United States District Court,
E.D. Texas, Marshall Division.

PIONEER CORPORATION,
Plaintiff and Counterclaim Defendant.
v.
SAMSUNG SDI CO., LTD,
Defendant and Counterclaim Plaintiff.

Civil Action No. 2:07-CV-170 (DF)

March 10, 2008.

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CLAIM CONSTRUCTION ORDER

DAVID FOLSOM**, District Judge.**

Before the Court are the Joint Claim Construction Prehearing Statement and each party's briefs related to Samsung's U.S. Patent Numbers 6,090,464 ("the '464 Patent"), 6,674,237 ("the '237 Patent") and 6,828,731 ("the ' 731 Patent). Dkt. Nos. 74, 85, 86 and 88. A Markman Hearing was held on February 21, 2008. *See* Hearing Transcript, Dkt. No. 91.

I. BACKGROUND

On September 20, 2006, Pioneer filed an action in the Northern District of California for declaratory relief of non-infringement of the U.S. Patent Nos. 6,090,464, 6,674,237 and 6,828,731. *Pioneer Corp. v. Samsung SDI Co.* (Pioneer I), 2-07-cv-170. Dkt. No. 43, Attachment 3 at 2. On April 2, 2007, the Eastern District received a transfer order for Pioneer I. Pioneer I, Dkt. No. 43, Attachment 2. Pioneer I was subsequently assigned to the Marshall Division before this Court. Pioneer I, Dkt. No. 54. On September 21, 2006, Pioneer filed a patent infringement action against Samsung in the Marshall Division. *Pioneer Corp. v. Samsung SDI Co.,* (Pioneer II), 2-06-cv-384, Dkt. No. 1 at 2-3. Samsung counterclaimed in Pioneer II by asserting a patent infringement claim. Pioneer II, Dkt. No. 4 at 6. The patents-in-suit in Pioneer II have been previously addressed in a claim construction order in Pioneer II. Pioneer II, Dkt. No. 144. This Claim Construction

Order only addresses the patents of Pioneer I.

II. LEGAL PRINCIPLES OF CLAIM CONSTRUCTION

A determination of patent infringement involves two steps. First, the patent claims are construed, and, second, the claims are compared to the allegedly infringing device. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1455 (Fed.Cir.1998) (en banc).

The legal principles of claim construction were reexamined by the Federal Circuit in Phillips v. AWH Corp., 415 F.3d 1303 (Fed.Cir.2005) (en banc). Reversing a summary judgment of non-infringement, an en banc panel specifically identified the question before it as: "the extent to which [the court] should resort to and rely on a patent's specification in seeking to ascertain the proper scope of its claims." Id. at 1312. Addressing this question, the Federal Circuit specifically focused on the confusion that had amassed from its recent decisions on the weight afforded dictionaries and related extrinsic evidence as compared to intrinsic evidence. Ultimately, the court found that the specification, "informed, as needed, by the prosecution history," is the "best source for understanding a technical term." Id. at 1315 (quoting Multiform Dessicants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed.Cir.1998)). However, the court was mindful of its decision and quick to point out that *Phillips* is not the swan song of extrinsic evidence, stating:

[W]e recognized that there is no magic formula or catechism for conducting claim construction. Nor is the court barred from considering any particular sources or required to analyze sources in any specific sequence, as long as those sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence.

Phillips, 415 F.3d at 1324 (citations omitted). Consequently, this Court's reading of *Phillips* is that the Federal Circuit has returned to the state of the law prior to its decision in Texas Digital Sys. v. Telegenix, Inc., 308 F.3d 1193 (Fed.Cir.2002), allotting far greater deference to the intrinsic record than to extrinsic evidence. "[E]xtrinsic evidence cannot be used to vary the meaning of the claims as understood based on a reading of the intrinsic record." Phillips, 415 F.3d at 1319.

Additionally, the Federal Circuit in *Phillips* expressly reaffirmed the principles of claim construction as set forth in Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576 (Fed.Cir.1996), and Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc., 381 F.3d 1111 (Fed.Cir.2004). Thus, the law of claim construction remains intact. Claim construction is a legal question for the courts. Markman, 52 F.3d at 979. The claims of a patent define that which "the patentee is entitled the right to exclude." Innova, 381 F.3d at 1115. The claims are "generally given their ordinary and customary meaning" as understood by "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." Vitronics, 90 F.3d at 1582; *Phillips,* 415 F.3d 1313. However, the Federal Circuit stressed the importance of recognizing that the 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." Phillips, 415 F.3d at 1313.

Advancing the emphasis on the intrinsic evidence, the *Phillips* decision explains how each source, the claims, the specification as a whole, and the prosecution history, should be used by courts in determining how a skilled artisan would understand the disputed claim term. *See, generally, id.* at 1314-17. The court

noted that the claims themselves can provide substantial guidance, particularly through claim differentiation. Using an example taken from the claim language at issue in *Phillips,* the Federal Circuit observed that "the claim in this case refers to 'steel baffles,' which strongly implies that the term 'baffles' does not inherently mean objects made of steel." *Id*. at 1314. Thus, the "context in which a term is used in the asserted claim can often illuminate the meaning of the same term in other claims." *Id*. Likewise, other claims of the asserted patent can be enlightening, for example, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id*. at 1315 (*citing* Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed.Cir.2004)).

Still, the claims "must be read in view of the specification, of which they are part." Markman, 52 F.3d at 978. In *Phillips,* the Federal Circuit reiterated the importance of the specification, noting that "the specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.' " Phillips, 415 F.3d at 1315 (quoting Vitronics, 90 F.3d at 1582). To emphasize this position, the court cited extensive case law, as well as "the statutory directive that the inventor provide a 'full' and 'exact' description of the claimed invention." *Id*. at 1316 (*citing* Merck & Co., Inc. v. Teva Pharms. USA, Inc., 347 F.3d 1367, 1371 (Fed.Cir.2003)); *see also* 35 U.S.C. s. 112, para. 1. Consistent with these principles, the court reaffirmed that an inventor's own lexicography and any express disavowal of claim scope is dispositive. *Id*. at 1316. Concluding this point, the court noted the consistency with this approach and the issuance of a patent from the Patent and Trademark Office and found that "[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.

Additionally, the *Phillips* decision provides a terse explanation of the prosecution history's utility in construing claim terms. The court simply reaffirmed that "the 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*. (*citing* Vitronics, 90 F.3d at 1582-83). It is a significant source for evidencing how the patent office and the inventor understood the invention. *Id*.

Finally, the Federal Circuit curtailed the role of extrinsic evidence in construing claims. In pointing out the less reliable nature of extrinsic evidence, the court reasoned that such evidence (1) is by definition not part of the patent, (2) does not necessarily reflect the views or understanding of a person of ordinary skill in the relevant art, (3) is often produced specifically for litigation, (4) is far reaching to the extent that it may encompass several views, and (5) may distort the true meaning intended by the inventor. *See id*. at 1318. Consequently, the Federal Circuit expressly disclaimed the approach taken in *Texas Digital*. While noting the *Texas Digital* court's concern with regard to importing limitations from the written description, "one of the cardinal sins of patent law," the Federal Circuit found that "the methodology it adopted placed too much reliance on extrinsic sources such as dictionaries, treatises, and encyclopedias and too little on intrinsic sources, in particular the specification and prosecution history." *Id*. at 1320. Thus, the court renewed its emphasis on the specification's role in claim construction.

Many other principles of claim construction, though not addressed in *Phillips,* remain significant in guiding this Court's charge in claim construction. The Court is mindful that there is a "heavy presumption" in favor of construing claim language as it would be plainly understood by one of ordinary skill in the art. Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999); *cf. Altiris, Inc., v. Symantec Corp.,* 318 F.3d 1364, 1372 (Fed.Cir.2003) ("[S]imply because a phrase as a whole lacks a common meaning does not compel a court to abandon its quest for a common meaning and disregard the established

meaning of the individual words.") The same terms in related patents are presumed to carry the same meaning. *See* Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1334 (Fed.Cir.2003) ("We presume, unless otherwise compelled, that the same claim term in the same patent or related patents carries the same construed meaning.") "Consistent use" of a claim term throughout the specification and prosecution history provides "context" that may be highly probative of meaning and may counsel against "[b]roadening of the ordinary meaning of a term in the absence of support in the intrinsic record indicating that such a broad meaning was intended ...." Nystrom v. TREX Co., 424 F.3d 1136, 1143-46 (Fed.Cir.2005).

Claim construction is not meant to change the scope of the claims but only to clarify their meaning. Embrex, Inc. v. Serv. Eng'g Corp., 216 F.3d 1343, 1347 (Fed.Cir.2000) ("In claim construction the words of the claims are construed independent of the accused product, in light of the specification, the prosecution history, and the prior art.... The construction of claims is simply a way of elaborating the normally terse claim language[ ] in order to understand and explain, but not to change, the scope of the claims.") (citations and internal quotations omitted). Regarding claim scope, the transitional term "comprising," when used in claims, is inclusive or open-ended and "does not exclude additional, unrecited elements or method steps." CollegeNet, Inc. v. ApplyYourself, Inc., 418 F.3d 1225, 1235 (Fed.Cir.2005) (citations omitted). Claim constructions that would read out the preferred embodiment are rarely, if ever, correct. Vitronics, 90 F.3d at 1583-84.

The Court notes that a patent examiner's "Reasons for Allowance," where merely summarizing a claimed invention and not specifically noting that patentability is based on a particular feature, do not limit the scope of the claim. *See* Apex Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1375 (Fed.Cir.2003). Similarly, an examiner's unilateral statements in a "Notice of Allowance" do not result in the alteration of claim scope. *See id.; see also* Salazar v. Procter & Gamble Co., 414 F.3d 1342, 1346-47 (Fed.Cir.2005). "[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." Omega Eng'g, 334 F.3d at 1326. The Federal Circuit has "declined to apply the doctrine of prosecution disclaimer where the alleged disavowal of claim scope is ambiguous." Id. at 1324.

The doctrine of claim differentiation is often important in claim construction. Phillips, 415 F.3d at 1315 (*citing* Liebel-Flarsheim, 358 F.3d at 910). "Claim differentiation" refers to the presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim. Curtiss-Wright Flow Control Corp. v. Velan, Inc., 438 F.3d 1374, 1380 (Fed.Cir.2006). This is in part because "reading an additional limitation from a dependent claim into an independent claim would not only make that additional limitation superfluous, it might render the dependent claim invalid." *Id.; see also* SRI Int'l. v. Matsushita Elec. Corp. of Am., 775 F.2d 1107, 1122 (Fed.Cir.1985) ("It is settled law that when a patent claim does not contain a certain limitation and another claim does, that limitation cannot be read into the former claim in determining either validity or infringement.") This doctrine is based in part on the presumption that each claim has a different scope. 35 U.S.C. s. 282; Curtiss-Wright, 438 F.3d at 1380. The difference in meaning and scope between claims is presumed to be significant to the extent that the absence of such difference in meaning and scope would make a claim superfluous. Free Motion Fitness, Inc. v. Cybex Int'l, 423 F.3d 1343, 1351 (Fed.Cir.2005). Although a validity analysis is not a regular component of claim construction, if possible claims should be construed to preserve their validity. Phillips, 415 F.3d at 1327; *see also* Rhine v. Casio, Inc., 183 F.3d 1342, 1345 (Fed.Cir.1999).

III. THE PATENTS-IN-SUIT

Briefing was provided by the parties with regards to the '464 Patent, the ' 237 Patent and the '731 Patent. Samsung asserts the '464 Patent, entitled "Reinforced Substrate and Flat Panel Display Employing the Same," which issued on July 18, 2000. The Abstract reads as follows:

A reinforced substrate for use in at least one of two substrates forming a flat panel display together with a display generating material filled between the two substrates, has a reinforcing structure for preventing bending of a substrate installed on one surface of the substrate. According to one embodiment, the reinforcing structure includes an array of hollow polygonal pillars formed of transparent glass or plastic. According to another embodiment, the reinforcing structure is made of transparent glass or plastic, and further includes an electrically conductive film which is coated on one end surface of the hollow polygonal pillars and is then grounded to block electromagnetic waves generated inside the flat panel display. According to a still another embodiment, the reinforcing structure is made of conductive metal, and one end of the array of hollow polygonal pillars is grounded to block electromagnetic waves generated inside the flat panel display.

Samsung asserts Claim 11 of the '464 Patent, which reads as follows:

11. A flat panel display for displaying pictures, the flat panel display comprising:

two substrates opposite each other, each substrate having an internal surface and an external surface, the internal surfaces of the two substrates facing each other;

a display generating portion interposed between the two substrates and sealed, located opposite the internal surfaces of the two substrates; and

a reinforcing structure attached to and extending across the external surface of one of the substrates.

Samsung asserts the '237 Patent, entitled "Plate for a Plasma Display Panel (PDP), Method for Fabricating the Plate, and a PDP Having the Plate," which issued on January 6, 2004. The Abstract reads as follows:

A plate for a plasma display panel includes a plate member formed of a transparent material, a series of electrodes formed in a predetermined pattern on the plate member, and a dielectric layer formed on the plate member to cover the electrodes, wherein the electrodes are formed of a dielectric first component, and a metallic second component of at least one metal selected from a group consisting of iron (Fe), cobalt (Co), vanadium (V), titanium (Ti), aluminum (Al), silver (Ag), silicon (Si), germanium (Ge), yttrium (Y), zinc (Zn), zirconium (Zr), tungsten (W), tantalum (Ta), copper (Cu), and platinum (Pt).

Samsung asserts Claims 1-4, 8, 10, 11, and 13 of the '237 Patent, which reads as follows:

1. A plate for a plasma display panel (PDP), comprising:

a plate member comprising a transparent material;

electrodes formed in a predetermined pattern on said plate member;

a dielectric layer formed on said plate member to cover said electrodes, wherein:

said electrodes comprise a dielectric first component and a second component, the second component comprising at least one metal selected from a group consisting of iron (Fe), cobalt (Co), vanadium (V), titanium (Ti), aluminum (Al), silver (Ag), silicon (Si), germanium (Ge), yttrium (Y), zinc (Zn), zirconium (Zr), tungsten (W), tantalum (Ta), copper (Cu), and platinum (Pt), and

amounts of the dielectric first component and the second components one of gradually change and stepwise change in a thickness direction of said electrodes extending away from said plate member.

2. The plate of claim 1, further comprising a black matrix pattern formed between adjacent pairs of said electrodes.

3. The plate of claim 1, wherein the dielectric first component comprises at least one dielectric material selected from a group consisting of SiO_x, MgF_2, CaF_2, Al_2O_3, SnO_2, In_2O_3, and indium thin oxide (ITO), where $x>1$.

4. The plate of claim 1, wherein the-amounts of the dielectric first component and the second components gradually change in thickness direction of said electrodes extending away from said plate member.

8. The plate of claim 4, wherein the amount of the dielectric first component gradually decreases and the amount of the second component gradually increases with increased distance from an external light entering side of said plate member.

10. A plasma display panel (PDP comprising:

a back plate;

a transparent front plate bonded with said back plate with a predetermined separation gap to form a discharge space therebetween;

first electrodes and second electrodes arranged on a side of one of said back plate and said front plate to cause a discharge of a plasma;

third electrodes arranged within the discharge space and on a side of the other of said back plate and said front plate, and

a discharge gas to fill the discharge space, wherein:

said first electrodes and said second electrodes comprise:

a dielectric first component, and

a metallic second component of at least one metal selected from a group consisting of iron (Fe), cobalt (Co), vanadium (V), titanium (Ti), aluminum (Al), silver (Ag), silicon (Si), germanium (Ge), yttrium (Y), zinc (Zn), zirconium (Zr), tungsten (W), tantalum (Ta), copper (Cu), and

platinum (Pt), and amounts of the dielectric first component and the second components one of gradually change and stepwise change in a thickness direction of said first and second electrodes extending into the

discharge space.

11. The PDP of claim 10, wherein the first component comprises at least one dielectric material selected from a group consisting SiO_x, MgF_2, CaF_2, Al_2O_3, SnO_2, In_2O_3, and ITO, where x>1.

13. The PDP of claim 11, wherein the amounts of the dielectric first component and the second components gradually change in thickness direction of said first and second electrodes extending into the discharge space.

Samsung asserts the '731 Patent, entitled "Plasma Display Panel Having a Non-Light Emitting Zone Filling Portion" which issued on December 7, 2004. The Abstract reads as follows:

A plasma display panel includes a front glass substrate and a rear glass substrate coupled to each other by a sealing material coated at edges of the front and rear glass substrates, first and second electrodes disposed perpendicular to each other on opposing inner surfaces of the front and rear glass substrates facing each other, a dielectric layer formed on each of the opposing inner surfaces of the front and rear glass substrates to cover the first and second electrodes, partitions formed on an upper surface of the dielectric layer of the rear glass substrate, red, green and blue fluorescent substances coated between the partitions, and a non-light emitting zone filling portion formed by filling a non-light emitting zone existing between the outermost one of the partitions and the sealing material with a material used for one of the partitions.

Samsung asserts Claim 21 (dependent from Claim 12) of the '731 Patent, which reads as follows:

12. A plasma display panel, comprising:

a front glass substrate having first electrodes over which a first dielectric layer is formed;

a rear glass substrate disposed opposite said front glass substrate, said rear glass substrate having second electrodes over which a second dielectric layer is formed, the second electrodes not being parallel with the first electrodes;

a seal connecting corresponding edges of said front and rear glass substrates;

partitions formed on an upper surface of the second dielectric layer between the edges of said rear glass substrate;

a fluorescent substance coated between said partitions; and

a non-light emitting zone filling portion disposed between an outermost one of said partitions and said seal so as to prevent a discharge of the first electrodes in a space between said outermost partition and said seal, wherein said seal is disposed such that at least one of opposing ends of each of the first electrodes is disposed between said seal and said partitions.

21. The plasma display panel of claim 12, wherein said non-light emitting zone filling portion and said seal define a gas removal channel through which gas is removed from the plasma display panel.

IV. CLAIM CONSTRUCTION-THE '464 PATENT

A. Agreed Terms

The parties have reached agreement upon the previously disputed terms "substrate," and "interposed between the two substrates and sealed." In the claim construction briefing, the parties have agreed that "substrate" shall be construed as "a base material having the shape of a flat plate on which other materials may be deposited or fabricated" and agreed that "interposed between the two substrates and sealed" shall be construed as "placed between the two substrates which are sealed to each other." Dkt. No. 86 at 11 and 14. FN1 Having considered the prior claim construction filings of the parties and in view of the parties' agreements on the proper constructions of each of the identified terms, the Court adopts the parties' agreed constructions. The agreed constructions shall govern this case.

FN1. Page numbers refer to the docket header page numbers.

B. "Reinforcing Structure"

(1) Parties' Positions

Samsung proposes a construction of "a three-dimensional array or arrangement of parts or components that increases resistance to or prevents bending of the substrate." Pioneer's proposed construction is "a structure that imparts support." Dkt. No. 74, Ex. A at 1. At the Markman Hearing, Samsung proposed an alternative construction of "a three-dimensional array that prevents bending of the substrate." Hr'g Tr. at 11:19-23.

Samsung asserts that the specification refers to the reinforcing structure "for preventing bending of the substrate." Dkt. No. 85 at 9 (citing '464 Patent, 1:39-40, 1:46-50). In addition, Samsung asserts that the '464 Patent repeatedly refers to "hollow polygonal pillars or cylinders" in order to argue support for Samsung's use of the term three-dimensional array. Id. (citing ' 464 Patent, 1:57-58, 2:42-50, 2:63-66, 3:18-21, 3:37-40).

Pioneer asserts that the term in question is not provided a specific meaning in the specification and that the plain and ordinary meaning should govern. Dkt. No. 86 at 5-6. Further, Pioneer notes that the term "for preventing bending" was originally present in the claim but then removed during prosecution and as such should not be included within the construction of the term. *Id*. at 6-7. Pioneer also asserts that Samsung's construction arbitrarily selects some elements from the preferred embodiments but not others. *Id*. at 7. For example, Pioneer argues that if the Court were to adopt the specification's disclosure, it should limit the term to "hollow cylinders/honeycomb structure." *Id*.

Samsung responds to Pioneer's file history argument by asserting that the claim amendment in question was not made to obtain a notice of allowance but instead was made in response to the Examiner's assertions that the cited honeycombed prior art structure would inherently prevent bending. Dkt. No. 88 at 4.

(2) Construction

The intrinsic record does not teach a construction that would point to a reinforcing structure being limited to a three-dimensional array. The specification does repeatedly describe the disclosed embodiment as an array of hollow polygonal pillars. The intrinsic record does not, however, emphasize the broader concept of a three-dimensional array. Further, even with regard to hollow polygonal pillars, the intrinsic record as a whole does not limit the reinforcing structure to the particular disclosed embodiment. Rather, the reinforcing

structure is more generally characterized in some portions of the specification as a structure "attached to the substrate 20 for reinforcing the substrate 20." '464 Patent, 2:60-61, 3:13-14. Similarly, though Samsung does identify passages in which the reinforcing structure is described as preventing bending, the passages cited above teach a more general usage of "reinforcing structure." Moreover, the Applicant's removal of the term "for preventing bending" during prosecution conforms to a construction of reinforcing structure that is more broadly construed to include other types of reinforcement. In other words, a "reinforcing structure" may "prevent bending" but other "reinforcing" features are not precluded.

The Court construes "reinforcing structure" to mean "an arrangement of parts or components that increases support."

C. "Attached to"

(1) Parties' Positions

Samsung proposes a construction of "fastened or affixed to." Dkt. No. 74, Ex. A at 1. Pioneer proposes a construction of "installed on; mounted on; fastened onto; affixed to; connected to; joined to." *Id*. At the Markman Hearing Samsung indicated it was agreeable to "mounted on or affixed to" Hr'g Tr. at 48:18-49:14. At the hearing, Pioneer indicated it was agreeable to removing from its construction "joined to" and "fastened onto" and one of "installed on" or "connected to." *Id*.

Samsung argues that Pioneer's construction adds needless redundancy which may potentially confuse the jury. Dkt. No. 85 at 10 (citing Merck & Co., Inc. v. Teva Pharms. USA, Inc., 395 F.3d 1364, 1372 (Fed.Cir.2005)). Samsung further argued that the specification repeatedly refers to a structure that is attached to a substrate as opposed to merely contacting thereto. *Id*. at 10-11. Further, Samsung argues that inclusion of "installed on" is improper as the Applicants amended the claim to delete "installed on" and replaced it with "attached to" and was therefore disclaimed during prosecution. Dkt. No. 88 at 6 (citing Omega Eng'g, Inc. v. Raytec Corp., 334 F.3d 1314, 1326 (Fed.Cir.2003); Digital Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1347 (Fed.Cir.1998)); Hr'g Tr. at 48:19-20.

Pioneer asserts that the specification uses both "attached" and "installed on" interchangeably. Dkt. No. 86 at 7-8 (citing '464 Patent, 2:58-62, 3:13-19, 3:37-46). In addition, Pioneer asserts the file history supports the use of "mounted on" as the Applicants stated during the prosecution history that "the reinforcing structure is mounted on the outside, i.e., on an external surface, of a substrate." *Id*. at 9 (citing March 15, 2000 Amendment at 8). As to the use of "installed," Pioneer asserts that the amendment in question did not rely upon the difference between "installed" and "attached" but rather on the external location of the structure. *Id*.

(2) Construction

The limitation in question is used in the claim in the context of the phrase "a reinforcing structure attached to and extending across the external surface of one of the substrates." The Court believes that a jury will understand the phrase "attached to" in the context of this usage and the specification as a whole. The Court finds that the claim term is sufficiently clear and will provide no further construction beyond the claim term itself. Though the parties have agreed on "attached to" and "mounted on" as terms used for construction, the Court does not find that these terms provide any guidance to a jury beyond the plain meaning of "attached to."

Samsung also argues that the term "installed on" was disclaimed during prosecution. The Court does not find that a disclaimer was "clear and unmistakable." Omega, 334 F.3d at 1326. For the prior term "reinforcing structure," Samsung had argued that disclaimer only attached where an amendment was made for the clear purpose of obtaining allowance. Dkt. No. 88 at 4. The Court notes that the amendment replacing "installed on" for "attached to" was not done for the clear purpose of obtaining allowance. Digital Biometrics, 149 F.3d at 1347. The previous office action dated October 4, 1999 which may have prompted the amendment did not specifically refer to the phrase "installed on." *See* Dkt. No. 85, Ex. D at 53-60. Rather, the responsive Office Action, dated March 15, 2000, addressed a reference by Okaniwa relating to "reinforcing member that are inserted between the transparent sheets." *Id*. at 67. The applicant contrasted the invention to that of Okaniwa by arguing that the invention's "reinforcing structure is mounted on the outside, i.e., on an external surface, of a substrate." *Id*. at 68. Therefore, while the term "inserted between" may have been disclaimed in the prosecution history, the term "installed on" was not. Moreover, the specification is replete with references to the word "installed on," for example, the abstract itself describes a "reinforcing structure ... installed on one surface of the substrate." Abstract, '464 Patent. While the Court declines to adopt any of the multiple synonyms provided by the parties, the Court also does not determine that the word "installed on" was disclaimed.

The Court holds that it is not necessary to construe the term "attached to."

C. "Extending across the external surface of one of the substrates"

(1) Parties' Positions

Samsung originally proposed a construction of "stretching over the external surface of one of the substrates from one side to the opposite side in both directions." Dkt. No. 74, Ex. A at 2. At the Markman Hearing, Samsung proposed an alternative construction of "stretching over the external surface of one of the substrates in all directions." Hr'g Tr. at 18:9-13. Pioneer's proposed construction is "stretching from one side to the other side of the external surface of one of the substrates." Dkt. No. 74, Ex. A at 2.

Samsung asserts that its constructions conform to the specification which shows a reinforcing structure extending horizontally and vertically. Dkt. No. 85 at 11-12. In addition, Samsung asserts that the file history establishes that the structure must span the entire surface of the substrate. More particularly, Samsung notes a portion of the file history in which the Applicant stated that "particular understanding of the invention is the provision of a reinforced substrate .... Thus the entire structure can be increased in strength." *Id*. at 12 (citing March 15, 2000 Response to Office Action at 2-3).

Pioneer responds by asserting that nothing in the specification requires both a horizontal and vertical direction and further asserts that Pioneer's definition better conforms to the plain meaning of the phrase. Dkt. No. 86 at 10. Pioneer further asserts that the claim language in question appears to be drafted purposefully not to require coverage of the entire surface. Pioneer provides examples of a wide vertical band-like structure, a horizontal band-like structure and an H-shaped structure that would increase the strength of the entire substrate without completely covering the surface in both dimensions. *Id*. at 11.

(2) Construction

While the prosecution history does comment on the "entire structure" being increased in strength, the claim language itself and the specification do not support a requirement that the reinforcing structure must entirely cover the external surface. The figures of the '464 Patent themselves seem to show less than an entire

surface coverage for each of the three embodiments in at least one of the dimensions of the structures. '464 Patent, Figs 2-4. The file history statement cited by Samsung is somewhat vague and does not support a requirement of complete coverage.

The claim language, specification and file history do, however, support more than a merely one-dimensional support structure. In the claim itself, it is noted that the structure extends "across the external surface." The surface in question is a surface of the substrate which is clearly a two dimensional surface in light of the intrinsic record, and thus, the plain claim language suggests an extension across two dimensions. The specification also teaches a two dimensional extension across the surface, however, complete extension in all directions is not shown or described. '464 Patent, Figs. 2-4. For example, the Court is of the opinion that the wide vertical band-like structures, horizontal band-like structures and H-shaped structures shown by Pioneer extend across the surface in the context of the intrinsic record of the '464 Patent.

The Court construes "extending across the external surface" to mean "extending across the external surface in two dimensions, though complete coverage is not required."

D. "Display Generating Portion"

(1) Parties' Positions

Samsung construes "display generating portion" as "the portion of the device that produces the visual information displayed to the viewer." Dkt. No. 74, Ex. A at 3. Pioneer construes this limitation as "a portion of the device containing display elements such as liquid crystal, plasma display panel discharge cells, or electroluminescence elements." *Id*.

At the Markman Hearing Samsung indicated it would agree to a construction of "a portion of the device containing display elements." Hr'g Tr. at 9:19-22. Pioneer meanwhile agreed the types of display elements listed in Pioneer's construction where exemplary and could be expended with the inclusion of "et cetera." *Id*. at 9:24-25. In the briefing Samsung notes that the specification explicitly states that a display generating portion "may be of any type appropriate for the type of visual display which the flat panel display is intended to generate." Dkt. No. 85 at 14 (citing '464 Patent, 2:32-35). Pioneer, in contrast, asserts that both the specification and file history made reference to the particular display elements listed in Pioneer's construction. Dkt. No. 86 at 12-13. Both parties express concern that the other parties' construction could be interpreted to include surrounding hardware such as electronics. Dkt. No. 86 at 13; Hr'g Tr. at 9:13-14. Samsung agreed that inclusion of "et cetera" improved Pioneer's construction; however, Samsung's prime concern was that including element types would focus the limitation on hardware rather than on a region of the display. Hr'g Tr. at 8:24-9:18.

(2) Construction

The parties agree as to the language of "a portion of the device containing display elements" and are in near agreement as to the remaining issues. The specification makes reference that the "display generating portion 10 may be of any type appropriate for the type of visual display which flat panel display is intended to generate." '464 Patent, 2:32-35. Pioneer has agreed to a construction that is not closed to just the listed elements. Samsung's prime concern is obviated by the surrounding claim language of claim 11 which states "a display generating portion interposed between the two substrates and sealed." In the context of the '464 Patent specification this claim language refers to a portion of the device that is sealed between the two substrates. As taught in the specification, any type of display elements may be encompassed. A non-

exclusive listing of elements types, however, would assist the jury in understanding the term in context of the disclosure of the '464 Patent. The Court construes "display generating portion" to be "a portion of the device containing display elements, such as, but not limited to, liquid crystal, plasma display panel discharge cells, electroluminescence elements, etc."

V. CLAIM CONSTRUCTION-THE '237 PATENT

A. Agreed Terms

The parties have reached agreement upon all of the previously disputed terms of the '237 Patent. The previously disputed terms are "thickness direction of said first and second electrodes extending into the discharge space" (claims 10 and 13), "thickness direction of electrode" (claims 1, 4, 10 and 13), and "black matrix" (claim 2). In the claim construction briefing, the parties agreed that "thickness direction of said first and second electrodes extending into the discharge space" shall be construed as "the direction of the first and second electrodes substantially perpendicular to the front and back plates and extending into the discharge space" and agreed that "thickness direction of electrode" does not need to be construed in view of its occurrence in other phrases for which the parties have adopted agreed upon constructions. Dkt. No. 86 at 15. At the Markman Hearing, the parties agreed that "black matrix pattern" shall be construed as "a black substance having a consistent or characteristic arrangement (such as, but not limited to, a series of stripes)." Hr'g Tr. at 22:7-23:23, 54:1-9. Having considered the prior claim construction filings of the parties and in view of the parties' agreements on the proper constructions of each of the identified terms, the Court adopts the parties' agreed constructions. The agreed constructions shall govern this case.

VI. CLAIM CONSTRUCTION-THE '731 PATENT

A. Agreed Terms

At the Markman Hearing the parties reached agreement upon the previously disputed term "at least one of opposing ends of each of the first electrodes is disposed between said seal and said partitions." More particularly, the parties agreed to a construction of "at least one end portion of each of the first electrodes ends between the outermost partition and the seal." Hr'g Tr. at 38:10-39:18; Samsung Hearing Slide 48. Having considered the prior claim construction filings of the parties and in view of the parties' agreements on the proper constructions of each of the identified terms, the Court adopts the parties' agreed constructions. The agreed constructions shall govern this case.

B. "edges"

(1) Parties' Positions

Samsung asserts that no construction is necessary for the term "edges." Dkt. No. 74, Ex. C at 1. Pioneer proposes a construction of "the lines defining where a surface of an object begins or ends." *Id*. Samsung argues that the term "edges" is a single simple word that a jury will understand. Dkt. No. 85 at 18. Pioneer in contrast asserts that providing a plain and ordinary dictionary based construction would assist the jury. Dkt. No. 86 at 16 (citing MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 366 (10th ed.1998)). At the Markman Hearing, Pioneer noted that its construction was beneficial for defining the term "corresponding edges." Hr'g Tr. at 24:24-25:4.

(2) Construction

The primary dispute between the parties relates to the term "corresponding edges." In the context of the '731 Patent, the term "edges" by itself is sufficiently clear for a jury to understand. The additional construction proposed by Pioneer may add needless and potentially confusing complexity to a relatively simple term. The disputes relating to "corresponding edges" are addressed with relation to that term and need not complicate the understanding of the jury of the term "edge."

The Court finds that the claim term "edge" is sufficiently clear without further construction and will provide no further construction beyond the ordinary meaning of the term.

B. "corresponding edges"

(1) Parties' Positions

Samsung asserts that no construction is necessary for "corresponding edges." Dkt. No. 74, Ex. C at 1. Pioneer proposes a construction of "edges having the same dimensions and defining the same boundary positions (i.e. beginning or ending positions) of separate objects, such as the top edge of a first object and the top edge of a second object." *Id*. At the Markman Hearing the parties reached significant agreement as to many of the issues raised regarding this term. In particular, the parties agreed that the term "matching" could be used to construe "corresponding" and both parties agreed to the inclusion of a non-limiting example. Hr'g Tr. at 28:17-29:12, 55:5-56:13.

(2) Construction

The Court notes that Samsung's agreement appears based, at least in part, upon an understanding that the term "matching" would be inclusive of interlocking-type edges such as puzzle pieces. The Court is in agreement that interlocking edges would reflect matching edges. In the context of the language of claim 12 it is noted that the claim language is "a seal connecting corresponding edges of said front and rear glass substrates." Thus, as to the non-limiting example .provided to the jury it is most appropriate to reference the edges of front and rear glass substrates that are provided in the claim and the specification. The Court construes "corresponding edges" as "matching edges, such as, but not limited to, the top edge of a front glass substrate and the top edge of a rear glass substrate."

C. "Partitions"

(1) Parties' Positions

Samsung proposes a construction of "walls extending from the glass substrate that at least partially define a space containing a fluorescent substance." Dkt. No. 74, Ex. C at 2. Pioneer's proposed construction is "walls defining discharge cells within a display area, wherein each discharge cell contains fluorescent material and has associated first and second electrodes." *Id*. At the Markman Hearing, Samsung acknowledged that a construction of "partitions" was only necessary to the extent a construction was needed to help construe "outermost partition." Hr'g Tr. at 29:24-30:24. Pioneer indicated that it did not "strongly object" to the Court providing no construction for "partition." *Id*. at 56:16-17.

In the briefing, Samsung's primary argument was an objection to Pioneer's inclusion of the first and second electrode within the construction of "partition" as the first and second electrodes are already elements of the claim. Dkt. No. 85 at 20; Dkt. No. 88 at 12. Pioneer objects to Samsung's construction as failing to convey the idea that partitions refer to structures that define one display cell from another. Dkt. No. 86 at 19.

Pioneer also states that unasserted claim 1 includes the language that "partitions at least partially define a space further defined by one of the first electrodes and one of the second electrodes; red, green and blue fluorescent substances coated between." *Id*.

(2) Construction

The Court is not necessarily convinced that the term "partition" needs to be construed for a jury in light of the clarity of the written specification, the figures, and the asserted claim. It is noted that independent claim 12 (which asserted claim 21 depends from) includes a description of the first and second electrodes and a limitation that describes the fluorescent substance "being coated between said partitions." The partitions of the claim are "formed on an upper surface of the second dielectric layer between edges of said rear glass substrate." Within the context of the '731 Patent it is clear that the partitions are walls and both parties include "walls" in their definition. As for the remaining limitations asserted by each party, the asserted claim itself already contains explicit language addressing the location of the partitions, the location of the electrodes and the coating of fluorescent materials between the partitions. Rather than assisting the jury in understanding the construction of "partition," the original constructions proposed by the parties may actual cause jury confusion as to the claim as a whole.

The Court construes "partitions" as "walls."

D. "Outermost one of said partitions" and "outermost partition"

(1) Parties' Positions

Samsung proposes a construction of "the wall farthest from the center of the glass plate that extends from the glass substrate and that at least partially defines a space containing a fluorescent substance." Dkt. No. 74, Ex. C at 3. At the Markman Hearing Samsung provided an alternative proposed construction of "the partition (as defined previously) farthest from the center of the glass plate." Hr'g Tr. at 33:13-14. Pioneer's proposed construction is "the outer wall of the outermost discharge cell." Dkt. No. 74, Ex. C at 3. In the context of the asserted claim, the parties have agreed that the term "outermost" means "farthest from the center of the glass substrate." Dkt. No. 74, Ex. C at 3; Hr'g Tr. at 58:3-8.

(2) Construction

The primary dispute surrounding the outermost partition limitations relates to the inclusion of each party's original construction for "partition." The Court has construed "partition" above. The Court adopts the agreement as to the term "outermost" and adds that agreed construction to the Court's construction of the term "partition." The Court construes "outermost one of said partitions" and "outermost partition" as "the wall farthest from the center of the glass substrate."

E. "Non-light emitting zone"

(1) Parties' Positions

For the term "non-light emitting zone," Samsung proposes a construction of "the space between the outermost partition and the sealing material that does not contain fluorescent substances." Dkt. No. 74, Ex. C at 3. Pioneer's proposed construction is "the space between the outermost partition and the sealing material." *Id*.

Samsung argues that the specification supports its construction. In particular, Samsung asserts that the specification specifically states that where an outermost partition defines a non-light emitting zone, "the fluorescent substance 18 is not coated thereon." Dkt. No. 85 at 22 (citing ' 731 Patent, 2:22-29). Samsung also asserts that the absence of fluorescent material provides the meaning as to what is "non-light emitting." Dkt. No. 88 at 14. Pioneer counters by citing the beginning of the quote in question which states "[a]n outermost partition 23 is positioned at the edge of the substrates 11 and 12 and defines a non-light emitting zone 21 with the frit glass 22. That is, the non-light emitting zone 21 is defined between the outermost partition 23 and the frit glass 22." Dkt. No. 86 at 21 (citing ' 731 Patent at 2:22-26). Pioneer also asserts that Samsung is arbitrarily picking and choosing what to include in Samsung's construction as the same portion of the specification that Samsung had cited also indicates that a second electrode 13b is not formed in the non-light emitting zone 21. Dkt. No. 86 at 17.

(2) Construction

The relevant portion of the specification that both parties point to is in the Background of the Invention and states:

An outermost partition 23 is positioned at the edge of the substrates 11 and 12 and defines a non-light emitting zone 21 with the frit glass 22. That is, the non-light emitting zone 21 is defined between the outermost partition 23 and the frit glass 22. Since the second electrode 13b is not formed in the non-light emitting zone 21, and since the fluorescent substance 18 is not coated thereon, theoretically, no discharge is generated. The non-light emitting zone 21 is also called a dummy and margin zone, and is formed at the outskirts of a display where an image is displayed. '731 Patent at 2:22-31.

In the context of the full citation, the non-light emitting zone is explicitly defined with relation to the outermost partition and the frit glass (the sealing material). Further, Pioneer is correct in that Samsung's construction appears to pick and choose limitations from the disclosed embodiments. In addition, it is noted that in the Detailed Description of the Preferred Embodiments, the specification states that:

A non-light emitting zone filling portion 31 is formed integrally with the outermost partitions 33 in the non-light emitting zone (shown as element 21 in FIG. 2) formed between the outermost partition and the frit glass 22. The non-light emitting zone filling portion 31 completely fills the space in the non-light emitting zone 21 to prevent the non-light emitting zone 21 from being filled with a discharge gas. That is, as can be seen from FIG. 3, the non-light emitting zone filling portion 31 is formed by filling the non-light emitting zone 21 defined between the outermost partition 33 and the frit glass 22 (as indicated by a dotted line) with the same material as used for the partitions 33, where the non-light emitting zone filling portion 31 having the same height as the partitions 33.

...

In the structure of the plasma display panel of FIG. 3, since the space between the outermost partition 33 and the frit glass 22, which is otherwise filled with a discharge gas, is completely removed. Thus, there is no possibility of a generation of a mis-discharge, and the color purity of the plasma display panel is improved.

'731 Patent, 5:28-53

The claim language surrounding the term in dispute is "non-light emitting zone filling portion." As described in the passage above, the filling portion is a mechanism by which the emission of light in the zone in question may be prevented. The Court does not find that the term non-light emitting zone requires the added limitation "does not contain fluorescent substances" as sought by Samsung. The Court construes "non-light emitting zone" as "the space between the outermost partition and the sealing material."

F. "First electrodes" and "second electrodes"

(1) Parties' Positions

Samsung asserts that "first [second] electrodes" should be construed as "conductive elements formed on the front [rear] substrate that collect, control or transfer electrical charge." Dkt. No. 85 at 23. Pioneer asserts that "first electrodes" should be construed as "transparent display electrodes formed in pairs on the front substrate" and that "second electrodes" should be construed as "address electrodes formed on the rear substrate that are perpendicular to the first electrodes." Dkt. No. 74, Ex. C at 4.

Samsung argues that the patent teaches that although the first electrodes may be transparent electrodes and second electrodes may be address electrodes, the claim, specification, and file history does not require such limitations. Dkt. No. 85 at 23 (citing '731 Patent, 5:15-20; 5:63-65; 6:4-7; 7:64-67). Further, Samsung asserts that its construction is consistent with the plain meaning of electrodes and that if the patentee had intended to limit the claims to transparent or address electrodes, the patentee could clearly have done so in the claims. *Id*. Finally, Samsung asserts that the '731 Patent generally refers to just a first and second electrode in accordance with the plain and ordinary meaning sought by Samsung. *Id*. at 24.

Pioneer asserts that the first and second electrodes have been accorded a specific definition in the specification according to passages of the specification which state "a first electrode 13a, which is a transparent display electrode" and "a second electrode 13b, which is an address electrode." Dkt. No. 86 at 22 (citing '731 Patent, 1:36-38). Pioneer then asserts that the repeated subsequent use in the specification of the terms "first electrode" and "second electrode" limits these terms to transparent and address electrodes respectively. *Id*. at 22-23.

(2) Construction

Pioneer references a single use of the term "transparent" in the Background of the Invention, which is used to reference a prior art figure, to support limiting the claimed invention to transparent electrodes. However, when reviewing the intrinsic record as a whole, the intrinsic record does not justify importing the transparency limitation into the claimed "first electrode" or the address limitation into the claimed "second electrode." The Summary of the Invention and the Detailed Description of the Preferred Embodiments focus upon the benefits and various ways of utilizing a non-light emitting zone filling portion. In the context of the entire disclosure there is no disclaimer or definition of the terms first/second electrodes which requires the claimed invention to be limited to the use of transparent/address electrodes. In fact, by focusing on the non-light emitting zone filling portion techniques and the generic use of "first" and "second" the disclosure as a whole tends to deemphasize the particular types and functionalities of the electrodes. As the Federal Circuit has recognized, "the use of the terms 'first' and 'second' is a common patent-law convention to distinguish between repeated instances of an element or limitation." Free Motion Fitness, Inc. v. Cybex Int'l, 423 F.3d 1343, 1348 (Fed.Cir.2005) (quoting 3M Innovative Props. Co. v. Avery Dennison Corp., 350 F.3d 1365, 1371 (Fed.Cir.2003)). In this particular instance, the use of "first" and "second" are used to distinguish between the electrodes, but the claims do not specify that a particular electrode is

transparent/address. The Court declines to import any particular limitations from the specification, particularly because the intrinsic record does not provide evidence that the patentee was acting as its own lexicographer to associate the term "first" with "transparent." *See* Phillips, 415 F.3d at 1320.

The parties focused much of their arguments on whether a "first/second" electrode was a "transparent/address" electrode. There was no discussion relating to "collect, control, or transfer" but the Court finds that it would be useful for a jury to have the benefit of a dictionary definition of an electrode.

Therefore, the Court construes "first electrodes" as "conductive elements formed on the front substrate that collect, control or transfer electrical charge" and construes "second electrodes" as "conductive elements formed on the rear substrate that collect, control or transfer electrical charge."

VII. CONCLUSION

Accordingly, the Court hereby **ORDERS** the disputed claim terms construed consistent herewith.

E.D.Tex.,2008.
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