

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
TYLER DIVISION**

**ULTIMATEPOINTER, L.L.C.,**

**Plaintiff,**

v.

**NINTENDO CO., LTD. et al.,**

**Defendants.**

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**CASE NO. 6:11-CV-496-LED**

**CASE NO. 6:11-CV-571-LED**

**JURY TRIAL DEMANDED**

**MEMORANDUM OPINION AND ORDER**

This Opinion construes United States Patent No. 7,746,321 (“321 Patent”) and United States Patent No. 8,049,729 (“729 Patent”). Also before the Court is Defendants’ Motion for Summary Judgment of Invalidity for Indefiniteness (Case No. 6:11cv496, Dkt. No. 243). For the reasons discussed below, the Court **GRANTS IN PART** and **DENIES IN PART** Defendants’ Motion.

**BACKGROUND**

UltimatePointer asserts both method and systems claims from the ‘321 and ‘729 patents. The ‘321 patent is directed to controlling movement of a cursor on a large screen display to point to specific features of images being displayed on the screen. ‘321 patent, Abstract. The invention relates to devices for making presentations in front of audiences, for which interaction with the displayed information through direct pointing is desired. *Id.* at 1:20–25. Generally, the invention tracks the movement of a pointing device as the orientation of the pointing device changes. A base station, using calibration points, locates an interaction region on a display screen where an image is presented. *Id.* at 5:44–59. The base station and the pointing device interact to identify movements of the pointing device within a three-dimensional coordinate space. *Id.* at 5:59–67.

Thereafter, as the pointing device is “aimed” at various features of the displayed image, the base station detects the orientation of the pointing device within the coordinate space and provides information to the system to direct the displayed cursor to the location within the interaction regions that coincides with the pointing device’s “point-of-aim.” *Id.* at 6:1–4. The ‘729 patent is a continuation of the ‘321 patent, such that the specifications and drawings are identical. *See* ‘321 patent, ‘729 patent.

### APPLICABLE LAW

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). In claim construction, courts examine the patent’s intrinsic evidence to define the patented invention’s scope. *See id.*; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). This intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term’s context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can also aid in determining the claim’s meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For

example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he 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.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor’s lexicography governs. *Id.* Also, the specification may resolve ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lacks sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex, Inc.*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition is entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

## ANALYSIS

### **“pointing device” and related terms**

The term “*pointing device*” appears in Claims 15, 19, 20, 23, 25, 27, 31 and 32 of the ‘321 Patent. Defendants propose “a piece of equipment used for direct pointing.” UltimatePointer proposes “a piece of equipment or system component that is intended for use as a pointer.”

There are several additional terms related to “pointing device” that turn on the same claim-construction analysis. The first, “*handheld enclosure*,” appears in Claims 15, 19, 20, 23, 25, 33, 34, 37, 44, 51, and 52 of the ‘321 Patent. Defendants propose construing “handheld enclosure” as “enclosure of a handheld piece of equipment used for direct pointing.” UltimatePointer proposes “an enclosure intended to be held in the user’s hand.”

A second related term, “*handheld device*,” appears in Claims 1, 3, 5, 6, and 12 of the ‘729 Patent. Defendants propose “a handheld piece of equipment used for direct pointing” and

UltimatePointer proposes “a piece of equipment or system component intended to be held in the user’s hand.”

A third related term, “*user-wielded pointing device*,” appears in Claims 27, 31, and 32 of the ‘321 Patent. Defendants propose “a user-wielded piece of equipment used for direct pointing.” UltimatePointer proposes “a piece of equipment or system component for pointing, intended to be held in the user’s hand.”

Finally, “*handheld pointing device*” appears in Claim 47 of the ‘321 patent and Claim 7 of the ’729 Patent. Defendants propose “a handheld piece of equipment used for direct pointing.” UltimatePointer proposes “a piece of equipment or system component for pointing, intended to be held in the user’s hand.”

The dispute for these five terms (collectively, the “pointing device” terms) revolves around whether the claimed pointing device is necessarily a direct, not indirect, pointing device. UltimatePointer contends that the patent does not specify that the pointing devices are *direct* pointing devices. Dkt. No. 227, at 2. UltimatePointer argues that the “pointing device” terms are broad enough to include both indirect and direct pointing devices because the specification includes examples of indirect pointing, such as a desktop mouse and trackball. *Id.* UltimatePointer adds that Defendants’ proposal excludes a preferred embodiment of the ‘321 Patent, which provides for indirect pointing. *Id.* at 3. Further, UltimatePointer argues that the word “direct” in Defendants’ proposals is insufficiently precise. *Id.* at 3. Finally, UltimatePointer argues that the “handheld” limitation is a commonly understood term and cites the dictionary definition. *Id.* at 2.

Defendants contend that the pointing device is necessarily direct because the specification repeatedly states that “the invention” as a whole requires direct pointing. Dkt. No.

238, at 5. Defendants contend that the specification only describes the use of indirect pointing when direct pointing is not possible. *Id.* at 6. Finally, Defendants contend that the terms “handheld” and “user-wielded” are readily understood and require no construction, and that Plaintiff’s construction is improperly subjective due to the “intended to be held” phrase. *Id.* at 6.

The inventors classify pointing devices into two categories, direct-pointing devices and indirect-pointing devices. ‘321 Patent, 1:55–57. The ‘321 Patent defines “direct pointing device” as a “device[] . . . for which the physical point-of-aim coincides with the item being pointed at, i.e., it lies on the line-of-sight.” *Id.* at 1:57–60. The specification characterizes the invention as a whole as a direct-pointing system that improves upon both indirect-pointing devices and prior direct-pointing devices. *Id.* at 2:1–38. Subsequently, the specification refers to the system as a “direct-pointing device.” ‘321 Patent, 24:29–30. The patent contemplates indirect pointing only when direct pointing is “not possible or not desired,” for example, when the pointing device is out of range of the base station or too far from where it was calibrated. 29:66–30:28. In such cases, indirect pointing may be used “as described in the cited prior art.” *Id.* at 30:26–27. Thus, although the specification mentions indirect pointing, it is clear that the invention is aimed at direct pointing.<sup>1</sup> Therefore, “*pointing device*” is construed as “direct pointing device.”

As conceded by the parties, the “handheld” and “user-wielded” limitations are easily understood and used with their plain and ordinary meaning. Therefore, there is no need to further construe those terms. Accordingly, the term “*handheld pointing device*” is construed as a “handheld direct pointing device” and the term “*user-wielded pointing device*” is construed as “user-wielded direct pointing device.”

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<sup>1</sup> *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1378–79 (Fed. Cir. 2008) (affirming lower court’s construction of the preamble term “portable computer” as excluding laptop computers based on the specification’s emphasis on contrasting the claimed device from laptops, even though certain embodiments showed a device coupled to a keyboard and visual display described as “options available with the system”).

As to the term “handheld enclosure,” the parties do not offer any argument to support their respective proposals. Both parties’ proposals, however, include the word “enclosure.” Thus, there is no dispute that “enclosure” needs no construction. Because the compound term “*handheld enclosure*” does not represent any special meaning beyond its component words, the term does not need to be further construed.

With regard to “handheld device,” the Parties’ proposed constructions are identical to “handheld pointing device.” Although the claims of the ‘729 patent do not specifically reference a pointing line, the claim language makes clear that the “handheld device” is nonetheless a pointing device. For example, Claim 1 recites that the handheld device has an image sensor to generate data related to “the distance between the first point and the second point,” which implies a direct pointing line between the first and second point. ‘729 patent, 33:62–34:8. Furthermore, Claims 5 and 12 recite that the handheld device has an image sensor for generating data of calibration points. *Id.* at 34:27–38, 36:1–9. Thus, the handheld device must have a direct line of sight to (i.e., be pointed at) the calibration points to generate such data. Therefore, as required by the claims and implicitly conceded by the parties, “handheld device” is necessarily for pointing. In accordance with the construction of “pointing device,” the term “*handheld device*” is construed as “handheld direct pointing device.”

**“using a parameter”**

The term “using a parameter” appears in Claims 5, 6, and 12 of the ‘321 Patent. The term appears in two contexts: (1) “using a parameter related to the measured angle to control the parameter of said cursor”; and (2) “using a first parameter related to the first angle, and a second parameter related to the second angle to control the parameter of said cursor.” Defendants propose a construction that adds “using direct pointing” at the end of each phrase. Thus,

Defendants' proposed construction for the first context is "using a parameter related to the measured angle to control the parameter of said cursor using direct pointing." For the second context, it is "using a first parameter related to the first angle, and a second parameter related to the second angle to control the parameter of said cursor using direct pointing." UltimatePointer argues that no construction is necessary for this term. Again, the dispute turns on whether "using a parameter" necessarily refers to direct pointing.

As discussed above, the claims are already limited to direct pointing. Therefore, adding a "direct pointing" limitation to these terms is unnecessary. No further construction of "using a parameter" is necessary.

#### **"projected computer screen image"**

The term "projected computer screen image" appears in Claims 5 and 6 of the '321 Patent. Defendants propose "a computer screen image created by using beams of light directed through space to cause the image to fall onto a surface." UltimatePointer proposes "a computer-generated image that is displayed on a display screen." The dispute centers around whether this term is limited to images displayed by projection.

UltimatePointer argues that Defendants' proposal improperly inserts limitations not present in the claim language and excludes a preferred embodiment. Dkt. No. 227, at 4–5. UltimatePointer also contends that the disclosure of projection device 40 is merely exemplary and points to CRT and LCD embodiments mentioned in the specification as examples of non-projection display means. *Id.* at 5.

Defendants argue that "projected" is used in its ordinary sense and does not merely mean "displayed." Dkt. No. 238 at 7. Defendants point to Claim 12's recitation of "computer screen



image” to indicate that “projected computer screen image” has a different meaning beyond “displayed.” *Id.*

The specification does mention CRT and LCD display screens, but only in the context of referring to the laptop-computer interface provided by device 49 as a standalone component that can be incorporated into a television or a monitor. ‘321 Patent, 8:52–56. In such embodiments, there is no “projected” image. However, Claims 5 and 6 specifically refer to a “projected” image. 34:2, 25–26. Therefore, the patentee narrowed the scope by inserting the term “projected” into the claim language. The term “projected computer screen image” is construed as “computer screen image created by using beams of light directed through space to cause the image to fall onto a surface.”

#### **“point of aim”**

The term “point of aim” appears in Claim 6 of the ‘321 Patent. Defendants propose construing “point of aim” as “point at which the pointing line intersects with an object.” UltimatePointer proposes “a location at which a pointing device is aimed.” The issue is whether the pointing line necessarily intersects with something.

Defendants argue that their proposed construction adopts the plain meaning of the term and is consistent with the specification’s written description and figures. Dkt. No. 238, at 10. Defendants contend that the patentee necessarily included the place where the pointing line intersects with an object. *Id.* at 10–11.

UltimatePointer argues that Figure 18 in the specification illustrates that the term is used in its ordinary meaning of a location. Dkt. No. 227, at 6. UltimatePointer also contends that limiting the term to require a precise intersection of a particular line with a point is not supported by the claims or the specification. *Id.*

The claim language does not mention a “pointing device,” thus there is no support for including such device in the construction of “point of aim,” as Plaintiff proposes. ‘321 Patent, 34:1–26. As to whether the point of aim necessarily intersects with the image, the claim language and the specification support a construction that includes the location of such an intersection. First, the claim recites that the cursor is “controlled by position of said point-of-aim measured relative to said projected computer screen image.” ‘321 Patent, 34:24–26. Further, the specification describes that the point of aim “lies in projection image 70.” ‘321 Patent, 16:35. Thus, in order for the point of aim to “lie” in the image plane, there must be an intersection of the pointing line with the object (i.e., projection screen) containing the projection image. Accordingly, “point of aim” is construed as “location at which the pointing line intersects with an object.”

#### **“directed at”**

This term appears in Claims 15, 19, 20, 23, 25, 44, 47, and 51 of the ‘321 Patent. Defendants propose “pointed so that the point-of-aim intersects with.” Plaintiff proposes “pointed at.” The dispute again turns on whether the term necessarily includes an intersection.

Defendants argue that the key aspect for construing “directed at” lies in the distinction between “directed at” and another claim term, “directed towards,” which are presumed to be used with different meanings. Dkt. No. 238, at 11. According to Defendants, the word “at” means the pointing line necessarily intersects with an object. *Id.* at 12.

Plaintiff relies upon a dictionary definition for a plain meaning of “directed at” as being “to point.” Dkt. No. 227, at 6. Plaintiff contends that nowhere does the claim language require a precise intersection of a particular line with a point. *Id.*

The claim language specifies that a sensing device is generating data indicative of a spatial state “while the pointing line is directed at a first calibration point.” 38:61–62. Thus, for the data to be generated, the pointing line must intersect with the calibration point. Therefore, “directed at” is construed as “pointed so that the point-of-aim intersects with.”

**“substantially pass through”**

The term “directing said pointing line to substantially pass through said calibration point” appears in Claim 6 of the ‘321 Patent. Defendants propose “directing said pointing line such that it touches said calibration point.” Plaintiff proposes “directing the pointing line to pass through or close to the calibration point.” The dispute revolves around whether “substantially pass through” can include the pointing line passing near the calibration point.

Defendants argue that Plaintiff’s addition of “or close to” is the opposite of the plain meaning of “substantially pass through.” Dkt. No. 238, at 9. Defendants further argue that the patentee did not indicate a special definition anywhere in the specification. *Id.* Finally, Defendants contend that Plaintiff’s proposed construction is subjective as to how “close” the pointing line must be to the calibration point and would render the claim indefinite. *Id.* at 10.

Plaintiff argues that “substantially pass through” carries its ordinary dictionary meaning of “largely but not wholly that which is specified.” Dkt. No. 227 at 7. Plaintiff also argues that the specification shows in Figure 18 that the point of aim sometimes misses the calibration point. *Id.* at 6.

The claim language does not support a construction that allows the pointing line to pass near the calibration point without touching it. The term “pass through” indicates that the pointing line must at least touch the calibration point in order to pass through it. The inclusion of “substantially,” however, indicates that the pointing line need not be entirely within the

calibration point. There need only be some overlap of the pointing line and the calibration point. Indeed, the specification in Figure 18 illustrates the point of aim (shown as a light spot 210) at the end of the pointing line as mostly, but not wholly, within the area of the calibration point. Thus, including “touches” properly gives effect to the pointing line being “largely but not wholly” within the calibration point. Accordingly, “substantially pass through” is construed as “directing said pointing line such that it touches said calibration point.”

### **“pointing line”**

The term “pointing line” appears in Claims 5, 6, 12, 15, 19, 20, 23, 25, and 44 of the ‘321 Patent. Defendants propose “a line that extends along the axis of the pointing device in the direction of pointing.” Plaintiff proposes “a line that extends in the direction of pointing.” The dispute centers on whether the pointing line necessarily coincides with the axis of the pointing device.

Defendants contend that their construction provides the necessary precision contemplated by the specification. Dkt. No. 238, at 13. Defendants argue that under Plaintiff’s construction, the pointing line could extend from any number of positions, thus it is imprecise. *Id.* Plaintiff contends that Defendants’ construction improperly imports a limitation, “along the axis of,” that is only present in a preferred embodiment. Dkt. No. 227, at 8.

The claims only require that the pointing line have a predetermined relation to a pointing device. ‘321 Patent, 34:7–8. Further, the specification only recites that the pointing line “*may* substantially coincide with the long axis of the pointing device.” *Id.*, 7:6–10 (emphasis added). Thus, “pointing line” is construed as “a line that extends in the direction of pointing.”

### **“calibration points”**

The term “calibration point(s)” appears in Claims 6, 15, 19, 20, 23, 25, 33, 34, 37, 44, 51, and 52 of the ‘321 Patent and Claims 5, 6, and 12 of the ‘729 Patent. Defendants propose “a point having a predetermined position relative to the interaction region and used in calibration.” Plaintiff proposes “a calibration point is a location for use in establishing a relationship between the point of aim of the pointing device and the computer-generated image.”

The claims also employ “first point” and “second point” in reference to “calibration points.” The term “first point” appears in Claims 27, 31, 32, and 47 of the ‘321 Patent and Claim 1 of the ‘729 Patent. The term “second point” appears in Claim 32 of the ‘321 Patent and Claim 1 of the ‘729 Patent. Defendants propose construing “first point” and “second point,” like “calibration point,” as “a point having a predetermined position relative to the interaction region and used in calibration.” Plaintiff contends that “first point” and “second point” do not require a separate construction.

Plaintiff argues that the claims already specify that a “calibration point” is a point having a predetermined relation to a computer-generated image. Dkt. No. 227, at 9. Plaintiff contends that the specification also indicates that a “calibration point” establishes the relationship between the pointing device’s point-of-aim and the computer-generated image. *Id.*

Defendants contend that calibration points are used in calibration because they are only referenced in the context of the calibration routine. Dkt. 238 at 21. Defendants argue that the calibration points necessarily have a predetermined position in the interactive region because the calibration routine establishes the relationship between the point-of-aim of the pointing device and the interaction structure. *Id.*

The claim language defines a “calibration point” as a point having a predetermined relation to the image generated by the computer. ‘321 patent, 35:55–60. Therefore, the claim context provides sufficient guidance as to the meaning of the term and no construction is necessary for “calibration point.” Since “first point” and “second point” are “calibration points,” these additional terms do not require construction, either.

### **“calibration”**

The term “calibration” appears in Claims 6, 15, 19, 20, 23, 25, 27, 31–34, 37, 44, 51, and 52 of the ‘321 Patent and Claims 5, 6, and 12 of the ‘729 Patent. Defendants propose “the process of determining the shape, position, size, and orientation of the interaction region relative to a base coordinate system.” Plaintiff argues that “calibration” does not require a separate construction from the terms in which it appears or, in the alternative, that the construction should be “the process of establishing a relationship between the point of aim of the pointing device and the computer-generated image.” The issue is whether “calibration” needs to be construed.

Defendants argue that “calibration” needs a separate construction in order to understand the compound terms “calibration point” and “calibration data.” Dkt. No. 238, at 13. Defendants also contend that the patentee defined “calibration” in the specification and in distinguishing the prior art. *Id.*

Plaintiff argues that the term “calibration” only appears in the contexts of “calibration point” and “calibration data” and does not need to be separately construed. Dkt. No. 227, at 8. Plaintiff contends that, in the alternative, “calibration” should be construed simply as the process of determining the relationship between the point-of-aim and the “calibration points.” *Id.*

As discussed above, the claims define “calibration points” as “points in a predetermined relationship to the image.” ‘321 patent, 35:55. Accordingly, no construction is necessary for “calibration” apart from the terms in which it appears.

**“non-calibration point”**

The term “non-calibration point” appears in Claims 15, 19, 20, 23, 25, 33, 34, 37, 44, 51, and 52 of the ‘321 Patent. Defendants argue that this term is not enabled for lack of written description, therefore it should not be construed. Plaintiff proposes “a location at which the pointing device is directed after calibration has been performed.”

UltimatePointer contends that the ordinary meaning of the term indicates a point that is not a calibration point. Dkt. No. 227, at 12. Further, UltimatePointer argues that the order of recitation of “first and second spatial states” indicates that the term describes a point that is not a calibration point and is a location on the image that is pointed at after collecting data from a calibration point. *Id.*

Defendants contend that the term is not enabled because the specification does not use the term, therefore one of ordinary skill in the art would not be able to practice the claimed invention. Dkt. No. 238, at 17. Defendants also argue that, under Plaintiff’s proposed construction, a “non-calibration point” would be an infinite expanse of locations. *Id.*

The term “non-calibration point” is used with its plain and ordinary meaning, a point that is not a calibration point. It is unnecessary to import the limitation of “a location pointed at after calibration has been performed,” as such limitation is not required by the claim language. Therefore, the term “non-calibration point” is construed as “a point that is not a calibration point.”

### **“calibration data”**

The term “calibration data” appears in Claims 27, 32–34, 51, and 52 of the ‘321 Patent. Defendants propose “data used in calibration.” Plaintiff proposes “data obtained when the pointing device [of claims 27, 32] or handheld enclosure [of claims 33, 34, 51, 52] is directed towards a calibration point during calibration.”

Plaintiff contends that “calibration data” refers to data that is generated, determined, or developed at a specific time. Dkt. No. 227, at 14. Thus, Plaintiff contends that the data is “obtained” when the pointing device is directed toward a calibration point. *Id.* Plaintiff also argues that Defendants’ proposed construction improperly incorporates Defendants’ construction of “calibration.” *Id.* at 15.

According to Defendants, the specification characterizes the “calibration data” as being used during calibration to establish the interaction structure. Dkt. No. 238, at 18. Defendants contend that, unlike their proposed construction, Plaintiff’s proposed construction only describes how the data is obtained without requiring that the data actually be used. *Id.* at 19.

The claims specify that calibration data is “indicative of a first spatial state of the pointing device.” ’321 Patent, 36:40–41. The claims provide the metes and bounds of the term, therefore, there is no need to import extraneous limitations or construe the term further. *Phillips*, 415 F.3d at 1314.

### **“non-calibration data”**

The term “non-calibration data” appears in Claims 33, 34, 37, 51, and 52 of the ‘321 Patent. Plaintiff proposes “data obtained when the handheld enclosure is directed towards a non-calibration point at a time after calibration.” Defendants argue this term is not enabled for lack of written description.



Plaintiff contends the term is understood, described, and enabled, as the specification describes data obtained when the device is pointed at non-calibration points. Dkt. No. 227, at 16. Plaintiff further argues that the claim language and ordinary English support their construction, as the term is defined to mean data that is not calibration data. *Id.* at 15.

Defendants again contend that there is a lack of a written description and enablement because the term does not expressly appear in the specification. Dkt. No. 238, at 19.

The claims specify that “non-calibration data” is “data related to said enclosure being directed towards a non-calibration point.” ‘321 Patent, 37:42–43. Again, the claims provide the metes and bounds of the term. Therefore, there is no need to import extraneous limitations or construe the term further. *Phillips*, 415 F.3d at 1314.

#### **“data indicative”/“data related” and related terms**

The term “[first/second] *data indicative* of a [first/second] spatial state of said enclosure” appears in Claims 15, 19, 20, 23, and 25 of the ‘321 Patent. Defendants propose “[first/second] data that indicates a [first/second] spatial state of the enclosure.” Plaintiff proposes “data that is a sign or indication of the [first/second] spatial state of the enclosure.”

There are several related terms that turn on the same construction. First, “first calibration *data indicative* of a first spatial state of said enclosure” appears in Claims 27, 31, and 32 of the ‘321 Patent. Defendants propose “first calibration data that indicates a first spatial state of said enclosure.” Plaintiff proposes “calibration data that is sign or indication of the first spatial state of the enclosure.”

Second, “first calibration *data related* to said enclosure being directed towards said first calibration point” appears in Claims 33, 34, and 37 of the ‘321 Patent. Defendants propose “first calibration data representing or indicating the spatial state of the enclosure when the enclosure is

being directed towards a first calibration point.” Plaintiff argues that no construction is necessary.

Finally, the term “first calibration *data* when the user input device *indicates* that the enclosure is being directed towards a first calibration point” appears in Claims 51 and 52 of the ‘321 Patent. Defendants propose “first calibration data that indicates the spatial state of the enclosure when the user input device shows that the enclosure is directed toward a first calibration point.” Plaintiff contends that no construction is necessary. The dispute for all these terms revolves around the component term “data indicative/related.”

Plaintiff contends that the term “indicative” means a sign or indication. Dkt. No. 227, at 17. Plaintiff argues that, by contrast, Defendants’ constructions merely substitute similar words. *Id.* at 18. Further, Plaintiff argues that the term does not require that the spatial state be *completely* defined or determined. Dkt. No. 247, at 6–7.

Defendants contend that the term means that the spatial state is shown or defined by first calibration data. Dkt. No. 238, at 20. Accordingly, Defendants argue that Plaintiff’s construction is overly broad in only requiring some generalization of the orientation of the enclosure. *Id.* at 20–21. Defendants argue that the specification makes clear that the spatial state of the enclosure is fully defined in order for the presentation system to properly operate. *Id.* at 21.

The claims specify that the calibration data is used to indicate the spatial state of the pointing device. ‘321 Patent, 36:37–53. Further, the spatial state of the enclosure is fully defined by the calibration data. ‘321 Patent, 38:46–51. Thus, Defendants’ proposal of “calibration data that indicates/represent[s] the spatial state of the enclosure” more accurately reflects the meaning of the term as it is used in the context of the claimed subject matter. Accordingly, the terms are construed as follows: “[first/second] data indicative of a [first/second] spatial state of said

enclosure” is construed as “[first/second] data that indicates a [first/second] spatial state of the enclosure”; “first calibration data indicative of a first spatial state of said enclosure” is construed as “first calibration data that indicates a first spatial state of said enclosure”; and “first calibration data when the user input device indicates that the enclosure is being directed towards a first calibration point” is construed as “first calibration data that indicates the spatial state of the enclosure when the user input device shows that the enclosure is directed toward a first calibration point.” Finally, the term “first calibration data related to said enclosure being directed towards said first calibration point” is construed as “first calibration data representing or indicating the spatial state of the enclosure when the enclosure is being directed towards a first calibration point.”

#### **“sensing device”**

The term “sensing device” appears in Claims 15, 19, 20, 23, 25, 27, 31–33, 37, 44, 47, 51, and 52 of the ‘321 Patent. Defendants propose “a device that measures physical properties.” Plaintiff proposes “a device having one or more sensors that detect or measure something.” The dispute revolves around two issues: (1) whether the construction should specify that the sensing device can include more than one sensor, and (2) whether the sensor “detects” as well as “measures.”

Plaintiff argues that a construction including “one or more sensors” is supported by claims that require “at least one of” several type of sensors. Dkt. No. 227, at 18. Plaintiff also contends that the construction should not be limited to “measures” because the dictionary defines the term as measure or detect. *Id.*

Defendants argue that the specification provides that the sensing device measures the three-dimensional position and orientation of the pointing device, and that all the exemplar

sensors in the specification measure physical properties. Dkt. No. 238, at 22. Thus, the specification supports construing this term as a device that measures physical properties. *Id.*

The claims specifically define when one or more sensors are included in the sensing device. *See* ‘321 Patent, 38:5–8 (Claim 37, “said sensing device includes at least one of [the listed sensors]”); *cf.* 36:34 (Claim 25, “said sensing device includes an image sensor”). Thus, it is not necessary to import the limitation of “one or more sensors” to the term’s construction. As to whether the sensing device detects and measures, the claims specify that the sensor “senses” the spatial state of a handheld enclosure. ‘321 Patent, 35:54–55. The spatial state of the enclosure refers to its physical orientation, thus the sensor measures a physical property. Moreover, each exemplar sensor type (for example, accelerometer, gravity sensor, magnetic field sensor, gyroscope, image sensor, inclinometer) measures a physical property. ‘321 Patent 35:54–60, 36:12–15. Therefore, “sensing device” is construed as “a device that measures physical properties.”

#### **“sensor data”**

The term “sensor data” appears in Claims 44, 47, 51, and 52 of the ‘321 Patent. Defendants propose construing this term as “data output by a sensor.” Plaintiff proposes “data provided by a sensor or sensing device.” The dispute turns on whether the sensor data can be provided by a sensing device as well as by a sensor.

Plaintiff argues that the claims recite that sensor data may be provided by the sensing device. Dkt. No. 227, at 19. Defendants respond that, while some claims do indicate that sensor data may be provided by the sensing device, the specification reveals that this sensor data is output from a sensor. Dkt. No. 238, at 22.

The Parties' proposals evidence that there is consensus that the data may be provided by a sensor. The only dispute is whether the data may also be provided by a sensing device. The claim language of Claims 44, 47, and 51 specifies "a sensing device which provides sensor data." '321 Patent, 38:59, 39:21, 40:17–18. Therefore, it is inherent in the claim language that the data may be provided by the sensing device. Since the claims provide the metes and bounds of the term, no further construction is necessary.

### **“control”**

The term “control” appears, as “control,” “controlling,” or “controlled” (collectively, “control” terms), in Claims 5, 6, 12, 15, 27, 33, 44, 47, 51, and 52 of the '321 Patent and Claims 1, 3, 5, 6, and 12 of the '729 patent. Defendants argue that no construction is necessary or, in the alternative, they propose “directly regulate[ing/ed] or directly influence[ing/ed].” Plaintiff proposes “influence[ing/ed], manage[ing/ed], or regulate[ing/ed].” The dispute turns on whether the control is necessarily direct control.

Plaintiff contends that “control” is used with its ordinary meaning of “influence, manage, or regulate” and that Defendants' proposed construction inserts a superfluous limitation with the word “direct.” Dkt. No. 227 at 19.

Defendants contend no construction is necessary. Dkt. No. 238, at 22. Further, Defendants contend that Plaintiff's proposed construction improperly broadens the “control” terms to include both indirect regulation and indirect influence. *Id.* at 23. Defendants argue that all the illustrative embodiments show a feature on an image that is directly dictated. *Id.*

The “direct” aspect of the control is inherent in the claim language. For example, Claim 15 provides that “the feature of the image can be controlled based on the relation between the first spatial state and the second spatial state of [the] enclosure.” '321 patent, 35:65–68. The

claim describes control of the feature by movement of the enclosure. Additionally, the context of the claims shows that “control” is being used with its plain meaning. Therefore, the claims provide the metes and bounds of the term, and “control” does not need to be further construed.

**“control data”**

This term appears in Claims 15, 19, 20, 23, 25, 33, 34, and 37 of the ‘321 Patent. Defendants propose “values computed that directly regulate or directly influence the coordinates of the feature.” Plaintiff proposes “data used to influence, manage, or regulate a feature on the image.” The dispute, similar to the term “control,” hinges on whether there is direct control.

Plaintiff contends that the term carries the ordinary meaning conveyed by the constituent words “control” and “data.” Dkt. No. 227, at 20. Plaintiff argues that Defendants’ construction improperly adds a “directly” requirement that is not supported by the claim language. *Id.* Further, Plaintiff argues that the limitation to “values computed” is also without basis. *Id.*

Defendants contend that control data is specifically developed to control the features on an image and that it does not include the data used to develop the first calibration data. Dkt. No. 238, at 23. Defendants argue that several different types of data can “influence, manage, or regulate” a feature on an image and that defining control data in this manner would effectively read “control” out of the claim. *Id.*

As discussed above, the claim language itself imposes a “directly” limitation, so it is not necessary to include such limitation in the term’s construction. Further, the claims distinguish between “control data” and “spatial state” data. Whereas spatial-state data is the “raw” data provided to the communication element, “control data” is processed data. Defendants’ proposal of “values computed,” however, represents a narrower limitation than processed data. Therefore, the appropriate construction for the term “control data” is “processed spatial state data.”

**“distance”/ “data related to the distance”**

The term “the distance between the first point and the second point” appears in Claims 1 and 3 of the ‘729 Patent. Defendants propose “the separation between the first and second points.” Plaintiff argues that no construction is needed.

A related term, “*data related to the distance between a first and a second point,*” also appears in the same claims. Defendants propose construing this second term as “data that permits the calculation of the distance between a first and a second point.” Plaintiff again argues that no construction is necessary for this term. In both cases, the dispute revolves around whether it is necessary to construe the word “distance.”

Plaintiff contends that no construction is needed for either term because “distance” is used in its ordinary sense. Dkt. No. 227, at 22. Defendants contend that these terms should be construed to clarify their plain and ordinary meanings. Dkt. 238, at 24. Further, Defendants argue that the specification uses the term “distance” in the context of the physical separation between two points. *Id.*

Substituting “separation” for “distance” provides no meaningful guidance as to the meaning of the term. Further, including a “calculation of the distance” adds an extraneous limitation nowhere found in the claims. These terms employ the word “distance” with its common and ordinary meaning. Therefore, no construction is necessary for these terms.

**“data of the calibration points”**

The term “data of the calibration points” appears in Claims 5, 6, and 12 of the ‘729 Patent. Defendants propose “sensor data obtained in the process of calibration.” Plaintiff proposes “data generated from detecting the calibration points.”

According to Plaintiff, the claims specify that the data is generated by the image sensor and relates to the calibration points. Dkt. No. 227, at 22. Further, Plaintiff argues that the specification describes the execution of a calibration sequence and the determination of the position of the calibration points. *Id.* at 22–23. Plaintiff contends that the data generated by the sensor as it detects the calibration points is the “data of the calibration points.” *Id.* at 22. Plaintiff argues that Defendants’ construction improperly includes an unspecified calibration process. *Id.* at 23.

Defendants contend the claim language requires that the data of the calibration points be generated by the image sensor. Dkt. No. 238, at 25. Therefore, data of the calibration points should be restricted to “sensor data.” *Id.*

The claims recite that there are “calibration points provided in a predetermined relationship to the [computer generated] image.” *See, e.g.*, ‘729 Patent, 34:28–29. Thus, the term “data of the calibration points” carries the plain meaning of “data that is indicative of the relationship of the calibration points to the image.” Furthermore, the claims clearly specify that the data of the calibration points is provided by a sensor. *Id.* at 34:32–33. Therefore, “data of the calibration points” is construed as “sensor data that is indicative of the relationship of the calibration points to the image.”

#### **“spatial relation between”/“relation between”**

The term “spatial relation between the image and the pointing device located at said first position” appears in Claims 27, 31, and 32 of the ‘321 Patent. Defendants propose “the physical relationship between the image and the pointing device at a first location determined by the spatial state of the pointing device relative to the image.” Plaintiff proposes “the physical



relationship between the image and the pointing device when the pointing device is located at the first position.”

A related term, “relation between the first spatial state and second spatial state of the enclosure,” appears in Claims 15, 19, 20, 23, 25, and 44 of the ‘321 Patent. Defendants propose “the relationship between the enclosure’s spatial state at two different times, determined by comparing the enclosure’s two spatial states.” Plaintiff proposes “the relationship between the enclosure’s spatial state at two different times, determinable by comparing the enclosure’s two spatial states.” For both terms, the dispute centers on whether the construction should include the method of determining the spatial relationship.

Plaintiff contends there is agreement on “spatial relation between” except as to Defendants’ improper limitation of the term to a particular method of determining that relationship. Dkt. No. 227, at 23–24. Plaintiff also argues that Defendants’ construction of “relation between” improperly requires the method of determining the relationship rather than the mere capability of determining it. *Id.* at 24.

Defendants contend that their construction is supported by the claims, which set forth that a determination of the spatial relationship of the image and the pointing device is made by comparing their spatial states. Dkt. No. 238, at 26.

The claims provide no basis for including a limitation regarding the specific method of determining the recited spatial relation. Providing a specific method would impermissibly mix method steps in apparatus claims. Both proposed constructions include “the physical relationship between the image and the pointing device.” Nothing more is needed. Accordingly, the terms are construed as “the physical relationship between the image and the pointing device.”

### **“orientation [of said enclosure]”**

The term “orientation” appears in Claim 20 of the ‘321 Patent and Claims 3, 6, and 12 of the ‘729 Patent. Defendants propose “pitch, roll, and yaw.” Plaintiff argues no construction is required, or, in the alternative, that the construction should be “alignment in space.”

A related term, “orientation of said enclosure,” appears in Claim 20 of the ‘321 Patent and a related term, “orientation of said [the] handheld device,” appears in Claims 3, 6, and 12 of the ‘729 Patent. Defendants propose construing these two terms as “the pitch, roll, and yaw of the enclosure [handheld device].” Plaintiff argues no construction is necessary, or, in the alternative, that the construction should be “the alignment of the enclosure [handheld device] in space.”

The issue is whether it is necessary to provide a technical definition of “orientation.” Plaintiff argues that no construction is required because “orientation” is used with its plain and ordinary meaning. Dkt. No. 227, at 24. Alternatively, Plaintiff contends the term only means that there is alignment in space. *Id.* at 25. Plaintiff argues that Defendants’ constructions use terms that are not used anywhere in the patent. *Id.* Defendants contend the term “orientation” is used in the context of geometry. Dkt. No. 238, at 26. Based on that context, Defendants argue that their constructions are consistent with the specification. *Id.* at 27.

The term “orientation” is a common and easily understood term. The term is used with its ordinary meaning. Construing orientation as “pitch, roll, and yaw” would not further clarify the term or give guidance to the jury. Therefore, no construction is necessary for this term.

### **“feature on an image” and related terms**

There are three disputed terms related to a “feature on an image.” First, the term “feature on an image” appears in Claims 15, 19, 20, 23, 25, 33, 34, 37, 44, 47, 51, and 52 of the ‘321

Patent. Second, the term “feature on *the* image” appears in the same claims of the ‘321 Patent, as well as Claims 1, 3, 5, 6, and 12 of the ‘729 Patent. Third, the term “feature on a *computer generated* image” appears in Claims 1, 3, 5, 6, and 12 of the ‘729 Patent. Defendants propose construing these terms as “object on an image.” Plaintiff proposes “an element, part, or constituent of the computer-generated image that appears on the display screen, such as a character, an item of sporting equipment, a weapon, a cursor/pointer, a menu item, a button, a vehicle, as examples.” The principal dispute is whether it is necessary to clarify the word “feature.”

Plaintiff contends that the meaning of feature is broader than “object.” Dkt. No. 227, at 25. Thus, Plaintiff faults Defendants’ proposed construction of “feature” as “object” for being overly limiting. *Id.* Defendants argue that “object” is an appropriate construction because all the examples in the specification recite objects used as cursors, including a virtual pen and a virtual gun. Dkt. No. 238, at 27–28.

The patent specification illustrates a “feature” with a cursor that is not part of an underlying displayed image. ‘321 Patent, 28:38–44. Thus, a construction that defines the feature as part of the image is not supported. Additionally, “object on an image” does not clarify the term. Other than stating that “object” encompasses all the examples named in the patent for “feature,” Defendants fail to explain how “object” would be more helpful to the jury. The term “feature on an image” is easily understood. Thus, no construction is necessary for this term.

#### **“image sensor”**

The term “image sensor” appears in Claims 25, 31, and 37 of the ‘321 Patent and Claims 1, 3, 5, 6, and 12 of the ‘729 Patent. Defendants propose construing this term as “a device that

senses data from an image.” Plaintiff proposes “a sensing device able to capture an image.” The dispute turns on whether an image sensor necessarily captures an image to gather data from it.

Plaintiff contends that one of skill in the art would understand “image sensor” to mean a sensor that captures an image. Dkt. No. 227, at 26. Plaintiff also argues that Defendants’ proposed construction reads “image” out of the claim and broadens it to “data.” *Id.*

Defendants contend that their construction is consistent with the specification, which they characterize as showing a sensor that obtains information from an image but does not capture the image. Dkt. No. 238, at 28. Further, Defendants point to the express distinction in the specification between “image sensor” and “image capture devices.” *Id.* Defendants contend that Plaintiff’s construction is driven by an attempt to avoid “light gun” prior art. *Id.* at 28–29.

Plaintiff’s characterization of the image sensor’s functionality as image “capture” suggests it is a camera-like device that is taking a picture. However, the term “image capturing device, such as a digital camera” is separately identified in the ‘321 Patent, 29:7–9. Instead, the claims describe a sensing device that includes an image sensor to generate spatial-state data by sensing coordinates. *Id.* at 7:2–8. The specification identifies Charge Coupled Devices (CCDs) as a sensing device for coordinate sensing. *Id.* at 7:18–21. A CCD senses an image by focusing light reflected from an object forming the image onto a detector and measuring the intensity of the light across the imaged area. Therefore, “image sensor” is construed as “a device that measures the intensity of reflected light from an image.”

### **“coupled to”**

The term “coupled to” appears in Claims 15, 19, 20, 23, 25, 27, 31–34, and 37 of the ‘321 Patent. Defendants propose “electrically connected to.” Plaintiff proposes “joined or associated in a manner to permit information or signals to be communicated, either wirelessly or through

conductors.” The parties dispute whether the connection is necessarily wired, or whether it can also be wireless.

Plaintiff seeks a dictionary definition for this term. Dkt. No. 227, at 29. Plaintiff argues that Defendants’ construction wrongly conveys that there is a physical, wired connection to the exclusion of wireless coupling. *Id.* at 29. Defendants, on the other hand, contend that their construction is supported by the context of the electrical connections shown in the specification. Dkt. No. 238, at 30.

The specification, in the illustration of pointing device 20, supports a communication element. ‘321 Patent, Fig. 1. There, the communication device 204 of pointing device 20 is described separately from coordinate sensing device 201. *Id.* at 7:2–8, 7:51–59. However, there is no schematic diagram showing the “coupling” of the sensing device 201 to the communication device 204. Instead, each of the identified types of sensing devices provides its output electrical signals via conductors. Consequently, the communication device 204 is necessarily electrically connected, with or without a wire, to the sensing device 201. *Id.* at 7:53–56. Therefore, the construction of the term “coupled to” in the context of the ‘321 patent is “electrically connected either directly or indirectly.”

## MOTIONS FOR SUMMARY JUDGMENT OF INDEFINITENESS

Defendants move for summary judgment of invalidity for indefiniteness under 35 U.S.C. 112 ¶2. For the reasons set forth below, the Court **GRANTS IN PART** and **DENIES IN PART** the motion for summary judgment.

### APPLICABLE LAW

“Summary judgment is appropriate in a patent case, as in other cases, when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law.” *Nike Inc. v. Wolverine World Wide, Inc.*, 43 F.3d 644, 646 (Fed. Cir. 1994); FED. R. CIV. P. 56(c). The moving party bears the initial burden of “informing the district court of the basis for its motion” and identifying the matter that “it believes demonstrate[s] the absence of a genuine issue of material fact.” *Celotex Corp. v. Catrett*, 477 U.S. 317, 323, 106 S. Ct. 2548, 2553 (1986). If the moving party meets this burden, the nonmoving party must then set forth “specific facts showing that there is a genuine issue for trial.” FED. R. CIV. P. 56(e); *see also T.W. Elec. Serv., Inc. v. Pacific Elec. Contractors Ass’n*, 809 F.2d 626, 630 (9th Cir. 1987).

A party seeking to invalidate a patent must overcome a presumption that the patent is valid. *See* 35 U.S.C. § 282; *Microsoft Corp. v. i4i Ltd. Partn’p*, 564 U.S. \_\_\_, 131 S. Ct. 2238, 2243 (2011); *United States Gypsum Co. v. National Gypsum Co.*, 74 F.3d 1209, 1212 (Fed. Cir. 1996). This presumption places the burden on the challenging party to prove the patent’s invalidity by clear and convincing evidence. *Microsoft*, 131 S.Ct. at 2243; *United States Gypsum Co.*, 74 F.3d at 1212. Close questions of indefiniteness “are properly resolved in favor of the patentee.” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1348 (Fed. Cir. 2005); *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1380 (Fed. Cir. 2001).

Claims must particularly point out and distinctly claim the invention. “The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the

subject matter which the applicant regards as his invention.” 35 U.S.C. § 112 ¶ 2. The primary purpose of the requirement of definiteness is to provide notice to those skilled in the art of what will constitute infringement. *See United Carbon Co. v. Binney Co.*, 317 U.S. 228, 236 (1942). The definiteness standard is one of reasonableness under the circumstances, requiring that, in light of the teachings of the prior art and the invention at issue, the claims apprise those skilled in the art of the scope of the invention with a reasonable degree of precision and particularity. *See Shatterproof Glass Corp. v. LibbeyOwens Corp.*, 758 F.2d 613, 624 (Fed. Cir. 1985). To rule “on a claim of patent indefiniteness, a court must determine whether one skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Bancorp Servs., L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1372 (Fed. Cir. 2004). “A determination of indefiniteness is a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims, [and] therefore, like claim construction, is a question of law.” *Amtel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1378 (Fed. Cir. 1999).

A single claim that recites two separate statutory classes of invention, e.g., “an apparatus and a method of using that apparatus,” renders the claim indefinite under 35 U.S.C. § 112 ¶2. *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005). The problem with mixing apparatus and method steps is that such mixed claims fail to clarify “whether infringement would occur when one creates a system that allows the user to [perform the step] . . . or . . . when the user actually [performs the step].” *HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1270, 1277 (Fed. Cir. 2012). “[S]uch a claim ‘is not sufficiently precise to provide competitors with an accurate determination of the “metes and bounds” of protection involved’ and is ‘ambiguous and properly rejected.’” *Id.* (quoting *Ex parte Lyell*, 17 U.S.P.Q.2d 1548 (1990)). However, apparatus claims that are limited by functional language are not necessarily

indefinite. *Microprocessor Enhancement Corp. v. Texas Instruments Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008) (citing *Halliburton Energy Servs. v. M-I LLC*, 514 F.3d 1244, 1255 (Fed. Cir. 2008)). If the functional language of the claim merely describes “the structure and capabilities of the claimed apparatus,” then the claim is sufficiently definite under 35 U.S.C. § 112 ¶2. *SynQor, Inc. v. Artesyn Techs., Inc.*, 2010 U.S. Dist. LEXIS 74808, at \*97 (E.D. Tex. July 26, 2010), *aff’d* *SynQor v. Artesyn Techs. Inc.*, No. 2011-1192 (Fed. Cir. March 13, 2013) (citing *Microprocessor*, 520 F.3d at 1375).

### ANALYSIS

Defendants contend that Claims 15, 19, 20, 23, 25, 27, 31–34, 37, 44, 47, 51, and 52 improperly mix method steps with systems limitations in the same claim. Dkt. No. 243. Plaintiff contends that each of these claims merely uses functional language to describe the system’s capabilities. Dkt. No. 250.

#### **Claims 33, 34, and 37**

Independent claim 33 reads as follows:

An apparatus for controlling a feature on an image generated by a computer, comprising:

- [a] a handheld enclosure including a sensing device which provides data;
- [b] a user input device to indicate that said enclosure *is being directed towards a first calibration point*, said first calibration point having a predetermined relation to the image; and
- [c] a processor coupled to said sensing device and said user input device and programmed to provide control data for controlling the feature on the image, said processor *using data provided by said sensing device to develop first calibration data related to said enclosure being directed towards said first calibration point and non-calibration data related to said enclosure being directed towards a non-calibration point*, said processor further *using said first calibration data and said non-calibration data to develop said control data.*

‘321 Patent, 37:28–45 (numeration and emphasis added). Claims 34 and 37 depend from Claim 33. *Id.* at 37:46–55, 38:5–8.



Defendants contend the claim recites both an apparatus and an action performed by a user. Dkt. No. 243, at 6–7. Defendants argue that element [b] recites a “user input device . . . being directed towards a first calibration point” and element [c] recites a processor that “is using data provided . . . by [a] sensing device.” *Id.* at 6. Defendants argue that the “directed towards” language describes an action to be performed by the user. *Id.* at 7. Defendants further argue that the data used by the processor cannot exist absent action by the user. *Id.*

Plaintiff responds that the language is merely describing the functions of the claimed user-input device and processor. Dkt. No. 250, at 2. Plaintiff argues that the apparatus claimed has the capability to use data provided by the sensing device to develop calibration data related to the handheld enclosure, if and when it is directed toward a point. *Id.* at 3–4.

The specification describes the user-input device as a button 203 or 204, which button, when pressed, indicates that the handheld enclosure is being directed to a calibration point. ‘321 patent, 12:17–24. Thus, element [b] of the claim recites a structure defined by its function of indicating when the enclosure is aimed at a calibration point. Similarly, element [c] recites that the processor receives data from the sensing device and is programmed to develop calibration and non-calibration data. *Id.* at 37:36–45. Therefore, element [c] is a structure defined according to its function of using data to develop control data “for controlling the feature of an image.” As the apparatus claimed does not impermissibly mix method steps, but uses functional language, Claim 33, and its dependents, are sufficiently definite under 35 U.S.C. § 112 ¶2. *IPXL Holdings*, 430 F.3d at 1384.

### **Claims 27, 31, and 32**

Independent claim 27 reads as follows:

An apparatus for determining a spatial relation between a computer generated image and a user-wielded pointing device, comprising:

- [a] a sensing device for generating first calibration data indicative of a first spatial state of the pointing device, said sensing device being at least partly contained in the pointing device;
- [b] a user input device to indicate that the pointing device is located at a first position and directed towards a first point, said first point having a predetermined relation to the image; and
- [c] a processor coupled to said sensing device and said user input device and programmed to use said first calibration data to determine the spatial relation between the image and the pointing device located at said first position,
- [d] wherein the spatial relation is provided to control a feature on the image.

‘321 patent, 36:37–53 (numeration added). Claims 31 and 32 are dependents of Claim 27. *Id.* at 37:14–27. Defendants mirror their arguments regarding Claim 33. Dkt. No. 243, at 9. In addition, Defendants argue that the “directed towards” language used in element [b] is not merely functional because the claim requires that the spatial relation of element [d] be used by the system. *Id.* at 9–10. Plaintiff again responds that the language at issue is merely describing the functions of the claimed user-input device and processor. Dkt. No. 250, at 6.

As stated above, the claim defines the structures according to their functions. Furthermore, element [d] recites no use by a user of the pointing device. Therefore, the same analysis as claim 33 applies. Claims 27, 31, and 32 are sufficiently definite under 35 U.S.C. § 112 ¶2.

### **Claims 44, 47, 51, and 52**

Independent claim 44 reads as follows:

A computer-readable medium or media storing computer-executable instructions for directing a computer to perform a method for controlling a feature on an image generated by a computer using a handheld enclosure which has a pointing line having a predetermined relation with the enclosure and a sensing device which provides sensor data, the method comprising:

- [a] determining a first spatial state of the enclosure while the pointing line is directed at a first calibration point, said first calibration point having a predetermined relation to the image, based on received sensor data;

- [b] determining a second spatial state of the enclosure while the pointing line is directed at a non-calibration point on the image based on received sensor data; and
- [c] controlling the feature on the image based on the relation between the first spatial state and the second spatial state of the enclosure.

‘321 Patent, 38:54–39:3. Independent claim 47 reads as follows:

A computer-readable medium or media storing computer-executable instructions for directing a computer to perform a method for controlling a feature on an image generated by a computer using a handheld pointing device which has a sensing device which provides sensor data and the user input device to indicate that the pointing device is directed at a point, the method comprising:

- [a] determining a first spatial state of the pointing device based on received sensor data when the user input device indicates that the pointing device is located at a first position and directed towards a first point, said first point having a predetermined relation to the image; and
- [b] determining the spatial relation between the image and the pointing device located at said first position based on the first spatial state; and
- [c] controlling the feature on the image based on the first spatial state and the spatial relation.

‘321 Patent, 39:17–33. Independent claim 51 reads as follows:

A computer-readable medium or media storing computer-executable instructions for directing a computer to perform a method for controlling a feature on an image generated by a computer using a handheld enclosure which has a sensing device which provides sensor data and the user input device to indicate that the pointing device is directed at a point, the method comprising:

- [a] determining first calibration data when the user input device indicates that the enclosure is being directed towards a first calibration point, said first calibration point having a predetermined relation to the image, based on received sensor data;
- [b] determining non-calibration data when the enclosure is being directed towards a non-calibration point on the image based on received sensor data; and
- [c] controlling the feature on the image based on said first calibration data and said non-calibration data.

‘321 Patent, 40:14–30. Claim 52 is a dependent of Claim 51. *Id.* at 40:31–39. As with the claims previously discussed, Defendants argue that each claim requires a “computer readable medium” and a method step of “directing” a pointing device. Dkt. No. 243, at 13. Plaintiff argues that the claim simply uses functional language to describe the claimed apparatus. Dkt. No. 250, at 7.

Plaintiff contends that although the claims do recite method steps, they are simply functional steps that the computer must be capable of performing. *Id.*

Unlike the other claims challenged in Defendants' motion, this set of claims is directed to a computer-readable medium. These claims are so-called *Beauregard* claims, which is a generally accepted style for claiming a computer-readable medium containing program instructions for a computer to perform a particular process. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373 (Fed. Cir. 2011). A *Beauregard* claim, however, is considered to be directed to an apparatus, rather than to a method. M.P.E.P. 2106.1 (I). Therefore, Claims 44, 47, 51, and 52 do not evidence the impermissible mixing of apparatus and method claims held invalid as indefinite under *IPXL Holdings*. Consequently, Defendants' motion is denied as to claims 44, 47, 51, and 52.

#### **Claims 15, 19, 20, 23, and 25**

Independent claim 15 reads as follows:

A pointing device for controlling a feature on an image generated by a computer, comprising:

- [a] a handheld enclosure having a predetermined relation to a pointing line;
- [b] a sensing device for generating first data indicative of a first spatial state of said enclosure while the pointing line is directed at a first calibration point, said first calibration point having a predetermined relation to the image, and for generating second data indicative of a second spatial state of said enclosure while the pointing line is directed at a non-calibration point on the image; and
- [c] a communication element coupled to said sensing device for providing control data to the computer for controlling the feature on the image, said control data being based on said first data and said second data,
- [d] wherein the feature on the image can be controlled based on the relation between the first spatial state and the second spatial state of said enclosure.

'321 Patent, 35:50–67. Claims 19, 20, 23, and 25 are dependents of Claim 15. *Id.* at 36:19–23, 33–34. Defendants contend that the claim recites a step performed by the user directing the pointing line at a calibration, or non-calibration, point because the user must be using the

pointing device for the sensing device to generate data “while the pointing line is directed at a . . . calibration point.” Dkt. No. 243, at 11. Plaintiff argues that this language merely describes the function and capability of the claimed “sensing device,” which is generating data, and does not require a user to direct the pointing line at any calibration or non-calibration point. Dkt. No. 250, at 5. Plaintiff contends that the claim is infringed when one makes, uses, sells, offers to sell, or imports a device having all the elements of the claim, including a sensing device that has the capability to generate data indicative of spatial states while the pointing line is directed at certain points. *Id.*

The clause at issue does not define the function of the sensing device. The function of the sensing device is simply to generate data indicative of the spatial state of the handheld enclosure. The pointing device structure, therefore, only consists of a handheld enclosure, a sensing device for generating data indicative of the spatial state of the handheld enclosure, and a communication element providing control data to the computer for controlling the feature on the image. Yet, the claim recites control of a feature on an image “based on the relation between the first spatial state and the second spatial state of the enclosure.” The relation between the spatial states depends on data generated “while the pointing line is directed at a . . . calibration point.” This requires the user to direct the handheld enclosure between two points, effectively requiring the user to use the pointing device.

Thus, the claim impermissibly mixes an apparatus and a method of using the apparatus as in *IPXL Holdings*. The claim is not definite as to whether the claim is infringed when the pointing-device apparatus is made or sold, or when a user actually uses it to direct a pointing line. *HTC Corp.*, 667 F.3d at 1277. Consequently, independent Claim 15 and its dependents,

Claims 19, 20, 23, and 25, are indefinite under 35 U.S.C. § 112 ¶2. Accordingly, Defendants' motion is **GRANTED IN PART** as to Claims 15, 19, 20, 23, and 25.

**Summary**

As to Claims 27, 31–34, 37, 44, 47, 51, and 52 of the '321 Patent, Defendants have failed to show by clear and convincing evidence that these claims are insoluble due to an impermissible mix of apparatus limitations and method steps. Accordingly, Defendants' motion for summary judgment of indefiniteness is **DENIED IN PART** as to Claims 27, 31–34, 37, 44, 47, 51, and 52 of the '321 Patent. However, Defendants' motion for summary judgment of indefiniteness is **GRANTED IN PART** as to Claims 15, 19, 20, 23, and 25.

**CONCLUSION**

For the foregoing reasons, the Court interprets the claim language in this case in the manner set forth above. For ease of reference, the Court's claim interpretations are set forth in a table as Appendix A. Further, the Court hereby **GRANTS IN PART** Defendants' Motion for Summary Judgment of Invalidity Based on Indefiniteness under 35 U.S.C. 112 (Dkt. No. 243).

**So ORDERED and SIGNED this 28th day of May, 2013.**

A handwritten signature in black ink, appearing to read 'Leonard Davis', written over a horizontal line.

**LEONARD DAVIS**  
**UNITED STATES DISTRICT JUDGE**

## APPENDIX A

Claim Term	Court's Construction
pointing device	direct-pointing device
handheld	No construction
handheld pointing device	handheld direct-pointing device
user-wielded pointing device	user-wielded direct-pointing device
using a parameter	No construction
projected computer screen image	computer screen image created by using beams of light directed through space to cause the image to fall onto a surface
point of aim	location at which the pointing line intersects with an object
directed at	pointed so that the point-of-aim intersects with
substantially pass through	directing said pointing line such that it touches said calibration point
pointing line	a line that extends in the direction of pointing
calibration	No construction
calibration points/first point/second point	No construction; defined in claims as “a point having a predetermined relation to the image generated by the computer”
non-calibration point	a point that is not a calibration point
calibration data	No construction
non-calibration data	No construction
[first/second] date indicative of a [first/second] spatial state of said enclosure	[first/second] data that indicates a [first/second] spatial state of the enclosure
first calibration data indicative of a first spatial state of said enclosure	first calibration data that indicates a first spatial state of said enclosure
first calibration data related to said enclosure being directed towards said first calibration point	first calibration data representing or indicating the spatial state of the enclosure when the enclosure is being directed towards a first calibration point
first calibration data when the user input device indicates that the enclosure is being directed towards a first calibration point	first calibration data that indicates the spatial state of the enclosure when the user input device shows that the enclosure is directed toward first calibration point
sensing device	a device that measures physical properties
sensor data	No construction
control/controlled/controlling	No construction
control data	processed spatial-state data
distance/data related to the distance	No construction
data of the calibration points	sensor data that is indicative of the relationship of the

	calibration points to the image
spatial relation between/relation between	No construction
orientation [of said enclosure] /[handheld device]	No construction
feature on an/the image	No construction
image sensor	a device that measures the intensity of reflected light from an image
coupled to	electrically connected either directly or indirectly