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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

FUJIFILM CORPORATION,
Plaintiff,
v.
MOTOROLA MOBILITY LLC,
Defendant.

Case No. [12-cv-03587-WHO](#)

CLAIM CONSTRUCTION ORDER

INTRODUCTION

Fujifilm Corporation (“Fujifilm”) brings this suit against Motorola Mobility LLC (“Motorola”) charging infringement of five patents: United States Patent Nos. 5,734,427 (“the ‘427 Patent”); 7,327,886 (“the ‘886 Patent”); 6,144,763 (“the ‘763 Patent”); 6,915,119 (“the ‘119 Patent”); and 8,306,285 (“the ‘285 Patent”). The patents at issue relate to technology in cameras and cellular phones.

On October 28, 2013, the Court held a *Markman* hearing on the construction of disputed terms. Based on the parties’ briefs and argument of counsel, the Court construes the disputed terms as below.

LEGAL STANDARD

Claim construction is a matter of law. *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Terms contained in claims are “generally given their ordinary and customary meaning.” *Vitronics*, 90 F.3d at 1582. In determining the proper construction of a claim, a court begins with the intrinsic evidence of record, consisting of the claim language, the patent specification, and, if in evidence, the prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005);

1 *see also Vitronics*, 90 F.3d at 1582. “A claim term used in multiple claims should be construed
2 consistently” *Inverness Med. Switzerland GmbH v. Princeton Biomeditech Corp.*, 309 F.3d
3 1365, 1371 (Fed. Cir. 2002).

4 “The appropriate starting point [] is always with the language of the asserted claim itself.”
5 *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998). “[T]he ordinary
6 and customary meaning of a claim term is the meaning that the term would have to a person of
7 ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date
8 of the patent application.” *Phillips*, 415 F.3d at 1312. “There are only two exceptions to this
9 general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when
10 the patentee disavows the full scope of a claim term either in the specification or during
11 prosecution.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

12 “Importantly, the person of ordinary skill in the art is deemed to read the claim term not
13 only in the context of the particular claim in which the disputed term appears, but in the context of
14 the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. “Claims speak to those
15 skilled in the art,” but “[w]hen the meaning of words in a claim is in dispute, the specification and
16 prosecution history can provide relevant information about the scope and meaning of the claim.”
17 *Electro Med. Sys., S.A. v. Cooper Life Scis., Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994) (citations
18 omitted). “[T]he specification is always highly relevant to the claim construction analysis.
19 Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics*,
20 90 F.3d at 1582. “However, claims are not to be interpreted by adding limitations appearing only
21 in the specification.” *Id.* “Thus, although the specifications may well indicate that certain
22 embodiments are preferred, particular embodiments appearing in a specification will not be read
23 into the claims when the claim language is broader than such embodiments.” *Id.* “[T]he
24 description may act as a sort of dictionary, which explains the invention and may define terms
25 used in the claims,” and the “patentee is free to be his own lexicographer,” but “any special
26 definition given to a word must be clearly defined in the specification.” *Markman*, 517 U.S. at
27 989-90.

28 On the other hand, it is a fundamental rule that “claims must be construed so as to be

1 consistent with the specification.” *Phillips*, 415 F.3d at 1316. “The construction that stays true to
2 the claim language and most naturally aligns with the patent’s description of the invention will be,
3 in the end, the correct construction.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d
4 1243, 1250 (Fed. Cir. 1998).

5 Finally, the Court may consider the prosecution history of the patent, if in evidence.
6 *Markman*, 52 F.3d at 980. The prosecution history may “inform the meaning of the claim
7 language by demonstrating how the inventor understood the invention and whether the inventor
8 limited the invention in the course of prosecution, making the claim scope narrower than it would
9 otherwise be.” *Phillips*, 415 F.3d at 1317 (citing *Vitronics*, 90 F.3d at 1582-83); *see also Chimie*
10 *v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005) (“The purpose of consulting the
11 prosecution history in construing a claim is to exclude any interpretation that was disclaimed
12 during prosecution.”) (internal quotations omitted).

13 In most situations, analysis of this intrinsic evidence alone will resolve claim construction
14 disputes. *Vitronics*, 90 F.3d at 1583. However, “it is entirely appropriate . . . for a court to consult
15 trustworthy extrinsic evidence to ensure that the claim construction it is tending to from the patent
16 file is not inconsistent with clearly expressed, plainly apposite, and widely held understandings in
17 the pertinent technical field.” *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1309
18 (Fed. Cir. 1999). Extrinsic evidence “consists of all evidence external to the patent and
19 prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.”
20 *Markman*, 52 F.3d at 980. All extrinsic evidence should be evaluated in light of the intrinsic
21 evidence, *Phillips*, 415 F.3d at 1319, and courts should not rely on extrinsic evidence in claim
22 construction to contradict the meaning of claims discernible from examination of the claims, the
23 written description, and the prosecution history, *Pitney Bowes*, 182 F.3d at 1308 (citing *Vitronics*,
24 90 F.3d at 1583). While extrinsic evidence may guide the meaning of a claim term, such evidence
25 is less reliable than intrinsic evidence. *Phillips*, 415 F.3d at 1318-19.

26 **DISCUSSION**

27 **I. PATENT NO. 5,734,427**

28 This patent relates to an electronic still camera that displays on a monitor in real-time the

1 subject upon which the camera is focusing. ‘427 Patent 1:12-14. It can also record images of the
2 subject. The invention allows for a high-resolution image to be processed, or “thinned,” into a
3 low-resolution image. ‘427 Patent 1:60-65.

4 **A. “thinning”**

5 The first disputed term is found in Claims 1, 6, 11, 14, 15, and 19.

Disputed Term	Fujifilm’s Constructions¹	Motorola’s Constructions²
<p>7 Claim 1:</p> <p>8 Fujifilm: “thinning said first image signal to thereby produce a second image signal having a low resolution”</p> <p>9 Motorola: “thinning” (“said first image signal having a high resolution”)</p>	<p>reducing the resolution of the first image signal to create a low resolution image signal representative of the subject</p>	<p>reducing the resolution of the [image data] before any color interpolation into simultaneous RGB image data</p>
<p>13 Claim 6:</p> <p>14 Fujifilm: “thinning said high-resolution pixel data output from said imaging device to thereby produce low-resolution image data”</p> <p>15 Motorola: “thinning” (“said high-resolution pixel data output from said imaging device”)</p>	<p>reducing the resolution of the pixel data output from the imaging device to create low-resolution image data representative of the subject</p>	<p>reducing the resolution of the [image data] before any color interpolation into simultaneous RGB image data</p>
<p>21 Claim 11: “thinning said pixel data”</p>	<p>reducing the resolution of the pixel data</p>	<p>reducing the resolution of the [image data] before any color interpolation into simultaneous RGB image data</p>
<p>23 Claims 14 & 15:</p> <p>24 Fujifilm: “thinning said high-resolution image data output from said imaging</p>	<p>reducing the resolution of the image data output from the imaging device to create low resolution image data representative of the subject</p>	<p>reducing the resolution of the [image data] before any color interpolation into simultaneous RGB image data</p>

26 _____
27 ¹ Fujifilm states that it has no objection to replacing “pixel resolution” in its original constructions with “resolution.” Reply 1.

28 ² Motorola’s construction previously contained the phrase “using weighted averaging,” but it has now removed it. Response 20 n.6.

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<p>device to thereby produce low-resolution image data”</p> <p>Motorola: “thinning” (“said high-resolution image data output from said imaging device”)</p>		
<p>Claim 19:</p> <p>Fujifilm: “thinning said first image signal . . . to thereby produce a second image signal having low resolution”</p> <p>Motorola: “thinning” (“said first image signal”)</p>	<p>reducing the resolution of the image signal to create a low resolution image signal representative of the subject</p>	<p>reducing the resolution of the [image data] before any color interpolation into simultaneous RGB image data</p>

The parties dispute whether thinning must occur before color interpolation into simultaneous RGB data. Fujifilm’s Br. (Dkt. No. 45) (“Br.”) 3; Motorola’s Response (Dkt. No. 48) (“Response”) 21.

The Court adopts Fujifilm’s constructions and finds that thinning need not occur before color interpolation into simultaneous RGB image data. The claims at issue do not show that thinning necessarily occurs before interpolation, as Motorola proposes. Claims 1 and 6 discuss “thinning” but do not discuss “interpolating” at all. Claims 11, 14, 15, and 19 discuss both. Claims 11, 14, and 15 all identically disclose “a thinning circuit for receiving [] pixel data . . . and for thinning said pixel data,” after which they identically disclose “an interpolating circuit for receiving said pixel data from said thinning circuit.” ‘427 Patent 13:44-52; 14:40-48; 15:35-43. Claim 19 similarly discloses a method of “thinning [a] first image signal to thereby produce a second image signal,” then “interpolating from said second image signal.” ‘427 Patent 17:24-30. The fact that the inventor did not discuss interpolation at all in Claims 1 and 6 strongly suggests that a limitation in Claims 11, 14, 15 and 19 should not be read into the first two claims. *See Phillips*, 415 F.3d at 1314 (“Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.”).

Nothing else in the claim language mandates an order to these operations, and Motorola

1 provides no argument that it does. Further, Motorola points to no evidence in the patent that the
2 invention could not be realized unless its construction was adopted. Motorola’s construction
3 unnecessarily inserts a limitation in some claims into other claims.

4 Motorola cites *Biogen Idec, Inc. v. Glaxosmithkline LLC* for the proposition that “when the
5 patentee *unequivocally and unambiguously* disavows a certain meaning to obtain a patent, the
6 doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the
7 scope of the claim surrendered.” 713 F.3d 1090, 1095 (Fed. Cir. 2013) (emphasis added). It
8 argues that thinning must occur before interpolation because the patentee said so. Citing to the
9 prosecution history, it contends that the “Remarks” by the applicant to the patent examiner, in a
10 section entitled “Synopsis of the Present Invention,” constitutes a waiver: “[T]he data
11 representative of a high resolution image are thinned and then interpolated. More specifically,
12 high resolution image data . . . captured by the image sensor are thinned into image data of the
13 standard television format The thinned image data are then interpolated by the weighting
14 average means to be converted into simultaneous RGB image data, in which each pixel of data
15 includes R, G and B component data” Cangro Decl. Ex. 6 at 12.

16 The ‘427 Patent applicant’s statements are neither an unequivocal nor unambiguous
17 disavowal of anything. Reading the statement in context, there is no indication that the applicant
18 was making a disclaimer in order to overcome an examinee’s objection, nor is it clear that the
19 applicant was intentionally limiting the scope of the patent. As *Biogen* holds, a prosecution
20 disavowal must be “clear and unmistakable” to overcome the “heavy presumption” that claims
21 mean what they say. *Id.* The applicant’s statements must be clearer than the examples provided
22 by Motorola for them to constitute a disavowal or estoppel. Motorola’s reliance on the
23 prosecution history to support its construction is unavailing.³

24 **B. “a viewfinder . . . implemented by a video monitor”**

25 The second disputed term is found in Claims 1, 6, 14, and 15.

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27 ³ The parties dispute whether it is literally possible for interpolation to occur before thinning. The
28 Court does not have sufficient information before it to address this issue. In any event, the Court
need not decide that issue because it finds that there is enough evidence to support Fujifilm’s
construction.

Fujifilm’s Construction	Motorola’s Construction
Plain and ordinary meaning; Alternatively: a monitor serving as a viewfinder	a viewfinder [...] implemented by a video monitor physically separate from the camera body

The invention converts image data into a video signal, which is then displayed on a monitor. The monitor serves as a viewfinder which allows the user to frame an image to be stored in memory. Br. 5. The parties dispute whether the video monitor must be built into the camera.

The Court finds that this term needs no construction and that the “viewfinder” referenced in the term is not limited to “video monitor[s] physically separate from the camera body,” as Motorola’s proposed construction states. Reviewing the claims at issue, there is no evidence that a person of ordinary skill in the art would conclude that the “video” monitor needs to be “physically separate from the camera body.” The claims do not distinguish between built-in and physically separate monitors, nor do they discuss the issue at all. The same is true of the written description. In addition, the Court finds that a juror would understand the term based on its plain and ordinary meaning.

The Federal Circuit instructed that “[g]eneral descriptive terms will ordinarily be given their full meaning; modifiers will not be added to broad terms standing alone.” *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed. Cir. 1999) (citing *Va. Panel Corp. v. MAC Panel Co.*, 133 F.3d 860, 865-66 (Fed. Cir. 1997) (unmodified term “reciprocating” not limited to linear reciprocation), and *Bell Commc’ns Research, Inc. v. Vitalink Commcn’s Corp.*, 55 F.3d 615, 621-22 (Fed. Cir. 1995) (unmodified term “associating” not limited to explicit association)). Here, there are no modifiers in the claim language suggesting that the video monitor must be physically separate from the camera, nor is there any reason to believe that the language should be understood that way. Indeed, “video monitor” has no modifiers at all. Similarly, the Federal Circuit “has repeatedly and clearly held that it will not read unstated limitations into claim language.” *Rambus Inc. v. Infineon Techs. Ag*, 318 F.3d 1081, 1088 (Fed. Cir. 2003) (citation omitted). Nothing in the patent suggests a limitation of “physically separate from the camera body” for the monitor, and the Court will not presume one.

Although not dispositive, the patent prosecution history supports this construction.

1 Fujifilm cites to the original Claim 2 of the ‘427 Patent’s earlier application, which uses the same
2 exact language as the disputed term. Br. 5; Cangro Decl. Ex. 3 at 28. In rejecting the proposed
3 claim based on prior art, the examiner referenced United States Patent No. 4,740,828, which
4 disclosed a “monitor [that] is the built-in monitor of a video camera – which implies that it is used
5 as the camera viewfinder.” Cangro Decl. Ex. 4 at 2. Interpreting the same language as the
6 disputed term here, the patent examiner apparently understood that the “viewfinder” could be a
7 built-in monitor. And in responding to the rejection, the applicant never argued that the
8 viewfinder did not meet the proposed claim because it was a built-in monitor, but only argued that
9 its monitor is a color monitor while the prior art disclosed a black and white monitor. Cangro
10 Decl. Ex. 6 at 14. Neither examiner nor applicant thought that the “viewfinder” had to be
11 physically separate. As Fujifilm points out, the applicant could have simply disputed the built-in
12 requirement but did not and instead objected to the examiner’s rejection on a different issue.
13 Fujifilm’s Reply (Dkt. No. 49) (“Reply”) 3. The Court finds the applicant’s silent acquiescence to
14 be persuasive evidence that supports construing the disputed term to allow for built-in monitors.

15 The ‘427 Patent’s preferred embodiment also supports this construction. As the patent
16 says, “The monitor 29 is connected to the reproduction 26,” and “this connection 27 may have a
17 fixed configuration or a separable configuration.” ‘427 Patent 3:45-48. The fact that the
18 connection between the monitor and the rest of the camera can be “fixed” (as opposed to
19 “separable”) supports the conclusion that the patent contemplates built-in monitors as well as
20 physically separate ones. To construe the patent as requiring built-in monitors may exclude the
21 preferred embodiment, which the Federal Circuit has cautioned against. *Vitronics*, 90 F.3d at
22 1583.

23 Motorola disagrees with Fujifilm’s understanding of the prosecution history. It argues that
24 an applicant need not “invoke every conceivable reason a piece of prior art is not relevant.”
25 Response 19. It asserts that because “[t]he Applicant for the ‘427 patent, having distinguished [the
26 prior art] on two grounds already, apparently saw no need to delve into the Examiner’s apparent
27 misunderstanding of the required monitor location,” though Motorola does not explain why those
28 two grounds should be credited but not this one. Motorola argues that the applicant “simply

1 ignored an issue it had no obligation or need to address.” Response 20.

2 While Motorola correctly notes that the Federal Circuit has said that “[a] patentee is not
3 required to fight tooth and nail every possibly adverse thought an examiner commits to paper,” the
4 court goes on to say that “[w]hether the patentee chooses to dispute the examiner’s view of matters
5 is relevant to claim interpretation, for there a court may need to ascertain exactly what subject
6 matter was actually examined and allowed by the PTO.” *TorPharm, Inc. v. Ranbaxy Pharm., Inc.*,
7 336 F.3d 1322, 1330 (Fed. Cir. 2003). A court may “equate an inventor’s acquiescence to the
8 examiner’s narrow view of patentable subject matter with abandonment of the rest.”⁴ *Id.* Those
9 principles apply here. The prosecution history supports construing the term according to its plain
10 and ordinary meaning, as Fujifilm proposes. Indeed, the very fact that the examiner was aware of
11 built-in monitors suggests that a person of ordinary skill in the art would not assume that the
12 viewfinder must be physically separate from the camera.

13 Motorola quotes from the preferred embodiment’s description as stating that “the camera 1
14 may have an optical viewfinder thereon in addition to the independent viewfinder.” ‘427 Patent
15 3:48-50. Based on this, Motorola argues that the possibility of an “optical view finder thereon” in
16 addition to an “independent viewfinder” means that the monitor is remote from the camera. Br.
17 17. However, there is no support in the language of the patent or its prosecution history for the
18 understanding that an “independent” viewfinder means that it is physically separate from the
19 camera, nor does the fact that the optical view finder is “thereon” the camera change this.⁵ Even if
20 Motorola’s understanding of “optical viewfinder thereon in addition to the independent
21 viewfinder” is correct, its ultimate conclusion is belied by the fact that the preferred embodiment
22 only says that the camera “may” have such a configuration, not “must.” ‘427 Patent 3:49-50.⁶

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24 ⁴ Motorola argues that in this case, the examiner was taking a *broader* view, not a “narrower” one,
25 and thus estoppel should not apply. Response 19-20. While Motorola is correct that the Federal
26 Circuit used the word “narrow,” the Court does not take such an unnecessarily constrained
27 understanding of the principle articulated in *TorPharm*.

28 ⁵ The parties dispute whether the fact that among the patent’s benefits are that the invention
“eliminates the need [for] a high-resolution monitor and . . . the space for the installation of a
monitor” suggests that the monitor is or is not physically separate. Br. 6; Response 17-18; ‘427
Patent 12:10-13. The Court does not find this issue dispositive either way because these benefits
are not inconsistent with either party’s position.

⁶ The patent states that one “object of the present invention” is “to provide an electronic still

1 **C. “imaging device for shooting a subject and outputting (a) corresponding (first**
 2 **color image signal having a high resolution/high resolution pixel data) to be**
 3 **recorded in a recording medium”**

The third disputed term is found in Claims 1, 6, 14, and 15.

Fujifilm’s Construction	Motorola’s Construction
Not subject to § 112 ¶ 6, but if so ordered:	Subject to § 112 ¶ 6
Function: Capturing the image of a subject and outputting a corresponding (high resolution color image signal / high-resolution pixel data) to be recorded in memory	Function: Shooting a subject and outputting high resolution color image data
Structure: Imaging device 12; and equivalents thereof	Structure: Imaging device 12: a high or low resolution CCD; and equivalents thereof

10 The parties dispute whether the term is governed by § 112, ¶ 6.

11 The Court finds that “imaging device” is not subject to § 112, ¶ 6. “The use of the term
 12 ‘means’ triggers a rebuttable presumption that § 112, ¶ 6 governs the construction of the claim
 13 term.” *Inventio AG v. ThyssenKrupp Elevator Amers. Corp.*, 649 F.3d 1350, 1356 (Fed. Cir.
 14 2011) (citation omitted). Where the term “means” is not used, the court must presume that § 112,
 15 ¶ 6 does not apply. *Id.* Because the word “means” has “become closely associated with means-
 16 plus-function claiming. . . . the presumption . . . is a strong one that is not readily overcome.” *Id.*
 17 Indeed, “the use of the word ‘means’ is *central* to the analysis.” *Id.* (emphasis added). “[T]he
 18 presumption can be overcome if the challenger demonstrates that the claim term fails to recite
 19 sufficiently definite structure or else recites function without reciting sufficient structure for
 20 performing that function.” *Id.* (citations and quotation marks omitted). To determine whether the
 21 patent discloses sufficient structure, a court may look to “the words of the claims themselves, the
 22 written description, the prosecution history, and any relevant extrinsic evidence.” *Id.* at 1356.

23 The Court finds that Motorola has not overcome the presumption that “imaging device” is
 24 not subject to § 112, ¶ 6. Motorola’s argues that the term constitutes functional claiming. The
 25 Court disagrees. The specification discloses a structure, imaging device 12, which is a “solid-state

26 camera capable of being controlled at a remote place with a monitor serving as a viewfinder.”
 27 ‘427 Patent at 1:57-59. Motorola argues that this is “impossible” if the monitor was not external.
 28 Response 18. On the contrary, having a camera with a built-in monitor is not inconsistent with
 that objective.

1 imaging device” with a “light-sensitive surface” that “outputs an electric signal representative of
2 the incident image.” ‘427 Patent 2:57-61. Such a description is structural, not functional, and is
3 likely to be understood as such by a person of ordinary skill in the art. “[T]his is not a case where
4 a claim nakedly recites a ‘device’ and the written description fails to place clear structural
5 limitations on the ‘device.’” *Inventio*, 649 F.3d at 1359. Motorola has provided no evidence or
6 persuasive argument to the contrary.

7 **II. PATENT NO. 7,327,886**

8 This patent discloses a digital camera that can detect whether a face is included in the
9 frame of a moving image. The detection repeats until a picture is taken. The most recent location
10 of the face is recorded so that the image can be processed later, e.g., to correct red-eye effect.

11 **A. “face judgment means for performing processing, in a predetermined time
12 interval, for judging whether a human face is included in a frame included in the
13 moving image until a positive result is obtained in the judgment”**

14 The disputed term is found in Claim 1.

Fujifilm’s Construction	Motorola’s Construction
Function: performing processing, in a predetermined time interval, for judging whether a human face is included in a frame included in the moving image until a positive result is obtained in the judgment	Function: same
Structure: CPU 12 programmed to calculate a first characteristic value C1, which is used for discriminating the face from a single frame Fri, and if found, calculating a second characteristic value C2 from an image within a facial candidate extracted from the frame Fri. If it is judged that a facial candidate is not included in the frame Fri in the first discrimination or the second discrimination, the CPU 12 judges that a face is not included in the frame Fri and the CPU 12 performs the first and second discrimination on a frame Fri+1 after a predetermined time until a positive result is obtained; and equivalents thereof	Structure: CPU 12 programmed to perform the steps of Fig. 14 of the ‘886 Patent, repeatedly if necessary, until a positive result is obtained as outlined below; and equivalents thereof 1. Perform steps S31-S33. Step S31 - calculate a first characteristic value C1 as the directions of the gradient vectors in the frame Fri, for each of a plurality of stages of enlargement or reduction and rotation of the frame Fri. This step requires preparatory steps a and b: a. perform filtering processing on a frame Fri by using an edge detection filter in horizontal and vertical directions; and b. compute a gradient vector K at each pixel

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	<p>based on the magnitude H of the edge in the horizontal direction and the magnitude V of the edge in the vertical direction at each pixel of the frame Fri.</p> <p>Step S32 - read first reference data $R1$ from system memory, the first reference data $R1$ defining a discrimination condition for the combination of the first characteristic value $C1$ at each pixel include in each of a plurality of kinds of pixel groups including a plurality of pixels, selected from a sample image.</p> <p>Step S33 - use the first characteristic value $C1$ to perform a first discrimination for discriminating a face from the frame Fri.</p> <p>2. If it is judged that a facial candidate is found in the image Fri, perform steps S34-S38.</p> <p>Step S34 - extract the facial candidate.</p> <p>Step S35 - calculate a second characteristic value $C2$ as the directions and magnitudes of the gradient vectors within the facial candidate, for each of a plurality of stages of enlargement or reduction and rotation of the facial candidate.</p> <p>Step S36 - normalize the magnitude of the gradient vector K of the second characteristic value $C2$ by obtaining a histogram of the magnitudes of the gradient vectors K at all pixels in the facial candidate, and smoothing the histogram so that the magnitudes of the gradient vectors K are evenly distributed to all the range of values.</p> <p>Step S37 - read second reference data $R2$ from system memory, the second reference data $R2$ defining a discrimination condition for the combination of the second characteristic value $C2$ at each pixel include in each of a plurality of kinds of pixel groups including a plurality of pixels, selected from a sample image.</p> <p>Step S38 - use the second characteristic value $C2$ to perform a second discrimination to</p>
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	<p>discriminate whether the facial candidate is a face.</p> <p>3. If the facial candidate is a face, perform step S39 - judge that the frame includes a face.</p> <p>4. If it is judged that the frame does not include a facial candidate, or that a facial candidate is included but is not a face, perform step S40 - judge that the frame Fri does not include a face.</p> <p>4. If it is judged that the frame does not include a facial candidate, or that a facial candidate is included but is not a face, perform step S40 - judge that the frame Fri does not include a face.</p>
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The parties agree that this is a means-plus-function claim. They also agree to the same function, but disagree about the corresponding structure.

The Court adopts Motorola’s construction and finds that Fujifilm’s construction does not adequately capture the disclosed structure. “In a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.” *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). Because a patentee does not need to disclose every component of the structure, a patentee may “express that procedural algorithm 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.” *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1385 (Fed. Cir. 2011) (citation and internal quotations omitted). The proper corresponding algorithm consists only of the portion of the written description “necessary to perform the claimed function.” *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999); *see also Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1119 (Fed. Cir. 2002) (stating that a “corresponding structure need not include all things necessary to enable the claimed invention to work. . . . [but it] must include all structure that actually performs the recited function”). “[T]he patent need only disclose sufficient structure for a person of skill in the field to

1 provide an operative software program for the specified function.” *Micro Chem.*, 194 F.3d at
2 1258.

3 The Federal Circuit has two lines of cases: one in which the specification discloses no
4 algorithm, and another in which the defendant contends that the disclosure is inadequate. *Noah*
5 *Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1313 (Fed. Cir. 2012). Here, because both parties agree
6 that the patent discloses some structure, “the question is whether the disclosed algorithm [as
7 construed by each party], from the viewpoint of a person of ordinary skill, is sufficient to define
8 the structure and make the bounds of the claim understandable.” *Id.* The structure “must provide
9 “an adequate disclosure showing what is meant by th[e] claim language.” *Id.* at 1312 (brackets
10 omitted). A patentee is “not required to produce a listing of source code or a highly detailed
11 description of the algorithm to be used to achieve the claimed functions.” *Aristocrat Techs.*
12 *Australia Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1338 (Fed. Cir. 2008). However, “purely
13 functional language, which simply restates the function associated with the means-plus-function
14 limitation, is insufficient to provide the required corresponding structure.” *Noah Sys.*, 675 F.3d at
15 1317. “The inquiry is whether one of skill in the art would understand the specification itself to
16 disclose a structure, not simply whether that person would be capable of implementing a
17 structure.” *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 953 (Fed. Cir. 2007).

18 **1. Fujifilm’s Proposed Structure Is Insufficient.**

19 Fujifilm argues that its construction explains how CPU 12, which functions as the face
20 judgment means, performs the claimed function of “judging whether a human face is included in a
21 frame included in the moving image.” Reply 17; ‘886 Patent at 7:20-37. When the camera is
22 taking a picture, the CPU 12 executes a program for judging whether a face is included in a single
23 frame of a moving image by calculating a “first characteristic value C1, which is used for
24 discriminating the face, from a single frame Fri.” ‘886 Patent at 7:33-35. Next, it “calculates a
25 second characteristic value C2 from an image within a facial candidate, extracted from the frame
26 Fri.” ‘886 Patent at 7:35-37. This process is repeated until a face is discriminated using the
27 values. If the CPU 12 determines that a facial candidate is not in the frame Fri in the first
28 discrimination, or even if it is, if the facial candidate is not in the second discrimination, then the

1 CPU 12 determines that a face is not included in the frame Fri. In that case, the CPU 12 performs
 2 the first and second discrimination on a frame Fri+1 after some predetermined time to judge
 3 whether a face is in the frame Fri+1 in a similar manner. ‘886 Patent at 14:31-44. If a face is
 4 discriminated in both discriminations, then the CPU 12 judges that a face is included in the frame
 5 Fri. *Id.*

6 Fujifilm’s proposed construction does not sufficiently identify the disclosed structure. It is
 7 mostly functional language that does not recite an algorithm that a person of ordinary skill in the
 8 art can identify and use. As the Federal Circuit explained, “In cases involving a computer-
 9 implemented invention in which the inventor has invoked means-plus-function claiming, this court
 10 has consistently required that the structure disclosed in the specification be more than simply a
 11 general purpose computer or microprocessor. . . . to avoid purely functional claiming.” *Aristocrat*
 12 *Techs.*, 521 F.3d at 1333. A proposed structure that “simply references a computer that is
 13 programmed so that it performs the function in question, which is to say that the function is
 14 performed by a computer that is capable of performing the function,” is insufficient. *Id.* at 1334.
 15 Here, the parties agree that the CPU’s function is to “judg[e] whether a human face is included in
 16 a frame.” However, Fujifilm’s construction essentially states that the CPU is “programmed to
 17 calculate a [] characteristic value [], which is used for discriminating the face.” This is nothing
 18 more than simply restating the function of the computer without disclosing an algorithm for
 19 performing that function. Especially telling is the fact that Fujifilm’s construction says that the
 20 CPU is “*programmed to calculate*” its function, without adequately disclosing the structure or
 21 method for performing such a calculation or such programming, effectively leaving the CPU a
 22 general purpose computer. The construction does precisely what the algorithm requirement seeks
 23 to prevent because it “imposes no limitation whatever, as any general purpose computer must be
 24 programmed.” *Aristocrat Tech.*, 521 F.3d at 1334.

25 The Federal Circuit recently addressed whether an algorithm disclosed sufficient structure
 26 in *Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 732 F.3d 1376 (Fed. Cir. 2013).⁷ The patent

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 28 ⁷ The Court recognizes that the Federal Circuit issued this opinion after the parties’ briefing and
Markman hearing, though Motorola subsequently identified it as supplemental authority. Dkt. No.

1 there involved a “sleepiness detection” device for vehicles and claimed “computational means” for
 2 calculating a driver’s sleepiness, the corresponding structure of which was an algorithm. The
 3 plaintiff argued that a table in the patent with various values and an “equation” that added up those
 4 values constituted the corresponding structure. The district court disagreed and held that, although
 5 one skilled in the art might understand those items to be the corresponding structure, neither the
 6 table nor any other clearly identified part of the specification “states the steps *to obtain* the listed
 7 elements’ scores, or how to weight them according to their relative importance.” *Id.* at 1378-79
 8 (quoting *Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 889 F. Supp. 2d 677, 687-88 (D.N.J.
 9 2012)) (emphasis added). Thus, the court found the “algorithm” insufficient and the relevant
 10 claims invalid.

11 The Federal Circuit affirmed and concluded that “the disclosed algorithm does not
 12 adequately define the structure.” *Id.* The court stated that the table only provided “what looks like
 13 a mathematical equation” with “no disclosure of even a single concrete relationship between the
 14 various factors that are used to compute an outcome.” *Id.* at 1380-81. The table “merely indicates
 15 that weighting . . . occurs” but does not “disclose *how to perform* the weighting,” and the Federal
 16 Circuit credited the defense expert’s statement that “a person of ordinary skill in the art ‘would
 17 need to devise his or her own method . . . based on the factors generally disclosed’” in the patent.
 18 *Id.* at 1381-82 (emphasis added). Thus, the Federal Circuit held, “A description of an algorithm
 19 that places no limitations on how values are calculated, combined, or weighted is insufficient to
 20 make the bounds of the claim understandable.” *Id.* at 1382.

21 Fujifilm’s construction exhibits the same defects as the alleged algorithm in *Ibormeith*.
 22 Here, Fujifilm’s proposed structure is “programmed to calculate a [] characteristic value” and
 23 “judge[s whether] a facial candidate is not included in the frame Fri,” but Fujifilm’s construction
 24 does not explain how to calculate the characteristic values or how discrimination occurs. As the
 25 district court in *Ibormeith* recognized, an algorithm must “state the steps to obtain” the values to
 26 be calculated. *Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 889 F. Supp. 2d 677, 687-88

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 28 64. However, the Court’s conclusion would have been the same and was only reaffirmed by
Ibormeith.

1 (D.N.J. 2012). However, Fujifilm’s construction “merely indicates” that the calculation of
 2 characteristic values “occurs,” but does not “disclose how to perform” the calculation. *Ibormeith*
 3 *IP*, 732 F.3d at 1381. The same is true for judging whether a face is included, i.e., discrimination.
 4 Indeed, Fujifilm’s construction only provides “what looks like a mathematical equation,” but
 5 which, stripped of its jargon, says little that would guide a person of ordinary skill in the art, and
 6 Fujifilm provides no evidence (e.g., by declaration) that it would. *Id.* at 1380. What Fujifilm
 7 states in its Reply brief in support of its construction displays the central problem identified in
 8 *Ibormeith*: “Motorola complains that Fujifilm’s construction does not explain how the first and
 9 second characteristic value are calculated or how to perform the first and second discrimination.
 10 The additional details of *how* the algorithm performs the claimed function, however, are not
 11 necessary to make it complete.” Reply 11 (original emphasis). On the contrary, as the Federal
 12 Circuit held, “A description of an algorithm that places no limitations on how values are calculated
 13 . . . is insufficient to make the bounds of the claim understandable.” *Id.* at 1382. Fujifilm’s
 14 construction leaves the calculation of its values unbounded and is therefore insufficient.

15 *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology* is also
 16 instructive.⁸ 521 F.3d at 1329. The patent in that case involved an electronic slot machine that
 17 allows a player to select winning combinations of symbol positions. In assessing a means-plus-
 18 function term, the trial court characterized the function as a means “(1) to control images
 19 displayed on the display means; (2) to pay a prize when a predetermined combination of symbols
 20 matches the symbol positions selected by the player; and (3) to define the pay lines for the game
 21 according to each possible combination of the selected symbol positions.” *Id.* at 1331. The
 22 Federal Circuit affirmed the trial court’s conclusion that the proffered structure—“any standard
 23 microprocessor base [sic] gaming machine [with] appropriate programming”—insufficiently
 24 disclosed structure because it “simply references a computer that is programmed so that it
 25 performs the function in question, which is to say that the function is performed by a computer

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 27 ⁸ The Federal Circuit ultimately found that no algorithm was disclosed at all in this case, contrary
 28 to the plaintiff’s assertion. Although the parties here do not dispute whether the ‘866 Patent
 discloses some structure, the principles in *Aristocrat Technologies* are nonetheless instructive to
 determine whether Fujifilm’s construction of the structure is sufficient.

1 that is capable of performing the function.” *Id.* at 1334 (original additions). Further, the Federal
2 Circuit rejected the argument that the algorithm is that the system would “pay a prize when a
3 predetermined combination of symbols is displayed in a predetermined arrangement of symbol
4 positions selected by a player” because “that language simply describes the function to be
5 performed, not the algorithm *by which it is performed.*” *Id.* (emphasis added). The court also
6 found the proffered structure of “defining a set of predetermined arrangements for a current game
7 comprising each possible combination of the symbol position selected by the player which have
8 one and only one symbol position in each column of the display means” to be wanting for the
9 same reason. *Id.* The plaintiff pointed the court to the patent’s embodiments, tables, and figures
10 for an algorithm, but the court concluded that they were nothing more than “pictorial and
11 mathematical ways of describing the claimed function,” which “is not enough to transform the
12 disclosure of a general-purpose microprocessor into the disclosure of sufficient structure to satisfy
13 section 112 paragraph 6.” *Id.* at 1335.

14 The structure offered by Fujifilm is similar to what the plaintiff in *Aristocrat Technologies*
15 offered. Fujifilm’s construction does nothing more than repeat the function of the term and its
16 outcome. Here, where the agreed function is “performing processing, in a predetermined time
17 interval, for judging whether a human face is included in a frame included in the moving image
18 until a positive result is obtained in the judgment,” it is insufficient to say that the structure
19 essentially (1) calculates whether a face is in a frame, (2) calculates again whether a face is in a
20 frame, and (3) repeats this process “after a predetermined time until a positive result is obtained.”
21 But this is what Fujifilm’s construction proposes, and thus it fails. The Federal Circuit in *Typhoon*
22 *Touch Technologies, Inc. v. Dell, Inc.*—a case cited by Fujifilm—noted that its predecessor court
23 defined an algorithm as “[a] fixed step-by-step procedure for accomplishing a given result.” 659
24 F.3d at 1385 (quoting *In re Freeman*, 573 F.2d 1237, 1245 (C.C.P.A. 1978)). Fujifilm has not
25 provided this.

26 Fujifilm argues that while other parts of the patent’s specification includes examples of
27 how these values may be calculated, as well as descriptions of other functions performed by the
28 claimed inventions, these methods and “specific discriminations are not required for the facial

1 judging to occur.” Br. 18. “In particular, while calculation of C1 and C2 are necessary to perform
2 face judgment, the particular steps of generating the discriminators chosen from the various
3 possibilities are not requirements to perform the function.” Br. 18. Because additional specificity
4 from the embodiments is unnecessary to perform the claimed function, Fujifilm argues that they
5 should not be included in the structure corresponding to the face judgment means limitation. Br.
6 18. Fujifilm argues that its proposed construction “closely tracks the language from the
7 specification.” Br. 18.

8 While Fujifilm is right in saying that it need only disclose an algorithm that performs the
9 necessary function, the problem with its “algorithm” is that the “algorithm,” in essence, only
10 repeats the function itself, albeit with variables. Fujifilm’s construction does not define the
11 structure and make the bounds of the claim understandable to a person of ordinary skill in the art.
12 Notably, Fujifilm does not argue that a person of ordinary skill in the art knows how to calculate a
13 value that discriminates a face from a frame, or how such discrimination occurs. *As Ibormeith*
14 teaches, it is not enough to identify “an algorithm that places no limitations on how [its
15 component] values are calculated,” 732 F.3d at 1382, but Fujifilm does not explain how to derive
16 the characteristic values or how discrimination occurs. “[W]hile it is true that the patentee need
17 not disclose details of structures well known in the art, the specification must nonetheless disclose
18 some structure.” *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc. (d/b/a The*
19 *Home Depot)*, 412 F.3d 1291, 1302 (Fed. Cir. 2005) (citation omitted). Fujifilm could have
20 submitted a declaration or expert testimony that the elements recited in its construction are readily
21 known to a person of ordinary skill in the art, but it did not do so. It does not matter that
22 Fujifilm’s construction closely tracks the patent’s language if it tracks too little of it. There is
23 simply insufficient information to determine *how* the structure performs the claimed function. *See*
24 *generally Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1319 (Fed. Cir. 2013).

25 **2. The Court Adopts Motorola’s Construction.**

26 After carefully considering the evidence cited by the parties, as well as the ‘886 Patent
27 itself, the Court adopts Motorola’s construction. While long and seemingly unwieldy, the Court
28 finds that Motorola’s construction accurately reflects the algorithm and structure necessary to

1 perform the function agreed upon by the parties. In particular, Motorola’s construction explains
2 how the characteristic values are calculated and how the discrimination is performed, which
3 Fujifilm’s construction does not do and which *Ibormeith* requires. As Fujifilm concedes, “the
4 *calculation* of the characteristic values and the discriminations themselves . . . are necessary to
5 perform the recited function.” Br. 19 (emphasis added). Motorola’s language carefully adheres to
6 the patent’s language and does not import any unnecessary limitation.

7 Fujifilm argues that Motorola is incorporating most of the specification into the term “face
8 judgment means” and is “over-narrowing” the claim term. Reply 9. “[S]pecific examples of how
9 [values and discriminations] are calculated or performed . . . are inappropriately included in
10 Motorola’s proposed construction.” Br. 19. And because alternatives to reference data are
11 disclosed, the inventor did not consider them necessary. Reply 10. Fujifilm points to the patent’s
12 statement that “it is obvious that other methods . . . may also be used.” 18:66-19:3. Even if the
13 “additional steps added by Motorola’s construction could be characterized as being required for
14 the claimed invention to work,” Fujifilm argues, “that would still be insufficient to include them
15 in the corresponding structure, which does not need to include all things necessary to enable the
16 claimed invention to work.” Br. 20 (citing *Default Proof Credit Card Sys., Inc. v. Home Depot*
17 *U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005)).

18 Fujifilm’s arguments are unpersuasive. Fujifilm is only partially correct when it says that
19 the patent discloses “alternatives” (plural). Reply 10. With regard to Motorola’s construction, the
20 only aspect of the algorithm for which the possibility of an alternative is disclosed and that
21 Fujifilm identifies is the method for *obtaining* reference data, not the use of reference data itself.
22 ‘886 Patent 18:63-19:3. There, the patent discloses that “it is obvious that other methods [for
23 obtaining reference data], such as a method for judging whether a shape, which conforms to a
24 facial template . . . may also be used” rather than the “machine learning method” discussed in the
25 patent. *Id.* Thus, Fujifilm is wrong to say that “[b]y describing alternatives to reference data, the
26 inventor did not consider reference data to be necessary for the algorithm.” Reply 10 (original
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28

1 emphasis). The patent was only discussing one kind of reference data, not all reference data.⁹
 2 Fujifilm provides no argument as to why reference data are *unnecessary* if the face detection
 3 means is to discriminate the presence of a face in the frame. Other than this example, Fujifilm
 4 identifies no other instance in which the patent discusses alternatives to the method disclosed. In
 5 any event, Motorola’s construction does not require any particular *kind* of reference data.

6 Similarly, Fujifilm is incorrect in criticizing Motorola’s inclusion of “preparatory steps” in
 7 its construction. Reply 9. While Motorola’s use of those words may lead one to believe that such
 8 steps are unnecessary to perform the function, reading the patent reveals that the steps discussed
 9 are in fact *part of* the calculation of the characteristic values, and therefore necessary. The
 10 calculation of the characteristic values depends upon the directions of gradient vectors, and the
 11 “preparatory steps” explain how those vectors are calculated. ‘866 Patent 7:33-54. This comports
 12 with *Ibormeith*’s requirement that the calculation of values must somehow be limited. 732 F.3d at
 13 1382. As above, Fujifilm provides no argument why these are not necessary for the algorithm.
 14 Fujifilm rightly quotes the Federal Circuit as stating that “corresponding structure need not include
 15 all things necessary to enable the claimed invention to work.” Reply 20 (citing *Default Proof*
 16 *Credit Card Sys.*, 412 F.3d 1291 at 1298). However, the Federal Circuit’s full sentence says,
 17 “While corresponding structure need not include all things necessary to enable the claimed
 18 invention to work, it must include all structure that actually performs the recited function.”
 19 Motorola’s construction includes all structure that actually performs the recited function while
 20 Fujifilm’s does not.

21 **B. “face detection means for detecting a facial position in a frame, which is judged to**
 22 **include a face, if the face judgment means judges that the face is included in the**
 23 **frame”**

24 The disputed term is found in Claim 1.

Fujifilm’s Construction	Motorola’s Construction
Function: detecting a facial position in a frame, which is judged to include a face, if the face judgment means judges that the face is included in the frame	Function: detecting a facial position in a frame, if it has been previously determined by the face judgment means that a face is included in the frame

28 ⁹ Fujifilm appears to recognize this on pages 18-19 of its opening brief.

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Structure: CPU 12 programmed to obtain the coordinate values at four corners of the rectangle enclosing the face; and equivalents thereof	Structure: (1) CPU 12 programmed to obtain the coordinate values at four corners of the region of 30x30 pixels, which correspond to the position of the mask M or (2) CPU 12 programmed to obtain the center position, which is the coordinate values of the intersection of the diagonal lines of the mask M and the length of a radius of a circle with its center at the center position; and equivalents thereof
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The parties agree that “face detection means” is a means-plus-function claim, but disagree about the structure and function.

Function

The parties disagree about whether the system must detect a face before detecting its location.

The Court adopts Motorola’s construction. Motorola’s construction, which contains the predicate that “it has been *previously determined* by the face judgment means that a face is included in the frame,” because it is supported by the claim language. As the term states that detection of the facial position (or location) in a frame occurs in a frame “which is *judged to* include a face,” the language suggests that the “judging,” i.e., detecting the presence of a face, has already occurred. Thus, it was “previously determined by the face judgment means that a face is included in the frame.” The conditional “if” and the past tense in “judged” and “included” in the third clause of the disputed term—much like the past tense in the second clause—support the understanding that the face-detection occurs before the location-detection. In addition, when Claim 1 discusses the “control means” and references the face judgment means, it states that “judgment is made as to whether the face is included . . . , and if the judgment is positive, the facial position is detected.” ‘886 Patent 19:29-32. The claim language therefore shows that detecting a face occurs before detecting its location.

Other portions of the patent’s specification clarify that detecting a face occurs before detecting a facial location. To begin, Figure 12 separates judging whether a face is present from detecting the face’s location, placing the former earlier in time than the latter, thus suggesting that

1 one precedes the other. Additionally, the abstract¹⁰ states, “If it is judged that a face is included in
2 a frame, the facial position is detected in the frame, and stored. Then, judgment is made as to
3 whether a face is included in the next frame after predetermined time. If the judgment is positive,
4 the facial position is detected.” This process is repeated until a picture is taken. Finally, the
5 Summary of the Invention also reflects that detecting a face occurs before detecting its location.
6 ‘886 Patent 2:13-16.

7 The preferred embodiment supports Motorola’s construction. It states, “When it is judged
8 that the face is included in the frame FRI . . . at which *it was discriminated* that the face was
9 included . . . the facial position is detected” ‘886 Patent 14:44-50 (emphasis added). Further,
10 “If it is judged that a face is not included . . . processing *goes back* to step S12. [But i]f it is
11 judged that a face is included, the facial position is detected” ‘886 Patent 16:59-63 (emphasis
12 added). Additionally, the preferred embodiment discloses, “If it is judged that a face is included,
13 the processing *goes back* to step S14, and the facial position is detected.” ‘886 Patent 17:22-23
14 (emphasis added). Taken as a whole, the patent’s language strongly suggests that the inventor
15 intended that detecting a face occur before detecting its location, and that a person of ordinary skill
16 in the art would understand the term that way.

17 **Structure**

18 The parties agree that the structure includes a general purpose computer, CPU 12, but
19 disagree about the algorithm performed by it. Motorola’s proposed construction includes an
20 alternative method of detecting a facial position, and Fujifilm argues that the alternative does not
21 comport with the specification. However, Fujifilm does not object to inclusion of this alternative
22 as long as it is clear that it is only an alternative and tracks the exact language of the specification.
23 Br. 22; Reply 12.

24 Based on this, the Court construes the structure as follows: “CPU 12 programmed to
25 obtain the coordinate values at four corners of the rectangle enclosing the face; or CPU 12
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27 ¹⁰ The abstract may be considered in claim construction. *See MEMS Tech. Berhad v. Int’l Trade*
28 *Comm’n*, 447 F. App’x 142, 151 (Fed. Cir. 2011); *Netcraft Corp. v. eBay, Inc.*, 549 F.3d 1394,
1399 (Fed. Cir. 2008).

1 programmed to obtain the coordinate values at four corners of the region of 30x30 pixels, which
 2 correspond to the position of the mask M; or CPU 12 programmed to obtain the center position,
 3 which is the coordinate values of the intersection of the diagonal lines of the mask M and the
 4 length of a radius of a circle with its center at the center position; and equivalents thereof.”

5 **C. “detecting a facial position in a frame, which is judged to include a face, if it is**
 6 **judged that the face is included in the frame”**

7 The disputed term is found in Claim 11.

Fujifilm’s Construction	Motorola’s Construction
8 if the frame includes a face, detect the location 9 of the face within the frame 10 [for claim 1, this term should not be construed 11 separately from the “face detection means” element]	identifying the location of a human face within frame if it has been previously determined that the frame contains a human face

12 The parties disagree about whether there is an ambiguity in the claim language: Motorola
 13 argues that there is, Fujifilm argues that there is not. Br. 23; Response 11. Fujifilm argues that
 14 Motorola’s proposed construction attaches the requirement that “it has been previously determined
 15 that the frame contains a human face,” which “adds ambiguity as to who or what is doing the
 16 determination, and “when this determination is to be performed and to what the performance is
 17 prior.” Br. 23. Motorola argues that the determination is done “earlier in time” when “judging
 18 whether a human face is included in a frame.” Response 11.

19 The Court adopts Motorola’s construction for the same reasons it adopts Motorola’s
 20 construction for “face detection means” above. In addition, the inclusion of the modifier “human”
 21 to “face” is warranted by the corresponding limitation in Claim 11. ‘886 Patent 21:20.

22 **III. PATENT NO. 6,144,763**

23 This patent describes a digital camera that captures an image, converts the signal to digital
 24 values, which are then converted to an image format with luminance (brightness) and chrominance
 25 (color) components, and stored in memory. The chrominance components are set to fixed values,
 26 then luminance and chrominance values are compressed based on a standard format, e.g., JPEG,
 27 and stored to a recording medium. If the camera is set to monochrome mode, the chrominance
 28

1 data are altered, resulting in a monochrome image.

2 The disputed terms are found in Claims 1, 12, and 19.

Term	Fujifilm’s Constructions	Motorola’s Constructions
writing processed image data output from a signal processing circuit in a storage, and reading the processed image data out of said storage in preselected blocks component by component (claim 12)	writing processed image data that is outputted from a signal processing circuit into a storage, and reading that processed image data from the storage in preselected blocks on a component-by-component basis	writing at least one frame of processed image data output from a signal processing circuit in a storage, and before reading the processed image data out of said storage in preselected blocks on a component-by-component basis
storage for storing the processed image data and allowing the processed image data to be read out in preselected blocks component by component (claims 1 and 19)	storage for storing the processed image data and for allowing the processed image data to be retrieved from the storage in preselected blocks on a component-by-component basis	storage holding at least one frame of processed image data, and for allowing the processed image data to be retrieved from the storage in preselected blocks on a component-by-component basis

14 The parties disagree about whether there must be “at least one frame” of “processed image
15 data.”

16 The Court adopts Fujifilm’s proposed constructions. Contrary to Motorola’s constructions,
17 there is nothing in the claim language to suggest that the “processed image data” must constitute
18 “at least one frame.” The claims do not even use the word “frame” at all. Rather, they only speak
19 of data. For example, Claim 1 references “outputting resulting coded image data,” “a signal
20 processing circuit for processing the image data to output processed image data,” and—as the
21 disputed portion states, “storage for storing the processed image data and allowing the processed
22 image data to be read out in preselected blocks component by component.” ‘763 Patent 13:51-57.
23 Similarly, Claim 12 discloses “[a] method of compressing and coding image data representative of
24 a color image,” which is done by “writing processed image data output from a signal processing
25 circuit in a storage, and reading the processed image data out of said storage in preselected blocks
26 component by component.” ‘763 Patent 14:60-67. While the claims speak of “data,” “blocks,”
27 and “components,” they never mention frames.

28 On the other hand, the preferred embodiment *does* discuss frames—indeed, it speaks of

1 single frames repeatedly, indicating that the inventor could have used the term “frame” in the
 2 claims if he wished. As the Federal Circuit has stated, “we have repeatedly warned against
 3 confining [] claims to those embodiments” discussed in the patent. *Phillips*, 415 F.3d at 1323.
 4 The Court does not do so here.

5 Motorola argues that “[t]he specification describes capturing and processing an image of
 6 data on a frame-by-frame basis.” Motorola argues that “at least one frame of data is required
 7 because anything less than a complete frame of data would only represent a portion (or fraction) of
 8 the image data captured by the image sensor.” Response 23. It may very well be the case that
 9 “anything less than a complete frame of data” would be a partial image. However, the Court is
 10 confined by what the patent’s claims disclose, as supported by the specification and prosecution
 11 history, and Motorola has pointed to no evidence except the preferred embodiment to support its
 12 construction.

13 **IV. PATENT NO. 6,915,119**

14 This patent describes a wireless telephone that communicates both over a cellular network
 15 to a provider, e.g., Verizon, and through another wireless channel without such a provider, e.g.,
 16 Wi-Fi or Bluetooth. This allows the telephone to receive data from a cellular link and then
 17 transmit it over the provider-less channel.

18 The disputed term is “**menu (comprises/includes) selections for [a], . . . , [y], and [z].**”
 19 The disputed term is found in Claims 1, 7, 12, 19, 32, and 38.

Fujifilm’s Construction	Motorola’s Construction
Plain and ordinary meaning; Alternatively: menu includes options representing the following: [a], . . . , [y], and [z]	A single screen displaying selections for each of [a], . . . , [y], and [z]

24 The parties disagree about whether a “menu” must be on a single screen.

25 The Court finds that this term does not need construction. A juror would understand the
 26 term based on its plain and ordinary meaning. There is nothing in the claim language to suggest
 27 that a “menu” must be on a “single screen,” as Motorola argues. And Motorola has provided no
 28 argument or evidence that a person of ordinary skill in the art would understand the term “menu”

1 to mean that. This appears to be a situation in which “the ordinary meaning of claim language as
2 understood by a person of skill in the art may be readily apparent even to lay judges, and claim
3 construction in such [a] case[would] involve[] little more than the application of the widely
4 accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. More
5 importantly, it is not a situation in which the Court may depart from the plain meaning of the term
6 because the patent has its own definition of “menu” or because of a disavowal during patent
7 prosecution. *Thorner*, 669 F.3d at 1365. Motorola is attempting to limit the scope of the claim,
8 but has not given a sufficient basis for doing so.

9 Motorola argues that the term ““menu” has a more limited meaning tha[n] just merely
10 displaying a selection [of] options to a user.” Response 24. It says that a menu” is not “merely
11 the display of a selection of options to a user that may appear either on one screen, or any number
12 of screens, irrespective of whether there is any relationship between the screens.” *Id.* But
13 Motorola does not explain why a menu must only be on one screen or why another selection of
14 items on another screen which is related to a first selection of items cannot all be “a menu.”

15 Motorola points to Figures 1 and 4 of the patent, noting that the images on the screen
16 display a menu, and thus argues that a menu must be on one page because its construction “is
17 consistent with both the only menus depicted and disclosed in the specification.” Response 25.
18 That argument is unconvincing. Motorola does not explain why any of the selections on the
19 screen could not be submenus of the same menu. More importantly, Motorola’s seeming attempt
20 to limit the scope of the claims based on particular embodiments violates well-established canons
21 of claim construction.

22 Motorola argues that Fujifilm’s construction “would render the term ‘menu’ meaningless.”
23 Response 25. The Court is unclear why a list of selections or options, as Fujifilm construes the
24 disputed term, is meaningless. Motorola also argues that the fact that the word “menu” is
25 preceded by the terms “a” or “said” somehow supports its construction. Response 25. But
26 Motorola does not adequately explain why this necessarily means that a menu must be on one
27 screen.

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V. PATENT NO. 8,306,285

This patent shares the same specification as its parent, the ‘886 Patent. Br. 23; Response 11.

The disputed term is **“face judgment device for performing processing, at predetermined or varying time intervals, for judging whether a human face is included in a frame of the moving image”**. The disputed term is found in Claims 1 and 13.

Fujifilm’s Construction	Motorola’s Construction
Not subject to § 112 ¶ 6, but, if so ordered:	Subject to § 112 ¶ 6
Function: “performing processing, at predetermined or varying time intervals, for judging whether a human face is included in a frame of the moving image”	Function: “performing processing, at predetermined or varying time intervals, for judging whether a human face is included in a frame”
Structure: same as “face judgment means” of the ‘886 patent, above	Structure: same as “face judgment means” of the ‘886 patent, above

The parties dispute whether the term is governed by § 112, ¶ 6.

The Court finds that “face judgment device” is not subject to § 112, ¶ 6. Given the “strong” presumption that claim language lacking the word “means” is not subject to § 112, ¶ 6, the Court must determine whether the patent is so devoid of structure that the presumption is overcome. *Inventio AG*, 649 F.3d at 1356 (citation omitted).

The claim language and written description disclose sufficient structure such that the presumption remains that “face judgment device” is not subject to § 112, ¶ 6. Here, the claim language is “face judgment device for performing processing, at predetermined or varying time intervals, for judging whether a human face is included in a frame of the moving image.” Looking to the written description, the patent discloses “[o]peration programs of the CPU 12[] includ[e] programs for performing various kinds of processing,” such as “processing for judging whether a face is included in an image represented by image data.” ‘285 Patent 6:47-51. In addition, “the CPU 12 reads out the programs for executing processing for judging whether a face is included in the image . . . and executes the program. Accordingly, the CPU 12 functions as . . . a face judgment means” ‘285 Patent 7:11-16. The patent proceeds to describe at length how the

1 CPU 12 conducts its processing. The claim language thus points one to the corresponding
2 structure in the written description. Motorola has not met its burden of overcoming the
3 presumption.

4 Motorola argues that several cases hold that “device” is insufficient to connote structure:
5 *Mass. Inst. of Tech. & Elecs. for Imaging, Inc. v. Abacus Software*, 462 F.3d 1344 (Fed. Cir. 2006)
6 (“*MIT*”); *Vistan Corp. v. Fadei USA, Inc.*, No. 10-cv-4862-JCS, 2012 WL 1496099 (N.D. Cal.
7 Apr. 27, 2012); and *Widevine Techs., Inc. v. Verimatrix, Inc.*, No. 07-cv-321, 2009 WL 3734106
8 (E.D. Tex. Nov. 4, 2009). In *MIT*, the Federal Circuit stated that terms like “device” “typically do
9 not connote sufficiently definite structure.” *MIT*, 462 F.3d at 1354. The court also found that the
10 modifier “colorant selection” did not connote sufficient structure. *Id.* Similarly, *Vistan* held that
11 “assembly” does not connote structure. *Vistan*, 2012 WL 1496099, at *15. The court in *Vistan*
12 also found that adding the modifier of “active” to “assembly” does not help it. *Id.* at *16. Finally,
13 in *Widevine*, the court found the terms “first device” and “second device” to be means-plus-
14 function limitations because they did not identify any structure. *Widevine*, 2009 WL 3734106, at
15 *14.

16 Motorola has still not rebutted the “strong presumption” that the lack of the word “means”
17 in the claim renders “face judgment device” a means-plus-function limitation. In *Inventio*, the
18 Federal Circuit held that “[t]he term ‘modernizing device’ presumptively connotes sufficiently
19 definite structure to those of skill in the art, and that presumption is a strong one that is not readily
20 overcome.” 649 F.3d at 1358. It stated that the term “device” should not be construed to be a
21 means-plus-function limitation when the claims “delineate the components that the [] device is
22 connected to, describe how the [] device interacts with those components, and describe the
23 processing that the [] device performs,” and when “[t]he written descriptions additionally show
24 that the [] device conveys structure to skilled artisans” and does not “nakedly recite[] a ‘device’”
25 or “fail[] to place clear structural limitations on the ‘device.’” *Id.* at 1359. The ‘285 Patent meets
26 all of these requirements set out in *Inventio*. Significantly, the Federal Circuit deemed as dicta its
27 comment in *MIT* that “device” was a generic term that does not connote sufficient structure and
28 rejected applying that principle in *Inventio*. *Id.* at 1359. *Inventio* supports Fujifilm’s construction.

1 To further the point, in construing another term alleged to be means-plus-function, the
2 *Inventio* court found that “written descriptions refer[ring] to the computing unit as a computer,
3 where one of its functions is to store and execute a computer program product,” and “explain[ing]
4 the steps that the computer program product performs” is sufficient to preserve the presumption.
5 *Id.* at 1359-60. This language is even more on point regarding the ‘285 Patent. Unlike the
6 extremely ambiguous terms in *Vistan* and *Widevine*, the term here, “face judgment device,”
7 coupled with the corresponding structure, are sufficient for the Court to conclude that § 112, ¶ 6
8 does not apply.

9 **CONCLUSION**

10 As stated above, the Court construes the disputed terms as follows:

11 **I. PATENT NO. 5,734,427**

- 12 1. **“Thinning said first image signal to thereby produce a second image signal having a**
13 **low resolution”** is “reducing the resolution of the first image signal to create a low
14 resolution image signal representative of the subject.”
- 15 2. **“Thinning said high-resolution pixel data output from said imaging device to thereby**
16 **produce low-resolution image data”** is “reducing the resolution of the pixel data output
17 from the imaging device to create low-resolution image data representative of the subject.”
- 18 3. **“Thinning said pixel data”** is “reducing the resolution of the pixel data.”
- 19 4. **“Thinning said high-resolution image data output from said imaging device to**
20 **thereby produce low-resolution image data”** is “reducing the resolution of the image
21 data output from the imaging device to create low resolution image data representative of
22 the subject.”
- 23 5. **“Thinning said first image signal . . . to thereby produce a second image signal having**
24 **low resolution”** is “reducing the resolution of the image signal to create a low resolution
25 image signal representative of the subject.”
- 26 6. **“A viewfinder . . . implemented by a video monitor”** needs no construction.

1 7. **“Imaging device for shooting a subject and outputting (a) corresponding (first color**
2 **image signal having a high resolution/high resolution pixel data) to be recorded in a**
3 **recording medium”** is not a means-plus-function limitation.

4 **II. PATENT NO. 7,327,886**

5 1. **“Face judgment means for performing processing, in a predetermined time interval,**
6 **for judging whether a human face is included in a frame included in the moving**
7 **image until a positive result is obtained in the judgment”** is a means-plus-function
8 limitation, in which the function is “performing processing, in a predetermined time
9 interval, for judging whether a human face is included in a frame included in the moving
10 image until a positive result is obtained in the judgment,” and the corresponding structure
11 is:

12 “CPU 12 programmed to perform the steps of Fig. 14 of the ‘886 Patent, repeatedly
13 if necessary, until a positive result is obtained as outlined below; and equivalents
14 thereof.

15 1. Perform steps S31-S33.

16 Step S31 - calculate a first characteristic value C1 as the directions of the
17 gradient vectors in the frame Fri, for each of a plurality of stages of
18 enlargement or reduction and rotation of the frame Fri. This step requires
19 preparatory steps a and b:

- 20 a. perform filtering processing on a frame Fri by using an edge
21 detection filter in horizontal and vertical directions; and
22 b. compute a gradient vector K at each pixel based on the magnitude
23 H of the edge in the horizontal direction and the magnitude V of the
24 edge in the vertical direction at each pixel of the frame Fri.

25 Step S32 - read first reference data R1 from system memory, the first
26 reference data R1 defining a discrimination condition for the combination
27 of the first characteristic value C1 at each pixel include in each of a plurality
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of kinds of pixel groups including a plurality of pixels, selected from a sample image.

Step S33 - use the first characteristic value C1 to perform a first discrimination for discriminating a face from the frame Fri.

2. If it is judged that a facial candidate is found in the image Fri, perform steps S34-S38.

Step S34 - extract the facial candidate.

Step S35 - calculate a second characteristic value C2 as the directions and magnitudes of the gradient vectors within the facial candidate, for each of a plurality of stages of enlargement or reduction and rotation of the facial candidate.

Step S36 - normalize the magnitude of the gradient vector K of the second characteristic value C2 by obtaining a histogram of the magnitudes of the gradient vectors K at all pixels in the facial candidate, and smoothing the histogram so that the magnitudes of the gradient vectors K are evenly distributed to all the range of values.

Step S37 - read second reference data R2 from system memory, the second reference data R2 defining a discrimination condition for the combination of the second characteristic value C2 at each pixel include in each of a plurality of kinds of pixel groups including a plurality of pixels, selected from a sample image.

Step S38 - use the second characteristic value C2 to perform a second discrimination to discriminate whether the facial candidate is a face.

3. If the facial candidate is a face, perform step S39 - judge that the frame includes a face.

4. If it is judged that the frame does not include a facial candidate, or that a facial candidate is included but is not a face, perform step S40 - judge that the frame Fri does not include a face.”

1 2. **“Face detection means for detecting a facial position in a frame, which is judged to**
2 **include a face, if the face judgment means judges that the face is included in the**
3 **frame”** is a means-plus-function limitation, in which the function is “detecting a facial
4 position in a frame, if it has been previously determined by the face judgment means that a
5 face is included in the frame,” and the corresponding structure is “CPU 12 programmed to
6 obtain the coordinate values at four corners of the rectangle enclosing the face; or CPU 12
7 programmed to obtain the coordinate values at four corners of the region of 30x30 pixels,
8 which correspond to the position of the mask M; or CPU 12 programmed to obtain the
9 center position, which is the coordinate values of the intersection of the diagonal lines of
10 the mask M and the length of a radius of a circle with its center at the center position; and
11 equivalents thereof.”

12 3. **“Detecting a facial position in a frame, which is judged to include a face, if it is judged**
13 **that the face is included in the frame”** is “identifying the location of a human face within
14 frame if it has been previously determined that the frame contains a human face.”

15 **III. PATENT NO. 6,144,763**

16 1. **“Writing processed image data output from a signal processing circuit in a storage,**
17 **and reading the processed image data out of said storage in preselected blocks**
18 **component by component”** is “writing processed image data that is outputted from a
19 signal processing circuit into a storage, and reading that processed image data from the
20 storage in preselected blocks on a component-by-component basis.”

21 2. **“Storage for storing the processed image data and allowing the processed image data**
22 **to be read out in preselected blocks component by component”** is “storage for storing
23 the processed image data and for allowing the processed image data to be retrieved from
24 the storage in preselected blocks on a component-by-component basis.”

25 **IV. PATENT NO. 6,915,119**

26 **“Menu (comprises/includes) selections for [a], . . . , [y], and [z]”** needs no construction.

27 **V. PATENT NO. 8,306,285**

28 **“Face judgment device for performing processing, at predetermined or varying time**

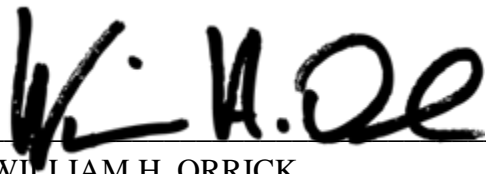
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intervals, for judging whether a human face is included in a frame of the moving image” is not a means-plus-function limitation.

The Court will hold a status conference on Tuesday, December 17, 2013, at 2 p.m., in Courtroom 2, 17th Floor, 450 Golden Gate Avenue, San Francisco, California, at which the parties should be prepared to discuss case scheduling and any other matters that may require the Court’s attention.

IT IS SO ORDERED.

Dated: November 18, 2013



WILLIAM H. ORRICK
United States District Judge