United States District Court,
N.D. California.

ULTRA TECH, INC,
Plaintiff.
v.
TAMARACK SCIENTIFIC CO,
Defendant.
and related counterclaim,
and related counterclaims.

No. C 03-03235CRB

June 3, 2004.

Jack Russo, John Kelley, Tim C. Hale, William C. Milks, III, Michael Risch, Russo & Hale LLP, Palo Alto, CA, for Plaintiff.

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CLAIM CONSTRUCTION ORDER

CHARLES R. BREYER**, District Judge.**

This patent infringement dispute involves the field of "semiconductor lithography." Lithographic machines are used to manufacture semiconductor integrated circuits; they create extremely small and precise patterns of electronic circuitry on integrated circuit chips.

The invention claimed in the patent-in-suit, the '813, relates to an exposure and alignment system and a method used to process wafers (substrates). The '813 describes a pattern recognition system for alignment of a pattern (referred to as a "target") on the wafer/substrate with another pattern (referred to as a "key") on a mask or reticle. The mask is used to transfer an image (such as a circuit layout) to the wafer.

Now pending before the Court is the task of construing the disputed claims of the '813. In the Court's experience, usually the party asserting infringement contends that the claims should be interpreted broadly so as to ensure that the patent covers as many devices, and potential devices, as possible, while the defendant urges a narrow construction. In this case, however, for the most part the roles are reversed. Ultratech-the party claiming infringement-urges the Court to use the specification and prosecution history to construe the claims more narrowly than they are written, while Tamarack urges the Court to adopt broad, general constructions. Regardless of the positions of the parties, however, the Court's responsibility is to construe the claims in accordance with the principles set forth below.

LEGAL STANDARD FOR CLAIM CONSTRUCTION

"It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history.... Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996).

The court looks first to the "claim language itself to define the scope of the patented invention." Bell Atlantic Network Services, Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1267 (Fed.Cir.2001). "As a starting point, the court gives claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art." Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc., 222 F.3d 951, 955 (Fed.Cir.2000). "Accordingly, a technical term used in a patent is interpreted as having the meaning a person of ordinary skill in the field of the invention would understand it to mean." Bell Atlantic, 262 F.3d at 1267.

The Federal Circuit has "long recognized ... that dictionaries, encyclopedias and treatises are particularly useful resources to assist the court in determining the ordinary and customary meanings of claim terms." Texas Digital Systems, Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202 (Fed.Cir.2002), *cert.denied,* 538 U.S. 1058, 123 S.Ct. 2230, 155 L.Ed.2d 1108 (2003). "Dictionaries are always available to the court to aid in the task of determining meanings that would have been attributed by those of skill in the relevant art to any disputed terms used by the inventor in the claims." *Id.* As the Federal Circuit has explained:

When a patent is granted, prosecution is concluded, the intrinsic record is fixed,

and the public is placed on notice of its allowed claims. Dictionaries, encyclopedias and treatises, publicly available at the time the patent is issued, are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art. Such references are unbiased reflections of common understanding not influenced by expert testimony or events subsequent to the fixing of the intrinsic record by the grant of the patent, not colored by the motives of the parties, and not inspired by litigation. Indeed, these materials may be the most meaningful sources of information to aid judges in better understanding both the technology and the terminology used by those skilled in the art to describe the technology.

Id.; see also id. ("it is entirely proper for both trial and appellate judges to consult these materials at any stage of a litigation, regardless of whether they have been offered by a party in evidence or not. Thus, categorizing them as 'extrinsic evidence' or even a 'special form of extrinsic evidence' is misplaced and does not inform the analysis.").

"[T]here is a 'heavy presumption' in favor of the ordinary meaning of claim language as understood by one of ordinary skill in the art." Bell Atlantic, 262 F.3d at 1268. "This presumption is overcome: (1) where the patentee has chosen to be his own lexicographer, or (2) where a claim term deprives the claim of clarity such that there is 'no means by which the scope of the claim may be ascertained from the language used.' " *Id.* (internal citation omitted). "In the first situation, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning. Therefore, the court must examine the intrinsic evidence to determine whether the patentees have given the term an unconventional meaning. The specification acts as a dictionary 'when it expressly defines terms used in the claims or when it defines terms by implication.' " *Id.* (internal citations omitted).

Courts "must also examine the prosecution history to determine whether the patentee has relinquished a

potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference." *Id*. The prosecution history is considered to determine whether or not there were any express representations made in obtaining the patent regarding the scope and meaning of the claims." *Id*.

MOTIONS TO STRIKE

Ultratech moves to strike portions of Tamarack's brief as well as most of the exhibits attached to the Jan Weir declarations. Ultratech's motion is granted, except as to exhibit 12 (dictionary excerpts). The reason Ultratech may be taking a certain position is irrelevant to the proper construction of the terms. Similarly, the fact that Ultratech may have changed its position at some point in the litigation is also irrelevant. In construing the disputed terms of the '813 the Court has relied solely on the intrinsic evidence, that is, the language of the claims, the specification and the prosecution history.

ANALYSIS

The parties dispute nine terms.

1. Pattern recognition system (Claims 1, 5, 8 and 9) Independent Claim 1 provides:

An exposure and alignment system comprising:

....

a pattern recognition system to recognize said first key and target patterns in said first alignment image, wherein said first key and target patterns to be recognized are arbitrary and user selectable, wherein said first key and target patterns are learned by said pattern recognition system and stored in said memory;....

Col. 12, ll.18-23 (emphasis added).

Ultratech proposes that the Court construe "a pattern recognition system" as "A computer hardware/software system that is capable of learning, storing, and consistently identifying figures, characters, shapes, forms, or features." Tamarack proposes a variation of the *McGraw Hill Dictionary of Scientific and Technical Terms* (5th Ed.1994) definition of pattern recognition system: "a computerized system capable of identifying a figure, character, shape or form."

The plain meaning of "pattern recognition system" is a system that recognizes, that is, identifies, a pattern, that is, a figure, character, shape, form or feature. This meaning is consistent with the scientific dictionary definition of the term. Ultratech does not disagree with this definition; instead, it asks the Court to construe pattern recognition system more narrowly as a system that not only identifies patterns, but also learns and stores and consistently identifies patterns. In essence, Ultratech is taking an element from Claim 1-wherein said first key and target patterns are *learned* by said pattern recognition system and *stored* in said memory-and incorporating that element into the generic definition of a pattern recognition system.

At oral argument Ultratech asserted that the construction of pattern recognition system should not include "arbitrary" and "user selectable" because to do so would be redundant as Claim 1 already expressly includes those elements. The same is true for "learning" and "storing" which, like "arbitrary" and "user selectable," are also separate elements of Claim 1. The Court agrees with Ultratech that in construing a claim redundancy should be avoided. Adding "learning" and "storing" to the definition of pattern recognition

system would be redundant. Accordingly, the Court construes "pattern recognition system" as "a computerized system capable of identifying a figure, character, shape, form or feature."

2. Arbitrary (Claims 1, 5, 11 and 14)

The first element of the pattern recognition system disclosed in Claim 1 is: "wherein said first key and target patterns to be recognized are arbitrary and user selectable." The parties do not appear to dispute the meaning of arbitrary, only the wording of the construction. The Court construes arbitrary as "any convenient pattern, including any number of known alignment keys."

3. User selectable (Claims 1, 5, 11 and 14)

Claim 1 discloses a pattern recognition system "wherein said first key and target patterns to be recognized are arbitrary and user selectable." The plain meaning of this term to one of ordinary skill in the art is selectable by a user. Despite this plain language, Ultratech initially asked the Court to construe "user selectable" narrowly to mean that the user is "the operator of the exposure and alignment system at the time of operation." At oral argument it amended its proposed construction and instead proposes that "user selectable" means "capable of being selected by the ultimate end user of the exposure and alignment system at the time of end use."

Ultratech does not contend that it specially defined user selectable in the specification; instead, to support its very specific definition of user selectable Ultratech relies on the prosecution history. Ultratech has not overcome the heavy presumption that "user selectable" should be construed in accordance with its ordinary meaning. *See* Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999) ("General descriptive terms will ordinarily be given their full meaning; modifiers will not be added to broad terms standing alone."). The cited prosecution history does not establish that Ultratech "relinquished a potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference," in other words, that Ultratech gave up the right to the ordinary meaning of the broad term "user selectable" and instead only patented a system in which the user selecting the pattern is the "ultimate end user" at the time of end use. Bell Atlantic Network Services, Inc., 262 F.3d at 1268. Accordingly, the Court construes "user selectable" as "being capable of being selected by the user."

4. Reference Position (Claims 1, 5 and 11)

Claim 1 describes a "computational subsystem coupled to said pattern recognition system to compute positions of said first key and target patterns and their positional difference to determine a deviation in position between said substrate and a *reference position*." Col. 12, ll. 24-28 (emphasis added). The question is: to what does the reference position refer?

The Court agrees with Ultratech that reference position should not exclude inferential alignment. The problem with Ultratech's proposed construction, however, is that it appears to exclude direct alignment even though the specification discloses both direct and inferential alignment. Tamarack's initial proposed construction-that the reference position is limited to the position of the reticle (mask) to the system's baseline which provides data which is used to bring the substrate into alignment with the reticle-is not supported by the claim language or the specification.

At oral argument Tamarack proposed an alternative construction: a known position to which the substrate is aligned. As this construction encompasses both direct and inferential alignment, the Court adopts this

construction.

5. Substrate (Claims 1, 2, 3, 5, 8, 9, 11, 12, 13, 14, 15 and 16)

The parties agree that a substrate is "a material having a surface onto which an image of a pattern may be formed." Ultratech contends, however, that the Court should conclude that during the prosecution of the patent Ultratech relinquished the right to any device in which the substrate is a printed circuit board. Again, the prosecution history cited by Ultratech does not support an exception-printed circuit boards-to the construction of substrate as used throughout the '813. "Substrate" is used repeatedly without qualification. Accordingly, "substrate" means "a material having a surface onto which an image of a pattern may be formed."

6. Optical projection system (Claim 1)

Tamarack proposes a modification of the McGraw technical dictionary definition of optical projection system: "an optical system which forms a real image of a suitably illuminated object so that it can be viewed, photographed, or otherwise observed." This definition is consistent with the plain language of the claim and the specification and prosecution history. Ultratech, again, urges the Court to construe the claim more narrowly as a "system capable of projecting with the use of one or more focusing optical elements an image from an object (such as a reticle) to an exposure surface (such as a substrate)." The real dispute, then, is whether "optical projection system" as used in Claim 1 is limited to a system that uses "one or more focusing elements."

Ultratech argues that the specification demonstrates that "optical projection system" must be limited to a system that uses one or more focusing elements. *See* Fig. 1 and Col. 4, ll. 42-51. This part of the specification, however, describes "a currently preferred embodiment of lithography system ... upon which the present invention is practiced." Col. 4, ll. 18-20. Thus, Ultratech asks the Court to read a limitation from a preferred embodiment into a claim. The Federal Circuit has cautioned against doing so, even if it is the only embodiment described, absent a clear disclaimer in the specification. *See* Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed.Cir.2004) ("Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.' "). Ultratech has not identified any clear disclaimer in the specification. Accordingly, the Court construes "optical projection system" as "an optical system which forms a real image of a suitably illuminated object so that it can be viewed, photographed, or otherwise observed."

7. First alignment image (Claims 1, 11, 14)

Claim 1 describes a "pattern recognition system to recognize first key and target patterns in said *first alignment image*." Ultratech proposes the plain meaning of first alignment image, namely, "an image used for alignment."

Tamarack suggests that "first alignment image" has a different meaning in Claim 1 than in Claim 12 and it proposes a construction for the term as used in Claim 1: "an electronic image consisting of the first key pattern superimposed over the first target pattern." It also complains that Ultratech's proposal ignores the word "first."

The use of the word "electronic" in the construction is not supported by the intrinsic evidence. Also, the

remainder of Tamarack's definition simply recites some of the elements of Claim 1 and is therefore redundant. The Court therefore construes "alignment image" as "an image used for alignment." The meaning of the word "first" is apparent when the phrase is considered in context.

8. A first and second field of view of first and second objectives (Claims 3, 13)

The parties agree that an "objective" is "a lens, or lens system." Joint Claim Construction Statement. Ultratech asks the Court to add that the lens system "forms an image of a surface." Claims 3 and 13, however, merely recite that the targets on the substrate are on the first and second field of view of first and second objectives, col. 12, ll. 40-41; they do not describe the lens as forming an image of a surface. Accordingly, an "objective" is "a lens or lens system."

The parties' proposed constructions of first and second field of view also differ only slightly. Ultratech proposes that a field of view "is the area of a surface that is imaged by a lens or lens surface." Tamarack contends that a field of view "is the area of a surface that is viewed by the lens or lens system." Thus, the only dispute is whether the surface is "viewed" by the lens or lens system or "imaged."

The plain and ordinary meaning of the field of view of objectives is the area that is viewed by the objectives, that is, the area viewed by the lens or lens system. This definition is consistent with the definition of "field of view" in the *McGraw-Hill Dictionary of Scientific and Technical* terms. "Viewed" does not need to be defined any further. Accordingly, a "field of view" is the area of a surface that is viewed by the lens or lens system.

9. A translational stage (Claims 8, 9)

Dependent claims 8 and 9 describe "a translational stage coupled to said pattern recognition system to move said substrate in a predetermined manner."

Both parties agree that the translational stage is a system that moves the substrate. Ultratech asks the Court to add that the stage positions the substrate in a particular place, namely, "in a plane approximately parallel to the plane of the substrate." There is nothing in the language of Claims 8 or 9 that imposes such a limitation on the movement of the substrate. The specification figures cited by Ultratech do not demonstrate that translational stage is limited to moving the substrate in a particular predetermined manner. Accordingly, translational stage means "a system used to move the substrate."

IT IS SO ORDERED.

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