, such as flash electrically programmable read-only memory (EPROM)." '335 Patent, col. 4, ll. 33-37. The specification goes on to teach that when "using the camera according to the invention, . . . The image signals are then read from the frame buffer memory 62 at a slower speed, compressed using a DPCM algorithm (which compresses the image from 8 bits per pixel to 2 bits per pixel) implemented in the DSP 64 pursuant to instructions stored in a program ROM 64a, and stored in the flash EPROM memory 66, which can hold several compressed images." '335 Patent, col. 5, ll. 20, 34-40.

The details of the preferred embodiments also support the conclusion that "processed image signals" are those signals that have been compressed. The specification addresses two embodiments of the patent wherein the user can "select the image record size, that is, which of two different resolution levels of sensor data are stored in the frame buffer memory 62." '335 Patent, col. 5, ll. 53-55. In one embodiment, the low resolution mode, "only a quarter of the pixels on the CCD sensor

28 are stored in the memory 62. This quarter size image is then compressed by the DSP 64, and stored in the flash EPROM memory 66." '335 Patent, col. 5, ll. 58-61. In another embodiment, the burst mode, "a burst of up to five low resolution images is taken in rapid succession" and these images "are then read out, one by one, compressed, and stored in the flash EPROM memory." '335 Patent, col. 5, l. 67 – col. 6, ll. 1-3.

In addition to the specification language, other claims in the '335 Patent are instructive as to the meaning of a "processed image signals." Specifically, Claims 9, 11, and 12 all include a "a signal processor for generating a processed image signal by compressing the baseband signal stored in said buffer memory." '335 Patent, col. 10, ll. 38-40; col. 11, ll. 15-17; col. 12, ll. 6-8.

It is clear from the specification, the only process which is required when taking images from the buffer memory is compression. RIM's proposed construction of "image formatting" which could include compression among other processes clearly does not agree with the description of processed image signals provided in the patent specification. It is this specification that is generally dispositive as to the meaning of claim terms. *See Phillips*, 415 F.3d at 1314-1315 (quoting *Vitronics*, 90 F.3d at 1582)(the specification is generally dispositive as "'it is the single best guide to the meaning of a disputed term.'"); *Vivid Technologies, Inc. v. American Science & Engineering, Inc.*, 200 F.3d 795, 804 (Fed. Cir. 1999).

Furthermore, the prosecution history provides more insight into the meaning of

this term. In an amendment to the patent application filed on May 16, 1994, the applicants (patentees) noted in the "Remarks" section that in one embodiment, as set forth in dependent Claim 2, "the buffer memory is used to store reduced resolution images prior to further compression processing by the DSP 64." Def.'s App. at p. 169. In response to a rejection of certain claims, including Claim 1, being unpatentable over prior art, the applicants argued that these claims require "all of the image pixels [be supplied] to a processor for compression." Def.'s App. at p. 170. The Court concludes this is further support for the Court's construction that "processed image signal" taken from the buffer memory and stored in the output memory means an image signal subjected to image compression.

RIM argues that "signals can be processed in any number of ways" including compression but also including color conversion and subsampling. Certainly, as RIM argues, there are other processes to which an image signal might be subjected, but that is not at issue in this claim construction. The term "processing" is not the claim term this Court is to construe; rather, it is what "processed signal images" taken from the buffer memory and then stored in the output memory means. The '335 Patent is for "an electronic camera for processing images," but it is the specific "processed image signals" from Claim 1 that the Court addresses in this claim construction.

In support of its argument, RIM points to language in the specification which states the "buffered image signals are processed, e.g., compressed, in a digital signal processor (DSP) 64."   '335 Patent, col. 4, ll. 33-34. RIM contends that because "e.g."

was used, this indicates that compression is only one example of the processing that the image signals undergo. Reading this term in light of the entire specification, it is clear to the Court that the term "processed image signals" was intended to be and that a person of ordinary skill in the art would understand them to be those signals taken from the buffer memory, then compressed before being stored in the output memory. This single instance of "e.g." being used in this one line of the specification is not enough, without any further support from any other intrinsic evidence, to indicate that "processed image signals" means anything more than the images subjected to compression.

RIM further argues that Kodak's proposed construction limits processing to compression, and that is wrong. As the Court already noted, an image signal may be subjected to different processing other than just compression; however, this relates to the entire concept of "processing" which is not what the Court is construing. The Court is construing "processed image signals" in relation to Claim 1. The Court agrees with Kodak that the image signal does not become a "processed image signal" within the meaning of the '335 Patent unless it is compressed.

The specification and claim language, as the Court has noted, are clear in that compression is the only process required before an image signal is stored in the output memory. '335 Patent, col.5, ll. 35-40, 59-61; col. 6, ll. 1-3; col. 10, ll. 38-40; col. 11, ll. 15-17; col. 12, ll. 6-8.

Because the Court finds that the intrinsic evidence unambiguously describes the meaning of "processed image signals," the Court need not look to and cannot rely upon

extrinsic evidence. *See Key Pharm.*, 161 F.3d at 716; *Vitronics*, 90 F.3d at 1583. The Court finds that the '335 Patent unambiguously defines the phrase "processed image signals" as images that have been compressed, and that a person of ordinary skill in the art would read the patent as a whole and understand the phrase to mean the same. Therefore, the Court construes the phrase "processed image signals taken from the buffer memory" to mean "image signals taken from the buffer memory that are subjected to image compression."

## C.    '161 Patent

At issue in the '161 Patent is Claim 1(A)(a): "a means for performing at least one operation with respect to at least one corresponding type of data, the means for performing at least one operation being responsive to a request to perform an operation of the at least one operation with respect to identified data of the corresponding type of performing the requested operation with respect to the identified data." '161 Patent, col. 88, ll. 7-15. Specifically, the parties dispute "a means for performing at least one operation with respect to at least one corresponding type of data." The parties agree this is a means plus function claim and they agree on the function: "performing at least one operation with respect to at least one corresponding type of data." The Court agrees with this function.

The parties cannot agree, however, on the corresponding structure. RIM contends that this claim is indefinite because the '161 Patent does not disclose a structure that is clearly linked to the agreed function of "performing at least one

operation with respect to at least one corresponding type of data." Specifically RIM asserts that the '161 Patent "simply does not include any description for how to accomplish" this function. If the Court should find that the '161 Patent does link a structure to the claimed function, RIM proposes the following construction: "In response to a request to perform an operation of the at least one operation with respect to identified data of the corresponding type for performing the requested operation with respect to the identified data, the algorithm implemented by the object manager 124 and it Applications Pack (APPACK) 218."

Kodak proposes the following for the Court's construction of the corresponding structure: "The disclosed structure is instructions contained in or available to an object manager (for example, a word processor, spreadsheet program or other application) that directly or indirectly performs the requested operation on the identified data." Because RIM has challenged the definiteness of the '161 Patent, Kodak offers the following additional information to be included should the Court so choose: (1) "These object manager instructions may perform the requested operation by calling subroutines within the object manager, calling subroutines in libraries available to the system, requesting another program to perform the operation, calling an operating system kernel function, or some combination of the foregoing"; and (2) "These object manager instructions implement at least the following general algorithm in response to the request: (1) perform initialization processing, such as identifying the operation to be performed and/or the typed data to be operated upon (for example, by

calling Apinit); (2) access the typed data; and (3) cause the operation to be completed in response to the request (for example, a request issued via an APPACK routine)."

When a patentee avails himself of the statutorily authorized "means plus function" claim form, certain structural limitations from the specification are imported into the claim construction process. *See* 35 U.S.C. § 112, ¶ 6. The parties agree this term must be construed pursuant to 35 U.S.C. § 112, ¶ 6. In interpreting a means plus function claim, the Court first identifies the function recited in the claim, and then identifies the corresponding structure set forth in the written description that performs the particular function set forth in the claim. *See Asyst Tech.*, 268 F.3d at 1369. In this case, the parties have agreed on the function set forth in this claim. What the parties ask the Court to identify is the corresponding structure.

In a software means-plus-function claim, "'the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.'" *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008), quoting *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999)). Therefore, "the patent must disclose, at least to the satisfaction of one of ordinary skill in the art, enough of an algorithm to provide the necessary structure under § 112, ¶ 6." *Finisar Corp.*, 523 F.3d at 1340. That algorithm may be disclosed "in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." *Id.* (internal citations omitted).

RIM argues indefiniteness as to this patent and any corresponding structure. In its opening claim construction brief, RIM argues to the Court that the '161 Patent in its specification does not describe "each step of the algorithm necessary to perform the agreed function of 'performing at least one operation with respect to at least one corresponding type of data.'" In a means-plus-function claim context, indefiniteness involves an argument that no structure in the specification corresponds to the claimed function. *See Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1337-38 (Fed. Cir. 2008)(patent did not disclose the required algorithm and person skilled in the art would not recognize the patent as disclosing any algorithm at all, therefore, patent claim was indefinite).

Before discussing the merits of the parties' arguments, the Court addresses the level of one skilled in the art of the '161 Patent. The Court agrees with Kodak's expert, Dr. Stanley B. Zdonik ("Dr. Zdonik"): "[He or she] would have been working in the software engineering field of 'application integration and object data management. He or she would have at least had a college degree in computer science with some years of actual programming experience and would have been thoroughly conversant with traditional operating systems (e.g., Unix, DOS, Windows), and known several common programming languages (e.g., Pascal, C, and the like)." Def.'s App., Ex. V, at p. 481.

As RIM points out, the correct inquiry the Court must make in determining whether the specification sufficiently "describes and links structure that corresponds to the claimed function" is whether one skilled in the art "would understand the

specification itself to disclose the structure, not simply whether that person would be capable of implementing that structure." *Medical Instrumentation & Diagnostics Corp. v. Elektra AB*, 344 F.3d 1205, 1211-12 (Fed. Cir. 2003); *see also Finisar Corp.*, 523 F.3d at 1340-41(the corresponding structure is sufficiently described if one of skill in the art could "perceive the bounds of the invention."). The Court has carefully read the specification and finds that the '161 Patent sufficiently describes and links the structure needed to accomplish the agreed-upon function of "performing at least one operation with respect to at least one corresponding type of data." *See Finisar Corp.*, 523 F.3d at 1340-41. The Court finds that the specification, more precisely sections 9 and 19, teaches the specific algorithm as a person skilled in the art would understand. '116 Patent, col. 32:16–35:17, and col. 59:48–77:60; *see also WMS Gaming*, 184 F.3d at 1349.

Further supporting the Court's conclusion is the declaration of Kodak's expert, Dr. Zdonik. In it, Dr. Zdonik testifies as to the specific disclosure of the corresponding structure in the '161 Patent relating to the function. He references specific disclosures in the specification, with column and line citations, related to the "algorithmic structure or the building blocks for that structure associated with the *means for performing at least one operation in response to a request* found in [claim] 1(A)(a)." *Id.* at p. 484. Dr. Zdonik testifies that sections 1, 2, and 3 "describe the general concepts of object managers and their overall software architecture and structure," while sections 9 and 19 teach the structures responsible for performing the agreed-upon function. *Id.* at

pg. 482 (citing '161 Patent, col. 32:16-35:18, and col. 59:48-64:10). He goes on to state, "The specification provides multiple disclosed structures that a person skilled in the art would recognize as sufficient to carry out the agreed function." *Id.* Dr. Zdonik responds to RIM's indefiniteness argument with the statement that the '161 Patent discloses several structures for "performing at least one operation with respect to at least one corresponding type of data." *Id.* at 482.

In its responsive claim construction brief, RIM argues that the term "algorithm" is not contained in the patent, and Kodak's proposed construction containing the three step algorithm is simply improper attorney argument. First, the Court could not locate any case law, nor does RIM cite to any, which requires patentees to use the term "algorithm" in the specification to satisfy definiteness requirements. What is required is that the algorithm is disclosed "in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." *Finisar Corp.*, 523 F.3d at 1340. (internal citations omitted). As for the improper attorney argument setting forth a three step algorithm, the Court disagrees. The language to which RIM refers is simply additional language Kodak proposed to the Court for possible inclusion, at the Court's discretion, because RIM argued indefiniteness related to this claim. The Court does not include this language in the construction; therefore, RIM's argument is moot.

The Court concludes Kodak's proposed construction is the proper construction of the corresponding structure, supported by the specification, as one skilled in the art

would understand it to describe the structure. The specification references "libraries of routines," also referred to as "'packs' [which] exist independently of both the operating system and the application programs." '161 Patent, col. 12, ll. 1-4. This supports Kodak's proposed construction, "The disclosed structure is instructions <u>contained in or available to an object manager</u> (for example, a word processor, spreadsheet program or other application) that directly or indirectly performs the requested operation on the identified data." (Emphasis added.); *see also* Def.'s App., Ex. G at p. 135-36, 139. The specification goes on to explain that a routine performing a function "may accomplish this directly itself, or by making a system call, or by a series of interprocess communications with another process." '161 Patent, col. 12, ll. 48-51. This supports the remainder of Kodak's proposed construction, "The disclosed structure is instructions contained in or available to an object manager (for example, a word processor, spreadsheet program or other application) <u>that directly or indirectly performs the requested operation on the identified data</u>." (Emphasis added.)

The parties have agreed, and the Court as well, that the function is "performing at least one operation with respect to at least one corresponding type of data." For the above discussed reasons, the Court finds the following to be the corresponding structure: "The disclosed structure is instructions contained in or available to an object manager (for example, a word processor, spreadsheet program or other application) that directly or indirectly performs the requested operation on the identified data."

### D. Additional Terms/Phrases

On June 28, 2010, the Court ordered the parties to narrow the terms for the Court to construe to five priority terms. The parties agreed on those terms, as set forth *supra*. In its response to the Court, RIM asked the Court to construe an additional four terms, all related to the '335 Patent: "baseband image signal" (Claims 1 and 12), "full resolution mode in which all color image pixels are selected" (Claim 1), "reduced resolution mode in which less than all color image pixels are selected" (Claim 1), and "buffer memory having sufficient capacity for storing the color image pixels as baseband signals corresponding to at least one image" (Claim 12). As the Court indicated to the parties very clearly, only these five priority terms, as agreed upon by the parties, would be construed. The Court refrains from any construction of these additional claims at this point.

**SO ORDERED.**

Signed October 1st, 2012.

_Ed Kinkeade_

ED KINKEADE
UNITED STATES DISTRICT JUDGE

## SUMMARY CHART OF CLAIM CONSTRUCTIONS OF PRIORITY TERMS

## Priority Terms of Patent No. 6,292,218

| Language of Disputed Priority Term of Claims | RIM's proposed Construction | Kodak's Proposed Construction | Judge's Construction |
|---|---|---|---|
| Claim 1 Preamble:<br><br>**An electronic still camera for initiating capture of a still image while previewing motion images on a display,** comprising | **capture of a still image while previewing the motion images**<br><br>"capture of a still image without interrupting the display of motion images" | **capture of a still image while previewing the motion images**<br><br>Kodak does not believe this term requires construction, and should instead be accorded its plain and ordinary meaning. However, if the Court is inclined to construe the term, it is properly construed in the context of element 15(d) (reciting "initiating capture of a still image while previewing motion images") | **capture of a still image while previewing the motion images**<br><br> "displaying a preview motion image at the same time that capture of a still image is initiated, without interruption of the preview motion image until after capture is initiated" |
| Claim 1(b):<br><br>A **motion processor** for generating from the captured images, a second number of color pixel values provided in a second color pattern having at least three representative of a series of motion images to be previewed, the second number of color pixel | **motion processor**<br><br>"a first processor unit, separate from the second processor unit, for motion image processing" | **motion processor**<br><br>"a digital processor that processes a series of motion images" | **motion processor**<br><br>"a digital processor for processing motion images that is a different processor than the still processor" |

| | | | |
|---|---|---|---|
| values being less than the first number of color pixel values, and the second color pattern being different from the first color pattern | | | |
| Claim 1(d)<br><br>a capture button for initiating **capture of a still image while previewing the motion images** presented on the color display | **capture of a still image while previewing the motion images**<br><br>"capture of a still image without interrupting the display of motion images" | **22capture of a still image while previewing the motion images**<br><br>Kodak does not believe this term requires construction, and should instead be accorded its plain and ordinary meaning. | **capture of a still image while previewing the motion images**<br><br>"displaying a preview motion image at the same time that capture of a still image is initiated, without interruption of the preview motion image until after capture is initiated" |
| Claim 1(e):<br><br>a **still processor** for generating a third number of color pixel values including at least three different colors representative of a capture still image, | **still processor**<br><br>"a second processor unit, separate form the first processor unit, for still image processing that operates on the motion images.<br><br>The processor performs image processing at the same time as the motion processor." | **still processor**<br><br>"a digital processor that processes a captured still image" | **still processor**<br><br>"a digital processor for processing still images that is a different processor than the motion processor" |

# Priority Terms of Patent No. 5,493,335

| Language of Disputed Priority Term of Claims | RIM's proposed Construction | Kodak's Proposed Construction | Judge's Construction |
|---|---|---|---|
| Claim 1 (excerpt)<br><br>…an output memory, connected to the buffer memory, for storing **processed image signals obtained from the buffer memory**; | **processed image signals obtained from the buffer memory**<br><br>"image signals taken from the buffer memory that have been subjected to image formatting (e.g. color conversion, subsampling, compression, *etc.*)." | **processed image signals obtained from the buffer memory**<br><br>"image signals taken from the buffer memory that are subjected to image compression" | **processed image signals obtained from the buffer memory**<br><br>"image signals taken from the buffer memory that are subjected to image compression" |

# Priority Terms of Patent No. 5,226,161

| Language of Disputed Priority Term of Claims | RIM's proposed Construction | Kodak's Proposed Construction | Judge's Construction |
|---|---|---|---|
| Claim 1 (A)(a): **means for performing at least one operation with respect to at least one corresponding type of data**, the means for performing at least one operation being responsive to a request to perform an operation of the at least one operation with respect to indentified data of the corresponding type for performing the requested operation with respect to the indentified data. | Governed by 35 U.S.C. § 112(6)<br><br>Function: "performing at least one operation with respect to at least one corresponding type of data"<br><br>Corresponding Structure:<br><br>RIM asserts that this claim is indefinite at least because no structure is disclosed by the '161 patent that is clearly linked to the claimed function and is part of the claimed "each program" such that it is responsive to "a request to perform an operation of the at least one operation with respect to indentified data of the corresponding type for performing the requested operation with respect to the indentified data<br><br>To the extent that the '161 Patent links structure to the | Governed by 35 U.S.C. § 112(6)<br><br>Function: "performing at least one operation with respect to at least one corresponding type of data"<br><br>Corresponding Structure:<br><br>The disclosed structure is instructions contained in or available to an object manager (for example, a word processor, spreadsheet application) that directly or indirectly performs the requested operation on the identified data.<br><br>These object manager instructions may perform the requested operation by calling subroutines within the object manager, calling subroutines in libraries available to the system, requesting another | Governed by 35 U.S.C. § 112(6)<br><br>Function: "performing at least one operation with respect to at least one corresponding type of data"<br><br>Corresponding Structure:<br><br>The disclosed structure is instructions contained in or available to an object manager (for example, a word processor, spreadsheet application) that directly or indirectly performs the requested operation on the identified data. |

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|---|---|---|
| | claimed function, RIM proposes the following:<br><br>In response to a request to perform an operation of the at least one operation with respect to indentified data of the corresponding type for performing the requested operation with respect to the indentified data, the algorithm implemented by the object manager 124 and it Applications Pack (AAPACK) 218. | program to perform the operation, calling an operating system kernel function, or some combination of the foregoing.<br><br>The object manager instructions implement at least the following general algorithm in response to the request: (1) perform initialization processing, such as indentifying the operation to be performed and/or the typed date to be operated upon (for example, by calling APinit); (2) access the typed data; and (3) cause the operation to be completed in response to the request (for example, a request issued via an APPACK routine). | |