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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

GOPRO, INC.,
Plaintiff,
v.
C&A MARKETING, INC., et al.,
Defendants.

Case No. 16-cv-03590-JST

CLAIM CONSTRUCTION ORDER

Re: ECF Nos. 42, 48

Before the Court is Plaintiff GoPro, Inc.'s ("GoPro") Opening Claim Construction Brief, ECF No. 42, and Defendants C&A Marketing, Inc., C&A Licensing, LLC, and PLR IP Holdings, LLC's (collectively, "C&A") Responsive Claim Construction Brief, ECF No. 42. The parties propose competing constructions of four terms of U.S. Patent No. 9,025,896 (the "'896 patent"). The Court will construe the terms as set forth below.

I. BACKGROUND

A. Procedural History

GoPro filed its complaint in this action on June 27, 2016, alleging infringement of the '896 patent, in addition to U.S. Patent No. 9,282,226 (the "'226 patent").¹ ECF No. 1. On March 17, 2017, the parties filed their Joint Claim Construction and Prehearing Statement pursuant to Patent Local Rule 4-3. ECF No. 38. In that statement, the parties agreed that the asserted claims of the '226 patent "require no construction and should be given their plain and ordinary meaning." *Id.* at 2. On April 28, 2017, GoPro filed its Opening Claim Construction Brief. ECF No. 42. On May

¹ On April 14, 2017, GoPro filed a motion for leave to amend its complaint to allege infringement of two design patents by C&A's Polaroid XS80, XS100, and XS100i cameras and Polaroid XS80 and XS100 Lens Replacement Kits. ECF No. 39. In reliance on representations by C&A that it would not make, use, offer to sell, or sell within or import into the United States any of these products after May 15, 2017 and would destroy any existing supply of these products, GoPro agreed to withdraw its motion. ECF No. 51.

1 12, 2017, C&A filed its Responsive Claim Construction Brief. ECF No. 48. C&A attached to that
 2 brief the supporting Declaration of Alan C. Bovik (“Bovik Declaration”). ECF No. 48-2. On May
 3 19, 2017, GoPro filed its Reply Claim Construction Brief. ECF No. 53. The same day, GoPro
 4 filed a Motion to Strike the Bovik Declaration on the ground that C&A did not properly disclose
 5 the testimony as required under the Court’s Patent Local Rules. ECF No. 54. By Order dated
 6 May 31, 2017, the Court granted the Motion to Strike, ECF No. 62, and thus does not consider the
 7 Bovik Declaration in construing the disputed claims. On June 15, 2017, the Court conducted a
 8 Markman hearing.² ECF No. 71.

9 **B. The ’896 Patent**

10 The ’896 patent is titled “Compression and Decoding of Single Sensor Color Image Data.”
 11 ECF No. 38-2 (’896 patent) at Cover. The patent issued on May 5, 2015, but claims priority to a
 12 provisional application filed on March 22, 2006. Id. The patent “relates to compression and
 13 retrieval of video content gathered from a single-sensor imager.” Id. at 1:32-33. According to the
 14 patent, “[p]rofessional video cameras typically have three sensors to collect light, each filtered for
 15 red, green, and blue channels.” Id. at

16 1:37-38. In contrast, “digital still
 17 photography . . . uses a single sensor
 18 design with individual pixels filtered
 19 for red, green, and blue” Id. at
 20 1:40-42. This “single-sensor” is
 21 sometimes called a “Bayer sensor.”
 22 Id. at 1:44. Figure 1 of the ’896

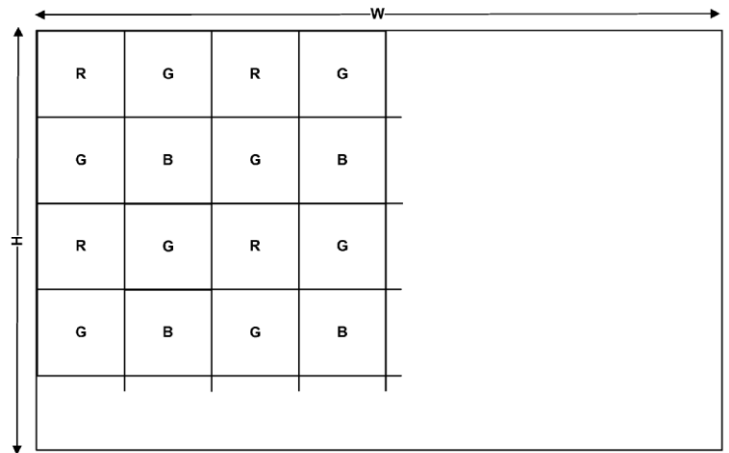


FIG. 1: Typical Bayer sensor

23 patent, reproduced here, is a graphical
 24 depiction of a typical Bayer sensor.³

25 The image data collected from Bayer sensors – known as a “RAW image” – must

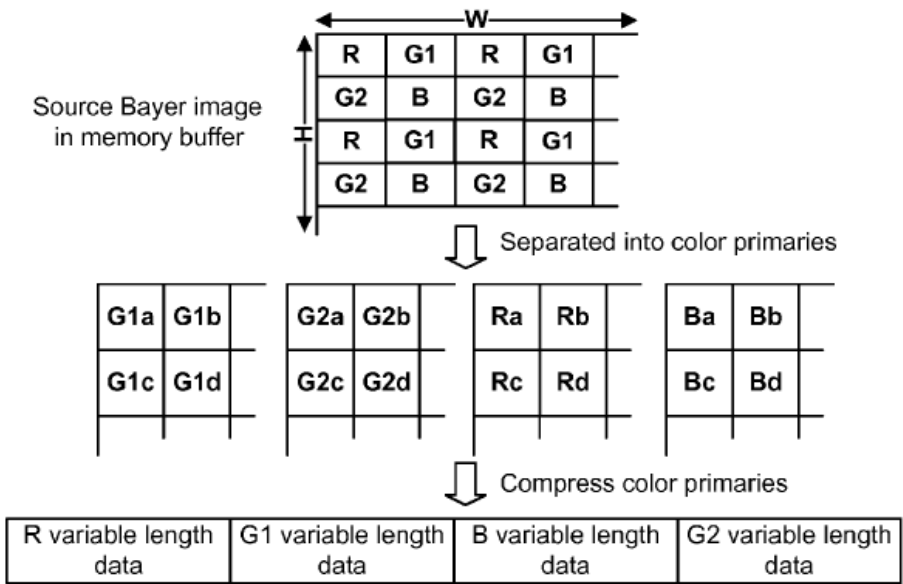
26 _____
 27 ² On June 15, 2017, the Court denied C&A’s motion to stay litigation pending inter partes review.
 ECF No. 71.

28 ³ As shown in Figure 1, Bayer sensors typically have twice as many green cells as red cells and are
 arranged in 2x2 pixel grids. ’896 patent at 2:66-3:2.

1 generally be converted into YUV or RGB images that can be used by “traditional post-production
2 tools.” Id. at 1:52-54. This is typically done using a process known as “De-bayer filtering (or
3 demosaicing),” which the patent describes as follows:

4 De-Bayer filtering (or demosaicing) is the process of interpolating
5 the missing color components at every pixel location. As acquired,
6 the Bayer sensor only collects one of the three color primaries at
7 every pixel site—the two other primaries are predicted via a range of
8 different algorithms that typically take substantial compute time for
9 high quality results.

10 Id. at 4:14-20. To compress a Bayer image into a format like MPEG, the demosaicing process
11 will take a 1920x1080 plane, for example, and expand it into three separate 1920x1080 planes, one
12 corresponding to each of the primary colors (red, green, and blue). See e.g. id. at 4:23-34. The
13 disadvantage of this method is that it “increases the size of the data by 3x” and “potentially
14 introduces visual artifacts.” Id. The patent describes an alternative means of compressing a Bayer
15 image: “encoding four quarter-resolution planes versus three full-resolution planes.” Id. at 4:34-
16 37. As an example, “[a] single high definition Bayer frame of 1920x1080 interleaved red, green,
17 and blue pixels can be separated into four planes of quarter-resolution images, each consisting [of]
18 960x540 pixels of either the red component, blue component, or one of the two green
19 components.” Id. at 3:52-56. This is shown in Figure 7, reproduced in part below:



26 According to the patent, this method reduces “the computational load” resulting in “simpler
27
28

1 implementations and longer camera battery life,” and reduces the size of the compressed data. *Id.*
2 at 4:34-37. The patent describes that these planes can be used to construct a “preview” image, a
3 lower resolution image that might be displayed, for example, in a viewfinder of a digital video
4 camera. *Id.* at 4:54-5:5.

5 The parties dispute four claim terms in claims 1 and 10 of the ’896 patent. Claim 1 recites
6 a method while Claim 10 recites the system corresponding to the method. Claim 1 is reproduced
7 below, with the disputed claim terms highlighted in bold:

8
9 1. A method for decoding an encoded image, the method
comprising:

10 storing **encoded image data** in a non-transitory computer-
11 readable storage medium, the encoded image data representative
12 of an original image at an original resolution, the original image
comprising a plurality of image planes, the encoded image data
13 comprising **a set of encoded image planes each representative
of one or more of the image planes of the original image;**

14 receiving a request for a preview of the original image, the
15 requested preview comprising the original image at a preview
resolution less than the original resolution; and

16 in response to receiving the request for a preview of the original
image:

17 **accessing a subset of the set of encoded image planes**, the
18 subset comprising less than all of the set of encoded image
planes; and

19 decoding, by a processor, the **accessed subset of encoded
image planes** to produce the original image at the preview
20 resolution.

21 **II. APPLICABLE LAW**

22 The construction of terms found in patent claims is a question of law to be determined by
23 the court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc),
24 aff'd, 517 U.S. 370 (1996). “[T]he interpretation to be given a term can only be determined and
25 confirmed with a full understanding of what the inventors actually invented and intended to
26 envelop with the claim.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting
27 *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)); see also
28 *MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1256 (Fed. Cir. 2012) (when construing claims,

1 courts must consider “what was invented, and what exactly was claimed.”). The “correct
2 construction,” therefore, is one that “stays true to the claim language and most naturally aligns
3 with the patent’s description of the invention.” Id. While not every claim term must be construed,
4 “[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the
5 court’s duty to resolve it.” O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co., 521 F.3d 1351,
6 1362 (Fed. Cir. 2008); see also Every Penny Counts, Inc. v. Am. Express Co., 563 F.3d 1378,
7 1383 (Fed. Cir. 2009) (“[T]he court’s obligation is to ensure that questions of the scope of the
8 patent claims are not left to the jury. In order to fulfill this obligation, the court must see to it that
9 disputes concerning the scope of the patent claims are fully resolved.”) (citation omitted).

10 “It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention.’ ”
11 Id. at 1312 (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111,
12 1115 (Fed. Cir. 2004)). The Federal Circuit has held that words of a claim are generally given
13 their “ordinary and customary meaning,” which is the “meaning that the term would have to a
14 person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective
15 filing date of the patent application.” Id. at 1312-13. In some cases, the ordinary meaning of
16 claim language is “readily apparent,” and “claim construction . . . involves little more than the
17 application of the widely accepted meaning of commonly understood words.” Id. at 1314. In
18 other cases, “determining the ordinary and customary meaning of the claim requires examination
19 of terms that have a particular meaning in a field of art.” Id. Claim construction may deviate from
20 the ordinary and customary meaning of a disputed term only if “a patentee sets out a definition and
21 acts as his own lexicographer” or if “the patentee disavows the full scope of a claim term either in
22 the specification or during prosecution.” Thorner v. Sony Computer Entm’t Am. LLC, 669 F.3d
23 1362, 1365 (Fed. Cir. 2012) (citing Vitronics Corp v. Conceptoronic, Inc., 90 F.3d 1576, 1580 (Fed.
24 Cir. 1996)).

25 In claim construction, “the claims themselves provide substantial guidance as to the
26 meaning of particular claim terms.” Phillips, 415 F.3d at 1314. The “context in which a term is
27 used in the asserted claim,” “[o]ther claims of the patent in question, both asserted and
28 unasserted,” and “[d]ifferences among claims” are all instructive. Id. “The claims, of course, do

1 not stand alone” and instead “must be read in view of the specification,” which is “[u]sually . . .
 2 dispositive” and “the single best guide to the meaning of a disputed term.” Id. at 1315. Courts
 3 “normally do not interpret claim terms in a way that excludes disclosed examples in the
 4 specification.” Verizon Servs. Corp. v. Vonage Holdings Corp., 503 F.3d 1295, 1305 (Fed. Cir.
 5 2007). Additionally, the Federal Circuit has cautioned that “limitations from the specification are
 6 not to be read into the claims.” Comark Commc’ns, Inc. v. Harris Corp., 156 F.3d 1182, 1186
 7 (Fed. Cir. 1998). Even if a patent describes only a single embodiment, the Federal Circuit has
 8 “expressly rejected” the contention that the claims must be construed as being limited to that
 9 embodiment. Phillips, 415 F.3d at 1323. In addition to consulting the specification, “the court
 10 should also consider the patent’s prosecution history.” Markman, 52 F.3d at 980 (citing Graham
 11 v. John Deere Co., 383 U.S. 1, 33 (1966)). However, because the “prosecution history represents
 12 an ongoing negotiation between the [Patent and Trademark Office] and the applicant, rather than
 13 the final product,” it “often lacks the clarity of the specification” and therefore “is less useful.”
 14 Phillips, 415 F.3d at 1317.

15 Though intrinsic evidence – the claims, specification, and prosecution history – is more
 16 significant and reliable than extrinsic evidence, courts may also consider the extrinsic record in
 17 claim construction, including expert and inventor testimony, dictionaries, and learned treatises. Id.
 18 at 1317-18. Within the class of extrinsic evidence, dictionaries, and especially technical
 19 dictionaries, “can assist the court in determining the meaning of particular terminology to those of
 20 skill in the art” because they “endeavor to collect the accepted meanings of terms used in various
 21 fields of science and technology.” Id. at 1318.

22 **III. THE DISPUTED CLAIM TERMS**

23 **A. “a set of encoded image planes” (claims 1 and 10)**

GoPro’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning. Alternatively: “image planes resulting from modifying and compressing raw image data”	“image data first compressed without demosaicing and then stored in the recording medium as sets of data”

28

1 GoPro argues that this term “is sufficiently clear on its face and would not benefit from
2 claim construction.” ECF No. 42 at 7. It alternatively proposes a construction of “image planes
3 resulting from modifying and compressing raw image data.” *Id.* C&A proposes a construction of
4 “image planes resulting from modifying and compressing raw image data.” ECF No. 48 at 9.

5 The Court first considers whether the term requires any construction. The words in this
6 claim term are not particularly complicated or overly technical in nature. However, since the
7 parties present a fundamental dispute regarding the proper scope of the claim as it relates to this
8 term, failing to construe this term could result in the parties making claim construction arguments
9 before the jury. *O2 Micro Int’l Ltd.*, 521 F.3d at 1362; *Every Penny Counts, Inc.*, 563 F.3d at
10 1383. Moreover, even if the meaning of this term would be clear to one of ordinary skill in the art,
11 it may not be clear, in the context of the technical field of digital videography, to a lay jury.
12 *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1360 (Fed. Cir. 2008) (“claims are construed as an
13 aid to the decision-maker, by restating the claims in non-technical terms”). The Court will
14 therefore construe this term.

15 The parties agree that “a set of encoded image planes” requires that image data be
16 compressed. C&A’s proposed construction adds to this the limitations that (1) the compression is
17 performed first “without demosaicing” and (2) that the image data is then “stored in the recording
18 medium as sets of data.” The Court addresses each in turn.

19 GoPro contends that “[a] demosaicing concept appears nowhere in the ’896 Patent’s
20 claims, nor does its specification contain any indication . . . that the patentee intended to disclaim
21 or otherwise redefine ‘encoded’ as ‘compressed without demosaicing.’” ECF No. 42 at 9. GoPro
22 further contends the “without demosaicing” limitation would exclude a disclosed embodiment, as
23 “the specification discloses certain embodiments of the invention where demosaicing is performed
24 using a de-Bayer filter.” *Id.* (emphasis in original). Specifically, GoPro points to an embodiment
25 in the patent in which “[a] lower quality, but more efficient, de-Bayer filter can be used for real
26 time preview during editing and a higher quality algorithm . . . can be used for export (e.g., to film
27 or a digital presentation format).” ECF No. 42 at 9, citing ’896 patent at 6:34-36. GoPro notes
28 that C&A took the position in its April 21, 2017 petition for inter partes review that “there is no

1 evidence of disclaimer in the '896 [patent's] specification or prosecution history that excludes any
2 embodiment” and that “no construction is necessary” for the disputed terms. Id. at 7 (quoting
3 C&A Marketing, Inc. v. GoPro, Inc., Petition for Inter Partes Review, Case No. IPR2017-01300 at
4 11 (Apr. 21, 2017)) (emphasis in original).

5 C&A contends that “[t]he '896 patent background, specification, and provisional
6 application consistently distinguish the prior art process of demosaicing RAW data.” ECF No. 48
7 at 9. C&A argues that the patent distinguishes the prior art method of demosaicing prior to
8 compression – which “increases the size of the data by 3x” and does not benefit compression (id.
9 at 10, citing '896 patent at 4:23-34) – with the claimed invention, in which “[n]o data is added or
10 lost . . . as it is with de-Bayer processing” (id., quoting '896 patent at 4:10-13). C&A also points
11 to the provisional application to which the '896 patent claims priority, which states that the
12 “invention relies on a different processing order that delays the computationally expensive de-
13 bayer operation to occur after the compression step,” ECF No. 48-4 at 3, and disparages de-Bayer
14 filtering as “slow,” id. at 6. According to C&A, its construction does not exclude the embodiment
15 identified by GoPro, as that embodiment describes application of a de-Bayer filter after
16 compression. ECF No. 48 at 12.

17 The Court begins with the words of the claims themselves. Phillips, 415 F.3d at 1314.
18 The claims impose no requirement that “a set of encoded image planes” consists of image data
19 compressed first without demosaicing. The claims do not mention demosaicing at all, much less
20 preclude demosaicing or require compression before demosaicing. Thus, to limit the term in the
21 manner sought by C&A, the Court would have to find that “clear and unmistakable statements by
22 the patentee that limit the claims.” GE Lighting Sols., LLC v. AgiLight, Inc., 750 F.3d 1304,
23 1309 (Fed. Cir. 2014). Under Federal Circuit law, a patentee can disavow claim scope and limit
24 the claimed invention to a particular feature by, among other things, describing that feature as a
25 “very important feature . . . in an aspect of the present invention” and disparaging alternatives to
26 that feature. Inpro II Licensing, S.A.R.L. v. T-Mobile USA Inc., 450 F.3d 1350, 1354–55
27 (Fed.Cir.2006).

28 The Court agrees with GoPro that the statements in the specification of the '896 patent do

1 not rise to the level of disavowal. Inpro provides a useful contrast. There, the parties disputed the
2 construction of the term “host interface” and whether the term required a “direct parallel bus
3 connection.” Inpro, 450 F.3d at 1353. The Federal Circuit found that the district court properly
4 construed the term to require a direct connection based on: (1) a statement in the specification that
5 described the direct connection as a “very important feature” of the claimed invention; (2) the fact
6 that the only “host interface” described in the patent was a direct connection; (3) the
7 specification’s discussion of how a direct connection solved a problem in the prior art; and (4) the
8 discussion in prosecution history of related applications of the advantage of a direct connection
9 over serial connections. Id. at 1355-56. The Court does not find the statements in the ’896
10 patent’s specification to be as clear a disclaimer as that relied on by the Federal Circuit in Inpro.
11 While the specification does acknowledge the limitations of demosaicing, it does not clearly state
12 that the invention excludes demosaicing prior to compression. Nor does the patent state that
13 compression without demosaicing is an “important feature” of the claimed invention. Moreover,
14 C&A does not identify any portion of the prosecution history where the patentees distinguished
15 the claimed invention over prior art based on the compression being performed without
16 demosaicing.⁴

17 The excerpts from the provisional application go further in disparaging methods requiring
18 demosaicing prior to compression.⁵ See e.g. ECF No. 48 at 7-8. But, as C&A acknowledges, the
19 patentee was “describing how ‘the invention’ is ‘different’ from the prior art” Id. at 8. C&A
20 does not contend that the “invention” of the provisional application, filed eight years before the
21

22 ⁴ The Court agrees with C&A that its arguments in its petition for inter partes review (“IPR”) that
23 the claims required no construction do not constitute an admission for purposes of the claim
24 construction in the district court litigation. See ECF No. 48 at 13. As C&A notes, it merely stated
25 that the construction of the claims did not matter for purposes of its IPR. Id. Moreover, given that
26 that the Patent Trial & Appeal Board (“PTAB”) applies a different standard of claim construction
27 than this Court, C&A could conceivably take different positions in PTAB proceedings than in this
28 Court. See In re Cuozzo Speed Techs., LLC, 793 F.3d 1268, 1278 (Fed. Cir. 2015) (discussing
Congress’s intent that the PTAB apply the “broadest reasonable interpretation” standard in
construing claims in inter partes review).

⁵ Where a patent incorporates a provisional patent application by reference, the statements in the
provisional application can serve to limit the scope of the claims. See In re MyKey Tech. Inc. Pat.
Litig., No. MDL 13-02461 GAF (PLAx), 2014 WL 2740733 at *21-22 (C.D. Cal. Jun. 17, 2014);
Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340, 1348 (Fed. Cir. 2004).

1 '896 patent, is the same as that claimed in the '896 patent. Indeed, the provisional application
 2 describes its invention as “RAW Bayer compression occurring within the camera itself or with the
 3 camera tethered to an external device that performs the Bayer compression.” ECF No. 48-1 at 8.
 4 In contrast, the '896 patent claims a method of image compression using single-sensor color
 5 imagers, and a method of providing a preview image at a lower resolution than the original
 6 captured image. See '896 patent at Abstract, Claim 1.

7 Moreover, the Court agrees with GoPro that one of the embodiments disclosed in the '896
 8 patent appears to describe demosaicing RAW image data before compression. The patent explains
 9 that in this embodiment a “lower quality, but more efficient, de-Bayer filter can be used for real-
 10 time preview during editing” and “a high quality algorithm, which may be computationally
 11 slower, can be used for export (e.g., to film or a digital presentation format).” '896 patent at 6:34-
 12 38 (emphasis added). Though not explicit, this statement appears to contrast the use of a de-Bayer
 13 filter for “real-time preview,” using uncompressed data, with the high quality images ultimately
 14 exported for display on a larger screen, which presumably must be compressed. Given that
 15 C&A’s proposed limitation of “without demosaicing” would exclude this embodiment, it is likely
 16 incorrect. Epos Techs. Ltd. v. Pegasus Techs. Ltd., 766 F.3d 1338, 1347 (Fed. Cir. 2014) (“a
 17 claim construction that excludes the preferred embodiment . . . is rarely, if ever, correct . . .”).
 18 Thus, the Court declines to limit the term “a set of encoded image planes” to image data
 19 compressed without demosaicing.

20 The Court next considers whether the term “a set of encoded image planes” requires that
 21 image data is “stored in the recording medium as sets of data” as proposed by C&A. The parties
 22 agree that the set of encoded image plans is initially “stored in the recording medium.” ECF No.
 23 42 at 7; ECF No. 49 at 12. But GoPro contends that C&A’s proposed limitation of “stored in the
 24 recording medium” requires “that the encoded image planes must forever remain [in the storage
 25 medium] throughout the decoding process,” which is incorrect because “they must necessarily be
 26 read out of storage to be decoded.” ECF No. 42 at 10. C&A responds that its proposal does not
 27 require that encoded image planes remain forever in storage, and agrees with GoPro that image
 28 planes must necessarily be read out of storage as part of the decoding process. GoPro further

1 contends that the additional limitation proposed by C&A is unnecessary because claim 1 explicitly
2 recites “storing encoded image data in a non-transitory computer-readable storage medium,” with
3 encoded image data “compris[ing] a set of encoded image planes.” ECF No. 42 at 10, citing ’896
4 patent, at Claim 1. The Court agrees with GoPro that the limitation “stored in the recording
5 medium” is unnecessary in light of the surrounding claim language that already requires the
6 encoded image data, comprising a set of encoded image planes, to be stored in a computer-
7 readable storage medium. C&A argues that some construction is necessary because without the
8 added limitation “compression can have two meanings: (1) reduced-size data for storage and (2)
9 reduced-size data for transmission.” ECF No. 48 at 15. However, since neither party argues that
10 the latter meaning of compression applies, there is no danger that the parties will improperly
11 advance different claim interpretations in front of the jury. Id.; cf. O2 Micro Int’l Ltd., 521 F.3d at
12 1362. The Court therefore rejects the portion of C&A’s construction requiring a set of encoded
13 image planes to be “stored in the recording medium.”

14 The parties’ dispute regarding “sets of data” appears to be grammatical – GoPro contends
15 that the plural “sets of data” is inconsistent with the singular “set of image planes,” while C&A
16 responds that “sets of data” refers to the plural “image planes.” ECF No. 42 at 11; ECF No. 48 at
17 16. As the Court will not construe the “a set of encoded image planes” to require that image data
18 be “stored in the recording medium,” the Court need not address whether the image data must be
19 stored in the recording medium “as sets of data.”

20 C&A’s only criticism of GoPro’s proposed construction is that it requires “modifying”
21 RAW image data, which, according to C&A, is inconsistent with one of the embodiments
22 disclosed in Figure 7 of the ’896 patent. ECF No. 48 at 14. According to C&A, in Figure 7,
23 “RAW image data is separated into individual color planes and compressed,” and “[t]he
24 compressed RAW data is unmodified; it is still RAW data.” Id. Figure 8, in contrast, discloses
25 “differencing” of raw image data, which C&A says is modification of raw image data. Id. GoPro
26 responds that separating an image into individual color planes, even without differencing, is
27 “modification” of the image data, which is consistent with the embodiment disclosed in Figure 7.
28 ECF No. 53 at 7. GoPro further contends that in the ’896 patent, “only modified raw image data is

1 compressed.” Id. at 7. Here, the Court agrees with C&A. Nothing in the claims or specification
 2 requires “modifying” raw image data. Separating raw image data into planes corresponding to
 3 different colors does not modify the underlying image data. The patent’s only reference to
 4 “modifying” image data is in reference to “differencing,” which is not disclosed in Figure 7. See
 5 ’896 patent, at 3:4:6-8 (referring to “modified image planes” as a result of “differencing the
 6 channels”).

7 The Court therefore construes the term “a set of encoded image planes” as “image planes
 8 resulting from compressing raw image data.”

9 **B. “encoded image data” (claims 1 and 10)**

GoPro’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning. Alternatively: “data that consists of a set of encoded image planes”	“data obtained from an image sensor (i.e. RAW data) and then compressed without demosaicing”

14 GoPro argues that this term requires no construction. ECF No. 42 at 9. It alternatively
 15 proposes a construction of “data that consists of a set of encoded image planes.” Id. C&A
 16 proposes a construction of “data obtained from an image sensor (i.e. RAW data) and then
 17 compressed without demosaicing.” ECF No. 48 at 17.

18 The Court agrees with GoPro that this term requires no construction. It consists of three
 19 straightforward, non-technical terms that a lay juror would have no trouble understanding.
 20 Moreover, the claims themselves provide a straightforward definition of “encoded image data”:
 21 “data representative of an original image at an original resolution . . . comprising a set of encoded
 22 image planes” ’896 patent at Claims 1, 10. The Court has already construed “a set of
 23 encoded image planes,” and in doing so resolved the parties’ primary dispute with respect to the
 24 “encoded image data” term – whether image data must be compressed without demosaicing. The
 25 Court therefore finds that this term should be given its plain and ordinary meaning. O2 Micro
 26 Int’l Ltd., 521 F.3d at 1362 (“district courts are not (and should not be) required to construe every
 27 limitation present in a patent’s asserted claims”).
 28

1 **C. “a set of encoded image planes each representative of one or more image
2 planes of the original image” (claims 1 and 10)**

GoPro’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning. Alternatively: “a set of encoded image planes, each encoded image plane representative of one or more image planes of the original image”	“image data first compressed without demosaicing and then stored in the recording medium as sets of data, each set of data corresponding to an image plane of the sensor”

7 GoPro again argues that this phrase requires no construction. ECF No. 42 at 13. It
8 alternatively proposes a construction of “a set of encoded image planes, each encoded image plane
9 representative of one or more image planes of the original image.” *Id.* C&A proposes a
10 construction of “image data first compressed without demosaicing and then stored in the recording
11 medium as sets of data, each set of data corresponding to an image plane of the sensor.” ECF No.
12 48 at 16. With respect to this phrase, the parties dispute the same issues the Court already
13 resolved with respect to the term “a set of encoded image planes.” Given the Court’s construction
14 of “a set of encoded image planes,” the Court concludes that the larger phrase requires no further
15 construction.

16 **D. “access[ing] a subset of the set of encoded image planes” (claims 1 and 10)**

GoPro’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning. Alternatively: “accessing less than all of the set of encoded image planes”	“accessing some but not all of the encoded image planes of a frame”

21 GoPro again argues that this phrase requires no construction. ECF No. 42 at 11. It
22 alternatively proposes a construction of “accessing less than all of the set of encoded image
23 planes.” *Id.* C&A proposes a construction of “accessing some but not all of the encoded image
24 planes of a frame.” ECF No. 48 at 18. The parties dispute two aspects of their respective
25 proposals: (1) the proper construction of “subset”; and (2) whether the term requires accessing
26 “image planes of a frame.”

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1. “subset”

GoPro contends that, if this phrase is construed at all, the term “subset” should be construed as “less than all” based on its definition in the claims themselves. ECF No. 42 at 16 (“However, the claim defines ‘subset’ immediately after its use: ‘the subset comprising less than all of the set of encoded image planes.’”) (citing ’896 patent at 7:24-25). C&A counters that “less than all” is ambiguous because it could include a null set, since none is “less than all.” ECF No. 48 at 18. According to C&A, this would “render the claim language absurd.” Id.

The claims require that the decoder access a subset of the encoded image planes for purposes of generating a preview image: “a decoder configured to, in response to receiving the request a preview of the original image . . . access a subset of the set of encoded image planes . . . and decode the accessed subset of encoded image planes to produce the original image at the preview resolution.” ’896 patent at 8:17-23. If “subset” could refer to none, as would be possible under GoPro’s “less than all,” construction, accessing and decoding none of the set of encoded image planes could meet this limitation. Put another way, the claim could be met by generating a preview image without ever accessing or decoding image planes. During the Markman hearing, GoPro confirmed that, in its view, this would fall within the scope of the claims:

The drafter says “less than all” and there is no dispute that in math – this is an uncontrovertible mathematical truth, that less than all or a subset includes something called the empty set, which is nothing. So from a – using the word “subset” in a patent dealing with a lot of math, a person of ordinary skill in the art would understand that you could, in fact, access none of the encoded image planes and still meet the claim.

Hrg. Tr. at 15:22-16:5.

On one hand, “courts may not redraft claims, whether to make them operable or to sustain their validity.” Chef Am., Inc. v. Lamb-Weston, Inc., 358 F.3d 1371, 1374 (Fed. Cir. 2004); see also Haemonetics Corp. v. Baxter Healthcare Corp., 607 F.3d 776, 781 (Fed. Cir. 2010) (“we construe claims with an eye toward giving effect to all of their terms . . . even if it renders the claims inoperable or invalid”) (internal citation omitted). On the other hand, construing “subset” as “less than all” – allowing the claim to be satisfied by accessing none of the encoded image planes – would effectively read out the entire decoding step, because there would be no encoded

1 image planes to decode. Bicon, Inc. v. Straumann Co., 441 F.3d 945, 950 (Fed. Cir. 2006)
2 (“claims are interpreted with an eye toward giving effect to all terms in the claim.”). Moreover, in
3 construing the claims the Court must always consider what the patentees actually invented when
4 considering the patent as a whole. MySpace, Inc., 672 F.3d at 1256 (when construing claims,
5 courts must consider “what was invented, and what exactly was claimed.”). The Court is
6 confident that the patentees did not intend to – and did not – claim display of a preview image
7 without any decoding. Indeed, decoding appears to be at the heart of the claimed invention, as
8 evidenced by the title of the patent: “Compression and Decoding of Single Sensor Color Image
9 Data.” Thus, the Court will adopt C&A’s construction of “subset” as “some but not all.”

10 **E. “of a frame”**

11 The crux of the dispute with respect to C&A’s proposed addition of the “of a frame”
12 limitation is whether the claimed method (and the corresponding system) must operate on a single
13 frame – one of several images that make up a video – or whether it can instead be applied to a
14 video as a whole.

15 GoPro contends that C&A’s proposed addition of the phrase “of a frame” is an improper
16 attempt “to limit the set of encoded image planes to one frame.” ECF No. 42 at 16. GoPro notes
17 that the word “frame” does not appear anywhere in the claims, suggesting the claims are not so
18 limited. Id. at 13. GoPro argues that the patent clearly relates to video compression, which
19 necessarily involves multiple frames rather than a single frame as suggested by C&A’s
20 construction. Id. at 17.

21 C&A responds that “[t]he text of the patent is . . . clear that the claimed systems and
22 methods are directed to decoding an individual image or individual frame of a video, not a video
23 as a whole made up of multiple frames.” ECF No. 48 at 19. It points to Figure 7 of the patent,
24 which depicts “Bayer compression,” and separates a “Source Bayer image in memory buffer” into
25 four image planes. C&A notes that the ’896 patent’s specification describes a “Bayer image” as a
26 “single high definition Bayer frame.” ’896 patent, at 3:52-56. C&A further contends that the “of
27 a frame” limitation is also consistent with the provisional application, which explains that “a
28 single high definition Bayer frame can be separated into four planes.” ECF No. 48 at 19. C&A

1 warns that GoPro seeks to broaden the claim for purposes of advancing its infringement claims,
2 and without a clarifying construction “could mislead the factfinder into believing the claim term is
3 far broader than the disclosure supports.” Id. at 20.

4 The parties’ dispute became clearer at the Markman hearing. C&A explained that its
5 proposed addition of “of a frame” does not preclude video processing as GoPro suggests.
6 According to C&A, the claimed invention is about “encoding and then doing a preview mode
7 decode or fast decode of each image,” and the claims “as written, read[] only on [] single frame
8 processing, but you can do it over and over and over again.” Hrg. Tr. at 33:3-7. In argument,
9 C&A focused on Figure 7, which depicts an embodiment of the claimed invention, in which a
10 single frame is separated into four image planes, two green, one red, and one blue. ’896 patent at
11 Fig. 7. In the embodiment, a subset of the planes – three of the four planes, discarding the extra
12 green plane – is used to reconstruct a full color, lower resolution preview image. According to
13 C&A, Figure 7 clearly shows that the claimed invention operates on frames rather than an entire
14 video. C&A argues that in the absence of the “of a frame” limitation, generating a lower quality
15 preview of a video by simply reducing frame rate – for example, taking out one out of every three
16 frames – could satisfy the claims. This is because, if each frame consists of encoded image planes,
17 accessing a subset of frames of a video would necessarily mean accessing a subset of the encoded
18 image planes. The problem with this, according to C&A, is that the patentees did not invent the
19 concept of reducing frame rate, and that is not the invention claimed by the patent. See Hrg. Tr. at
20 31:5-39:6.

21 GoPro conceded at the hearing that the claimed invention could be used to process video
22 by compressing and decoding one frame at a time, with the process repeated for each frame. Id. at
23 46:24-47:6 (stating that the claimed invention could be carried out on a “frame-by-frame basis”).
24 GoPro also did not dispute that, in its view, the “access[ing] a subset of the encoded image planes”
25 limitation could be met by simply reducing frame rate. Id. at 47:20-49:20. Yet, GoPro conceded
26 that it did not invent the concept of reducing frame rate. Id. at 50:5-9.

27 This is a close issue. The Court starts with the words of the claims themselves, which do
28 not use the word “frame” or explicitly limit the claim to compression of a single frame. Vitronics,

1 90 F.3d at 1582 (“we look to the words of the claims themselves . . . to define the scope of the
2 patented invention”). However, the Court agrees with C&A that the patent cannot be fairly read as
3 pertaining to reducing frame rate. Indeed, the patent contains no discussion of frame rate
4 reduction. Given GoPro’s admission that, in the absence of any further limiting construction,
5 frame rate reduction would fall within the scope of the claims, and that it did not invent the
6 concept of frame rate reduction, the Court concludes that the addition of the “of a frame”
7 limitation is necessary and consistent with the patent’s description of the claimed invention.⁶
8 Renishaw PLC v. Marposs Societa’ per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998)
9 (“Ultimately, the interpretation to be given a term can only be determined and confirmed with a
10 full understanding of what the inventors actually invented and intended to envelop with the
11 claim.”).

12 The Court therefore construes the term “access[ing] a subset of the set of encoded image
13 planes” as “access[ing] some but not all of the encoded image planes of a frame.”

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25 ⁶ The Court is cognizant of the general rule that “forbids biasing the claim construction process to
26 exclude or include specific features of the accused product or process.” Wilson Sporting Goods
27 Co. v. Hillerich & Bradsby Co., 442 F.3d 1322, 1331 (Fed. Cir. 2006). Here, however, the
28 parties’ discussion at the hearing of the infringement issues in the case helped the Court
understand the nature of the parties’ dispute over claim scope, which was not immediately clear
from the papers. The Federal Circuit has found consideration of infringement issues as context in
construing claims does not run afoul of this general rule. See id.

1 **CONCLUSION**

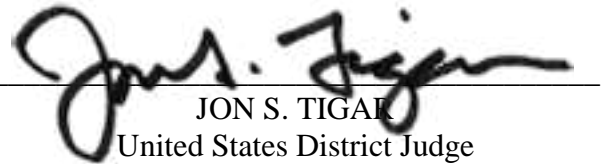
2 For the foregoing reasons, the Court construes the disputed claim terms as follows:

Claim Term	Court's Construction
"a set of encoded image planes" (claims 1 and 10)	"image planes resulting from compressing raw image data"
"encoded image data" (claims 1 and 10)	Plain and ordinary meaning
"a set of encoded image planes each representative of one or more image planes of the original image" (claims 1 and 10)	No construction necessary. <u>See</u> construction for "a set of encoded image planes."
"access[ing] a subset of the set of encoded image planes" (claims 1 and 10)	"access[ing] some but not all of the encoded image planes of a frame"

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11 **IT IS SO ORDERED.**

12 Dated: July 24, 2017

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 JON S. TIGAI
 United States District Judge