

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

VISUAL INTELLIGENCE LP,	§	
	§	
Plaintiff,	§	
	§	
v.	§	CIVIL ACTION NO. H-13-2612
	§	
OPTECH, INC.,	§	
	§	
Defendant.	§	

MEMORANDUM OPINION ON CLAIM CONSTRUCTION

This is a patent infringement suit filed by Visual Intelligence LP ("VI") against Optech, Inc. ("Optech"), involving United States Patent Nos. 7,127,348 ("348 patent") and 7,725,258 ("258 patent"). The '258 patent is a continuation-in-part of the '348 patent. The '348 patent claims priority to U.S. Application No. 60/412,504, filed on September 20, 2002. The plaintiff, VI, and the defendant, Optech, disagree about the meaning of several terms used in the patents and, therefore, ask the court to construe the disputed terms. See Markman v. Westview Instruments, Inc., 116 S. Ct. 1384, 1387 (1996) ("[T]he construction of a patent, including terms of art within its claim, is exclusively within the province of the court.").

In support of its preferred constructions VI has filed Plaintiff Visual Intelligence LP's Opening Claim Construction Brief Pursuant to Patent Rule 4-5(a) ("VI's Opening Brief") (Docket Entry No. 52), in response to which Optech has filed Defendant Optech,

Inc.'s Responsive Markman Brief ("Optech's Response") (Docket Entry No. 53), to which VI has replied in Plaintiff Visual Intelligence LP's Reply Brief on Claim Construction ("VI's Reply") (Docket Entry No. 55). The parties have also filed their Parties' Joint Claim Construction Charts (Docket Entry No. 56).

After the court's rulings and the parties' agreements at a hearing held on January 28, 2015,¹ and a subsequent meeting of the parties,² the proper construction of two claim terms remains in dispute: "imaging sensor" and "mount unit." After carefully considering the parties' arguments, the evidence, and the applicable law, the court construes the disputed claim terms as stated below.

I. Legal Standard for Claim Construction

In Markman, 116 S. Ct. at 1387, the United States Supreme Court held that the construction of patent claims is a matter of law exclusively for the court. Accordingly, when the parties dispute the meaning of particular claim terms, the court should consider the parties' proposed definitions, but must independently assess the claims, the specification, and if necessary the prosecution history and relevant extrinsic evidence, and declare the meaning of the disputed terms. Exxon Chemical Patents, Inc. v.

¹See Hearing Minutes and Order, Docket Entry No. 59; Markman Hearing Transcript, Docket Entry No. 63.

²See Joint Status Report Regarding Claim Construction, Docket Entry No. 60.

Lubrizol Corp., 64 F.3d 1553, 1556 (Fed. Cir. 1995), cert. denied, 116 S. Ct. 2554 (1996).

Courts begin claim construction inquiries by ascertaining the "ordinary and customary meaning" of the disputed claim terms. Phillips v. AWH Corporation, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc), cert. denied, 126 S. Ct. 1332 (2006) (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)). "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Id. at 1313. "[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Id.

In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words. . . . In such circumstances, general purpose dictionaries may be helpful. In many cases that give rise to litigation, however, determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art. Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to "those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." . . . Those sources include "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic

evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art."

Id. at 1314 (citations omitted).

Ascertaining a term's ordinary and customary meaning is the starting point for claim construction, but may not be the ending point. For example, a term may not carry its ordinary and customary meaning "if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history." CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed. Cir. 2002). See Hormone Research Foundation, Inc. v. Genentech, Inc., 904 F.2d 1558, 1563 (Fed. Cir. 1990), cert. dismissed, 111 S. Ct. 1434 (1991) ("It is a well-established axiom in patent law that a patentee is free to be his or her own lexicographer . . . and thus may use terms in a manner contrary to or inconsistent with one or more of their ordinary meanings.").

Additionally, a claim term may be interpreted more narrowly than it otherwise would if "the patentee distinguished the term from prior art on the basis of a particular embodiment, expressly disclaimed subject matter, or described a particular embodiment as important to the invention." CCS Fitness, 288 F.3d at 1366-67. See Thorner v. Sony Computer Entertainment America LLC, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (explaining that only two exceptions exist to the general rule that terms carry their ordinary and customary meaning: "(1) when a patentee sets out a definition and acts as his own lexicographer, or (2) when the patentee disavows

the full scope of a claim term either in the specification or during prosecution").

Nevertheless, "a patentee need not describe in the specification every conceivable and possible future embodiment of his invention." CCS Fitness, 288 F.3d at 1366 (internal quotation marks and citation omitted). Nor will the court "add a narrowing modifier before an otherwise general term that stands unmodified in a claim." Id. "If an apparatus claim recites a general structure without limiting that structure to a specific subset of structures, [the court] will generally construe the term to cover all known types of that structure that the patent disclosure supports." Id. (internal quotation marks and citation omitted).

There are two types of evidence upon which courts rely in conducting claim construction inquiries: (1) intrinsic evidence (e.g., the language of the claim itself, the patent specification, and the prosecution history of the patent) and (2) extrinsic evidence (evidence external to the patent and prosecution history such as dictionaries, treatises, and expert and inventor testimony). Phillips, 415 F.3d at 1317 (citing Vitronics, 90 F.3d at 1583). The court is not required to consider these sources in any particular order; "what matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law." Id. at 1324.

A. Intrinsic Evidence

The language of the claim itself is "of primary importance[] in the effort to ascertain precisely what it is that is patented."

Phillips, 415 F.3d at 1312 (quoting Merrill v. Yeomans, 94 U.S. 568, 570 (1876)). This is "[b]ecause the patentee is required to 'define precisely what his invention is.'" Id. (quoting White v. Dunbar, 7 S. Ct. 72, 75 (1886)). Courts, therefore, carefully consider the context within which a particular term is used in an asserted claim, as well as how the term is used in other claims within the same patent. "Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims." Id. at 1314.

While the claim language itself should be the court's primary focus, other intrinsic sources can be helpful. For example, the written description or specification "is always highly relevant to the claim construction analysis" and can be either dispositive or "the single best guide to the meaning of a disputed term." Id. at 1315 (quoting Vitronics, 90 F.3d at 1582). While "[i]t is therefore entirely appropriate for a court, when conducting claim construction, to rely heavily on the written description for guidance as to the meaning of the claims," id. at 1317, it is important that the specification be used only to interpret the meaning of a claim, not to confine patent claims to the embodiments described therein. See Dow Chemical Co. v. United States, 226 F.3d 1334, 1342 (Fed. Cir. 2000) ("[A]s a general rule claims of a patent are not limited to the preferred embodiment . . . or to the examples listed within the patent specification."). Only if the patentee describes a particular embodiment as "important to the

invention" may the court narrow the meaning of a claim to a single or preferred embodiment. See Toro Co. v. White Consolidated Industries, Inc., 199 F.3d 1295, 1301 (Fed. Cir. 1999). See also CCS Fitness, 288 F.3d at 1366-67.

The patent's prosecution history is also considered intrinsic evidence and should be considered when offered for purposes of claim construction. Phillips, 415 F.3d at 1317. The prosecution history "consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent." Id. "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." Id. Since, however, "the prosecution history represents an ongoing negotiation between the PTO and the applicant . . . it often lacks the clarity of the specification and thus is less useful for claim construction purposes." Id.

B. Extrinsic Evidence

If the intrinsic evidence does not resolve the ambiguity in a particular claim term, the court may look to extrinsic evidence to help it reach a conclusion as to the term's meaning. See Phillips, 415 F.3d at 1317; Vitronics, 90 F.3d at 1583. The court may look to dictionaries, especially technical dictionaries, and treatises "if the court deems it helpful in determining 'the true meaning of language used in the patent claims.'" Phillips, 415 F.3d at 1318

(quoting Markman, 52 F.3d at 980). The court, however, must always be mindful that extrinsic evidence may only supplement or clarify -- not displace or contradict -- the intrinsic evidence. See id. at 1319 ("[E]xtrinsic evidence may be useful to the court, but it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence."). "[H]eavy reliance on the dictionary divorced from the intrinsic evidence risks transforming the meaning of the claim term to the artisan into the meaning of the term in the abstract, out of its particular context, which is the specification." Id. at 1321.

II. Construction of Disputed Claim Terms

The parties dispute the construction of two terms: "imaging sensor" and "mount unit." The term "imaging sensor" appears in both the '348 patent and the '258 patent. The term "mount unit" appears only in the '258 patent.

A. Imaging Sensor

Disputed Term	Patent	VI's Construction	Optech's Construction
"imaging sensor"	'348	a device capable of receiving and processing active or passive radiometric energy, i.e., light, sound, heat, gravity, and the like, from a target area	a device capable of receiving and processing passive radiometric energy from a target area
	'258	a device capable of receiving and processing active or passive radiometric energy, i.e., light, sound, heat, gravity, and the like, from a target area	a device capable of receiving and processing passive or active radiometric energy from a target area

The term "imaging sensor" appears in asserted claims 1, 2, 6, and 9 of the '348 patent, which does not define the term. The term "imaging sensor" also appears throughout the '258 patent, which does define the term:

For the purposes of this disclosure, an imaging sensor means any device capable of receiving and processing active or passive radiometric energy, i.e., light, sound, heat, gravity, and the like, from a target area. In particular, imaging sensors may include any number of digital cameras, including those that utilize a red-blue-green filter, a bushbroom filter, or a hyperspectral filter, LIDAR sensors, infrared sensors, heat-sensing sensors, gravitometers and the like.³

The parties are essentially in agreement that the term "imaging sensor" in the '258 patent should be construed as it is defined there. At the Markman hearing, counsel for VI stated that VI did not require the phrase "i.e., light, sound, heat, gravity, and the like" in the definition.⁴ The court therefore adopts the following construction for "imaging sensor" in the '258 patent: "a device capable of receiving and processing active or passive radiometric energy from a target area." For the reasons explained below, the court also adopts this definition of "imaging sensor" for the '348 patent.

Unlike the subsequent '258 patent, the '348 patent does not define "imaging sensor." It does, however, offer some examples:

³'258 patent, 8:58-66, Exhibit B to Complaint, Docket Entry No. 1-2, p. 21.

⁴Markman Hearing Transcript, Docket Entry No. 63, p. 40 lines 3-6.

The imaging sensors 306 through 314 may comprise a number of digital imaging devices including, for example, individual area scan cameras, line scan cameras, infrared sensors, hyperspectral and/or seismic sensors. Each sensor may comprise an individual imaging device, or may itself comprise an imaging array. The imaging sensors 306 through 314 may all be of a homogenous nature, or may comprise a combination of varied imaging devices. For ease of reference, the imaging sensors 306 through 314 are hereafter referred to as cameras 306 through 314, respectively.⁵

Optech contends that the term "imaging sensor" in the '348 patent refers only to a passive imaging device, such as a camera, and, unlike the subsequent '258 patent, does not include an active imaging device, such as a LIDAR module.⁶ Optech distinguishes the two types of devices as follows: "A 'passive' imaging device uses energy that already exists in the environment and is not generated by the device itself. An 'active' imaging device, in contrast, generates energy, such as a laser beam (LIDAR), radio waves (RADAR), or sound (SONAR), and directs it at the target."⁷

⁵'348 patent, 9:1-13, Exhibit A to Complaint, Docket Entry No. 1-1, p. 22.

⁶Optech's Response, Docket Entry No. 53, p. 8. "LIDAR is similar to the more familiar radar, and can be thought of as laser radar. In radar, radio waves are transmitted into the atmosphere that scatters some of the energy back to the radar's receiver. . . . In operation, LIDAR transmits light out to a target area. The transmitted light interacts with and is changed by the target area. Some of this light is reflected/scattered back to the LIDAR instrument where it can be analyzed. The change in the properties of the light enables some property of the target area to be determined. The time for the light to travel out to the target area and back to [the] LIDAR device is used to determine the range to the target." '348 patent, 10:66-11:16, Exhibit A to Complaint, Docket Entry No. 1-1, pp. 22-23.

⁷Optech's Response, Docket Entry No. 53, p. 8 n.5.

Optech argues that the '348 specification uses "imaging sensor" exclusively to refer to a camera or other passive imaging device. "Only once does the '348 patent provide examples of what an 'imaging sensor' can be," and those examples, excerpted above, "detect[] light or seismic activity that is already present in the environment. None actively generates energy, like a laser beam or radio waves, to direct at a target."⁸ VI responds that "[n]othing in that description limits an imaging sensor to a passive device, and nothing in that description is inconsistent with the express definition given in the '258 Patent."⁹ The court agrees.

VI argues that the "the '348 Patent extensively describes [LIDAR] devices that a person of ordinary skill in the art would understand are active imaging sensors."¹⁰ Optech argues that VI disavowed LIDAR as a type of "imaging sensor" during prosecution of the '348 patent.¹¹ Ultimately, however, the references to LIDAR in the '348 patent are a red herring with respect to construing the term "imaging sensor." The '348 patent describes LIDAR as part of the claimed Elevation Measurement Unit ("EMU"), which is separate from the "imaging array" that contains the various "imaging sensors."¹² Similarly, any disavowal of LIDAR during prosecution

⁸Id. at 9.

⁹VI's Opening Brief, Docket Entry No. 52, p. 12.

¹⁰Id.

¹¹Optech's Response, Docket Entry No. 53, pp. 9-10.

¹²See '348 patent, 22:7, 22:10, 22:14, 22:19, 22:25-27, 23:19-20, Exhibit A to Complaint, Docket Entry No. 1-1, pp. 28-29.

only stated what is obvious from the text of the '348 patent: The term "imaging sensor" does not refer to the Elevation Measurement Unit.

The '348 specification states that "[t]here are presently three basic types of LIDAR," which (1) "measure the distance from the LIDAR device to a solid or hard target," (2) "measure chemical concentrations . . . in the atmosphere," or (3) "measure the velocity of a target."¹³ The '348 specification then describes LIDAR modules that are distinct from, and work in tandem with, the array of "imaging sensors." For example, in addition to various "imaging sensors" the '348 patent claims "an elevation measurement unit, secured to the vehicle."¹⁴ The specification describes "an EMU module comprised of LIDAR . . . for capturing three dimensional elevation/relief data."¹⁵ The specification refers to the EMU module as a "sensor device" distinct from the "cameras."¹⁶ It also notes that Digital Terrain Models ("DTMs") can be "obtained by a

¹³'348 patent, 11:19-33, Exhibit A to Complaint, Docket Entry No. 1-1, p. 23.

¹⁴'348 patent, 22:7, Exhibit A to Complaint, Docket Entry No. 1-1, p. 28.

¹⁵'348 patent, 6:6-8, Exhibit A to Complaint, Docket Entry No. 1-1, p 20.

¹⁶See '348 patent, 7:42-43, Exhibit A to Complaint, Docket Entry No. 1-1, p. 21 (describing methodology that "allows for calibrating the precision position and attitude of each sensor device (cameras, DPG, AMU, EMU, etc.) on the vehicle"); id. at 13 (depicting a "block diagram of the processing logic" in which "Elevation Measurements," "Attitude Measurements," and "Photo Sensor Imagery" are three separate inputs).

LIDAR or SAR EMU device mounted on the host craft that captures data concurrently with the cameras."¹⁷ Accordingly, Figures 1 and 1A of the '348 patent show a LIDAR Control Unit and Laser Unit mounted next to the Retinal Camera Array.¹⁸

Although the '348 patent states that DTM data "can also be captured from the camera array assembly,"¹⁹ there is no indication that a LIDAR module would be used for this purpose. To the contrary, this statement appears in its own paragraph, following one which states that DTMs "can be created from information obtained using a LIDAR module."²⁰ That DTMs can also be captured from the "camera array assembly" suggests that this is an alternative to using LIDAR. Accordingly, the specification describes "an EMU module comprised of LIDAR, SAR or a forward and rear oblique camera array for capturing three dimensional elevation relief data."²¹ As used in the '348 patent, "imaging sensor" does not appear to refer to a LIDAR module used in an Elevation Measurement Unit.

¹⁷Id. at 12:33-35, p. 23; see also id. at 19:7-10, p. 27 ("As previously noted, orthorectification may rely on position and attitude data 810 from the imaging sensor system or platform, and on DTM data 812. DTM data 812 may be developed from position data 810 and from, for example, . . . LIDAR data 816.").

¹⁸'348 patent, Figures 1 and 1A, Exhibit A to Complaint, Docket Entry No. 1-1, pp. 4-5.

¹⁹'348 patent, 11:15-16, Exhibit A to Complaint, Docket Entry No. 1-1, p. 23.

²⁰Id. at 11:9-10.

²¹'348 patent, 6:6-9, Exhibit A to Complaint, Docket Entry No. 1-1, p. 20 (emphasis added).

Consistent with this reading, during prosecution of the '348 patent VI distinguished the claimed invention from prior art, "Pack," that disclosed a single digital camera and a LIDAR unit used to collect elevation data of a surface.²² In correspondence with the patent examiner, VI argued that Pack "fails to fairly teach the presence of a second imaging sensor."²³ As the court reads it, this is a statement by VI that a LIDAR system used to collect elevation data of a surface is not an "imaging sensor" as that term is used in the '348 patent.²⁴

"[W]here the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender." Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1324 (Fed. Cir. 2003). However, "the alleged disavowing statements [must] be both so clear as to show reasonable clarity and deliberateness and so unmistakable as to be unambiguous evidence of disclaimer." Id. at 1325 (citations omitted). Optech argues that VI's statement that the LIDAR in Pack

²²Response to Office Action Mailed December 07, 2004, Exhibit 4 to Optech's Response, Docket Entry No. 53-5, pp. 21-24.

²³Id. at 23.

²⁴See also VI's Reply, Docket Entry No. 55, p. 5 ("VI merely distinguished the Pack application on grounds that the particular LIDAR disclosed in that application was used only to 'collect elevation data of a surface.' In other words, the LIDAR was used as an altitude measurement unit.") (emphasis in original) (citation omitted).

was not "a second imaging sensor" disavowed not only LIDAR, but all active sensors, and that the court should therefore construe "imaging sensor" to mean a device capable of receiving and processing only passive radiometric energy. The court is not persuaded that VI's disavowal was so sweeping. VI's statement to the patent examiner only confirmed what was clear from the specification itself: The term "imaging sensor" in the claims of the '348 patent does not refer to a LIDAR module in the EMU. The court finds no other limitation of the term "imaging sensor" in the '348 patent or prosecution history. The court therefore adopts the same construction for "imaging sensor" for both the '258 patent and the '348 patent: "a device capable of receiving and processing active or passive radiometric energy from a target area."

B. Mount Unit

Disputed Term	Patent	VI's Construction	Optech's Construction
"mount unit"	'258	a structure that attaches at least one imaging sensor to a mount plate	a structure which contains a sensor

The term "mount unit" appears in asserted claims 1, 12, 22, and 23 of the '258 patent. Claims 1 and 12 refer to a "mount unit" that is "affixed to the mount plate" and has one or more imaging sensors "disposed within" the "mount unit" such that the focal axes of the imaging sensors "pass[] through an aperture in [the] mount

unit and the mount plate."²⁵ Claims 22 and 23 refer to a method of determining the position of imaging sensors "within" the mount unit.²⁶ The specification of the '258 patent states: "The mount unit is any rigid structure to which at least one imaging sensor may be affixed. The mount unit is preferably a housing, which encloses the imaging sensor, but may be any rigid structure including a brace, tripod, or the like."²⁷

VI objects to Optech's proposed use of the word "contains," because it would improperly limit the claim to a housing, ignoring other structures such as a brace that "would not enclose an imaging sensor."²⁸ Optech argues that in order for a "mount unit" to function as described in the claims of the '258 patent the "mount unit" must be able to "contain" a sensor, and there is no reason that a brace or tripod, "properly-designed," could not "contain" a sensor.²⁹ The court is not persuaded that either party's proposed construction is appropriate.

Arguably, a requirement that the mount unit "contain" a sensor may be more restrictive than claim language requiring only that the sensor be disposed or positioned "within" the mount unit. However,

²⁵'258 patent, 21:21-32, 22:11-16, Exhibit B to Complaint, Docket Entry No. 1-2, p. 28.

²⁶Id. at 22:57-60, 23:6-24:2, pp. 28-29.

²⁷'258 patent, 8:54-58, Exhibit B to Complaint, Docket Entry No. 1-2, 21.

²⁸VI's Opening Brief, Docket Entry No. 52, p. 20.

²⁹Optech's Response, Docket Entry No. 53, p. 22.

a more precise definition of mount unit as, for example, a structure "within which a sensor may be disposed" would be redundant of requirements in the claim language. Cf. Digital-Vending Servs. Intern., LLC v. Univ. of Phoenix, Inc., 672 F.3d 1270, 1275 (Fed. Cir. 2012) ("If 'registration server' were construed to inherently contain the 'free of content managed by the architecture' characteristic, the additional 'each registration server being further characterized in that it is free of content managed by the architecture' language in many of the asserted claims would be superfluous."). Similarly, VI's proposed construction, "a structure that attaches at least one imaging sensor to a mount plate," also renders superfluous -- and might be inconsistent with -- claim language requiring a "mount unit affixed to the mount plate and having [an] imaging sensor disposed within [it]."³⁰

VI defined "mount unit" in the '258 specification as "any rigid structure to which at least one imaging sensor may be affixed." The court sees no reason to depart from that definition. The parties have not asked the court to construe "within" or "disposed within," and whether or not an imaging sensor is "disposed within" a "mount unit" is an issue for the infringement phase. The court therefore adopts the definition of "mount unit" provided in the '258 specification.³¹

³⁰'258 patent, 21:21-23, Exhibit B to Complaint, Docket Entry No. 1-2, p. 28.

³¹Because the parties also dispute the meaning of the term "affixed," and the court construed "affixed" at the Markman hearing (continued...)

III. Order

For the reasons stated above, the court adopts the following constructions for the disputed terms of the '348 and '258 patents:

Disputed Term	Patent	Construction
"imaging sensor"	'348 and '258	a device capable of receiving and processing active or passive radiometric energy from a target area
"mount unit"	'258	any rigid structure to which at least one imaging sensor may be attached

SIGNED at Houston, Texas, on this 26th day of February, 2015.



SIM LAKE
UNITED STATES DISTRICT JUDGE

³¹ (...continued)
as "attached," see Markman Hearing Transcript, Docket Entry No. 63, p. 77 lines 5-6, the court uses the term "attached" in its construction of "mount unit."