United States District Court,
D. Arizona.

TASER INTERNATIONAL, INC,
Plaintiff.
v.
STINGER SYSTEMS, INC,
Defendant.

No. CV 07-042-PHX-MHM

Feb. 2, 2009.

Aaron H. Matz, Chad Steven Campbell, Perkins Coie Brown & Bain PA, Phoenix, AZ, Holly L. Gibeaut, Taser International, Scottsdale, AZ, John R. Maley, Barnes & Thornburg LLP, Indianapolis, IN, for Plaintiff.

Ray Kendall Harris, Fennemore Craig PC, Phoenix, AZ, for Defendant.

ORDER

MARY H. MURGUIA**, District Judge.**

Currently before the Court is Plaintiff TASER International, Inc. ("TASER") and Defendant Stinger Systems, Inc.'s ("Stinger") claim construction briefing on disputed claim terms in TASER's '262, '295, and '870 patents. (Dkts.# 59, 67, 72). After reviewing the pleadings, patents, and other submitted documents, and holding a *Markman* hearing on May 7, 2008, the Court issues the following order.

I. BACKGROUND

A. General Description of the Technology

TASER and Stinger develop, manufacture, and sell electronic control devices ("ECD"), commonly known as "stun guns," which are used to temporarily incapacitate a single person from a distance. While ECDs are intended to be non-lethal, they are somewhat similar to pistols: handheld devices that are activated by a trigger mechanism. Once activated, two dart electrodes, each of which are tethered to a wire connected to the internal circuitry of the weapon, are ejected out of the end of the weapon. The darts are intended to establish contact points with a living target, enabling a power supply circuit in the weapon to deliver current through the electrodes and the target in order to cause involuntary muscle contractions and temporarily immobilize the target.

At issue in this case are three of TASER's patents that relate to technology for reducing the size and weight of ECDs while increasing their efficiency, effectiveness, and traceability in deployment. TASER's '295 patent is entitled "Dual Operating Mode Electronic Disabling Device for Generating a Time-Sequenced,

Shaped Voltage Output Waveform." As the title suggests, the ' 295 patent claims a dual operating mode designed to addresses the challenge of establishing electrical contact with a target and efficiently deliver electric current flow to temporarily immobilize the target. In addition, the ' 870 patent is entitled "Systems and Methods for Managing Battery Power in an Electronic Disabling Device." Likewise, as the title suggests, the '870 patent claims systems and methods for managing battery power. The two patents share a common specification.

Apparently, an ECD's darts may often lodge in a target's clothing, which results in an air gap between the electrodes and the target, preventing the electrodes from establishing direct contact with the target's skin. The air gap impedes the flow of electricity due to the high impedance of air, which is generally defined as the absence of charged particles, or the ratio of the voltage of the electrical potential between two points and the current passing there. High impedance exists when there is a large voltage potential and only a small amount of current; low impedance is the opposite. The application of voltage across an air gap, which can be administered by the functioning of ECD capacitors and transformers, accelerates the available electrons in the air and causes them to pick up speed and crash into each other, thus freeing additional electrons and creating ions. This process is known as ionization, which breaks down high impedance and enables a smaller voltage application over a larger current flow. Once voltage is removed, the air gradually returns to its original state and high impedance returns. In addition, during the process of ionization, electrons can recombine with ions to recreate stable molecules, and in doing so they release energy by emitting photons, the particles responsible for light energy. In some instances, the recombination process results in the creation of visible electrical arcs.

Importantly, the common specification of the '295 and '870 patents reveal that although conventional ECDs were designed to have the capability of causing voltage breakdown across a very high impedance air gap by administering a fifty to sixty thousand volt output, once the air gap has been ionized and the impedance reduced to a low level, the stun guns continued to operate in the same mode, resulting in a high power, high voltage stun gun circuit operating relatively inefficiently and yielding low electromuscular efficiency with high battery power requirements. To overcome this inefficiency, the '295 patent provides for the operation of an ECD in a second mode-once the air gap is ionized and the air impedance is reduced to a low level, which enables current flow across the air gap at a lower voltage level, second lower voltage, longer duration output is generated to maintain an immobilizing current flow through the target. In addition, the '870 patent makes additional claims for, among other things, safety enhancements with respect to the operation of ECDs.

Finally, the '262 patent is entitled "Electrical Weapon Having Controller for Timed Current Through Target and Date/Time Recording." As the title suggests, the patent claims an apparatus that includes a microprocessor programmed to track date and time, to initiate and maintain for a period an electrical current, and to record tracked date and time for each initiation of the current.

B. Procedural History

On January 5, 2007, TASER filed an action against Stinger alleging infringement of U.S. Patent 7,145,762 ("the '762 patent") under 35 U.S.C. s. 271, false advertising under 15 U.S.C. s. 1051 et seq. , and false marketing under 35 U.S.C. s. 292. (Dkt.# 1). TASER amended its complaint on July 9, 2007 to add infringement claims for two additional patents, U.S. Patent 6,999,295 ("the '295 patent") and U.S. Patent 7,102,870 ("the '870 patent"). (Dkt.# 32). Thereafter, on October 10, 2007, TASER filed a second amended complaint in which TASER dropped all claims related to the '762 patent and added claims pertaining to a

fourth patent, U.S. Patent 7,234,262 ("the '262 patent").

On November 6, 2007, Stinger filed an Answer to TASER's second amended complaint and counterclaim for false advertising under 15 U.S.C. s. 1125(a) to TASER's second amended complaint. (Dkt.# 54). Stinger asserts a number of affirmative defenses, including statute of limitations, laches, waiver, estoppel, unclean hands, patent misuse, and inequitable conduct. (Dkt.# 54, pp. 4-5).

On May 7, 2008, the Court held a trial in accordance with Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996), to construe disputed claims of the '262, '295, and '870 patents. This is the Court's construction of those disputed claims.

II. LEGAL STANDARD

The construction of a patent, including the terms of art within its claims, is a matter of law for the Court. Markman v. Westview Instruments, Inc., 517 U.S. 370, 372 (1996). The claims of a patent define and measure the scope of a patent grant. *See* Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996) ("[W]e look to the words of the claims themselves ... to define the scope of the patented invention."); *see also Cont'l* Paper Bag Co. v. E. Paper Bag Co., 210 U.S. 405, 419 (1908) ("[T]he claims measure the invention."); *Markman,* 52 F.3d at 980. Claim terms "are generally given their ordinary and customary meaning," which "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Philips v. AWH Corp., 415 F.3d 1303, 1312, 1313 (Fed.Cir.2005) (citations omitted). "[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification," i.e., the written description of the invention. Id. at 1313; *see also* Medrad, Inc. v. MRI Devices Corp., 401 F.3d 1313, 1319 (Fed.Cir.2005) ("We cannot look at the ordinary meaning of the term ... in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.").

In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent, and reference to general purpose dictionaries can be helpful. Phillips, 415 F.3d at 1314; *but see* id. at 1322 ("A claim should not rise or fall based upon the preferences of a particular dictionary editor, or the court's independent decision, uninformed by the specification, to rely on one dictionary rather than another."). However, the meaning of a claim term is often not immediately apparent; courts generally look to "those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean," which include intrinsic evidence, i.e., the words of the claims themselves, the specification, and the prosecution history, and extrinsic evidence, i.e., all evidence external to the patent and prosecution history, such as relevant scientific principles, the meaning of technical terms, and the state of the art. *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.,* 381 F.3d 111, 1116 (Fed.Cir.2004); *see also Markman,* 52 F.3d at 980.

"[A] construing court does not accord the specification, prosecution history and other relevant evidence the same weight as the claims themselves." Eastman Kodak v. Goodyear Tire & Rubber Co., 114 F.3d 1547, 1552 (Fed.Cir.1997); *see* C.R. Bard, Inc. v.. U.S. Surgical Corp., 388 F.3d 858, 862 (Fed.Cir.2004) (internal quotations omitted) (stating that while extrinsic evidence "can shed useful light on the relevant art," it is "less significant than the intrinsic record in determining the legally operative meaning of claim language"); *see also* Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1309 (Fed.Cir.1999) (extrinsic evidence may be used to ensure that the claim construction considered by the court "is not inconsistent with the

clearly expressed, plainly apposite, and widely understandings in the pertinent technical field"). Nonetheless, "there is no magic formula or catechism for conducting claim construction," and courts are not "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.

The context in which a disputed term is used can be "highly instructive" in determining the meaning of the term. Id. at 1314. As such, "claims must be read in view of the specification, of which they are a part." *Markman,* 52 F.2d at 978, 979; *see also* Vitronics, 90 F.3d at 1582 ("[The specification] is the single best guide to the meaning of a disputed term" and "acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication."); Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473 (Fed.Cir.1998) ("The best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history."). Many courts rely heavily on the written description of the invention for guidance as to the meaning of a disputed term, and thus "claims must be construed so as to be consistent with the specification, of which they are a part." Merck & Co. v. Teva Pharms. USA, Inc., 347 F.3d 1367, 1371 (Fed.Cir.2003).

However, courts must "avoid importing limitations from the specification into the claims." Phillips, 415 F.3d at 1323; Varco, L.P. v. Pason Sys. USA Corp., 436 F.3d 1368, 1373 (Fed.Cir.2006) ("In examining the specification for proper context, however, this court will not at any time import limitations from the specification into the claims."); Intervet America, Inc. v. Kee-Vet Laboratories, Inc., 887 F.2d 1050, 1053 (Fed.Cir.1989) ("[L]imitations appearing in the specification will not be read into claims, and ... interpreting what is meant by a word in a claim is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.") (internal quotation marks omitted). "A claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct." MBO Labs., Inc. v. Becton, Dickinson & Co., 474 F.3d 1323, 1333 (Fed.Cir.2007) (internal quotation marks omitted); *see also* Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1308-09 (Fed.Cir.2003) ("[A] claim construction that excludes a preferred embodiment ... 'would require highly persuasive evidentiary support.' ") (quoting Vitronics, 90 F.3d at 1583). Likewise, "[e]ven where a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope." Saunders Group, Inc. v. Comfortrac, Inc., 492 F.3d 1326, 1332 (Fed.Cir.2007); *see also* Merck, 347 F.3d at 1371.

Nevertheless, "the inventor's lexicography governs," and "the inventor's intention, as expressed in the specification, is regarded as dispositive." Phillips, 415 F.3d at 1316 (citing SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1343-44 (Fed.Cir.2001)). As such, "[a] definition set forth in the specification governs the meaning of the claims." Sinorgchem Co., Shandong v. International Trade Commission, 511 F.3d 1132, 1138 (Fed.Cir.2007); *see also* Phillips, 415 F.3d at 1316 ("[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess.") (citing CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002)); Multiform Desiccants, Inc.. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed.Cir.1998) ("When the specification explains and defines a term used in the claims, without ambiguity or incompleteness, there is no need to search further for the meaning of the term."). Moreover, "the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor." Phillips, 415 F.3d at 1316 (citing SciMed Life Sys., 242 F.3d at 1343-44). Thus, where "multiple embodiments are disclosed, ... claims [may be interpreted to] exclude embodiments where those embodiments are inconsistent with unambiguous language in the patent's specification or prosecution history." Sinorgchem, 511 F.3d at 1138; *see also* Rheox,

Inc. v. Entact, Inc., 276 F.3d 1319, 1327 (Fed.Cir.2002) ("[W]here the prosecution history requires a claim construction that excludes some but not all of the preferred embodiments, such a construction is permissible.").

III. DISCUSSION

A. The '295 Patent

i. "to ionize the air within the air gap"

The term "to ionize the air within the air gap" appears in both of the asserted claims of the '295 patent. Claims 2 and 40 require:

... a first high voltage, short duration output across the first and second electrodes during a first time interval to ionize the air within the air gap to thereby reduce the high impedance across the air gap to a lower impedance to enable current flow across the air gap at a lower voltage level....

['295 pat., col. 20:13-18 and col. 24:44-49]. TASER argues that "to ionize the air within the air gap" means "to enable ions to form in the air within the air gap." (Dkt.# 83, p.2). Stinger counters that "to ionize the air within the air gap" means "to form an electrical arc across the high impedance air gap." (Id.).

According to TASER, the phrase "to ionize the air within the air gap," as used in the asserted claims, should retain its ordinary meaning, which TASER contends is "to enable ions to form within the air gap." TASER argues that Stinger's proposed construction is an improper attempt to narrow and restrict the plain meaning of the disputed phrase so that Claims 2 and 40 require the formation of an electrical arc, a term that, although mentioned in other claims and in the specification, is not specifically mentioned in the asserted claims. TASER states that although ions must be formed within an air gap before an arc can appear, ions within the air gap can remain for some period of time after an arc is extinguished. Further, according to TASER, the purpose for ionization of the air gap as explained in the '295 patent is not to create an arc, but to lower the impedance so that current may flow to and through the target more efficiently. As such, TASER contends that it is inappropriate to construe the phrase "to ionize the air within the air gap" as requiring the formation of an electrical arc.

Stinger, on the other hand, argues that TASER's proposed construction ignores the purpose disclosed in the claim and specification: "to enable current flow across the air gap" by forming an electrical arc across the high impedance air gap. Stinger contends that the specification and language of the patent claim establish that the purpose of the high voltage output generated in the first mode/time period is to form an electrical arc across the high impedance air gap, and not merely enable ions to form within the air gap.

The Court does not agree with Stinger's proposed construction. Stinger's construction, if adopted, would improperly impose limitations from elsewhere in the specification into the asserted claims. *See* Varco, 436 F.3d at 1373 ("In examining the specification for proper context, however, this court will not at any time import limitations from the specification into the claims."). There is no mention of the term "electrical arc" or "arc" in Claims 2 or 40. Although Claim 1 explicitly refers to an arc-"[a]n electronic device having a first high voltage transformer for creating an arc and a second transformer with a lower output voltage to maintain current across the arc to disable the subject"-the Court finds no reason to read that limitation into

the asserted claims. *See* Saunders, 492 F.3d at 1332 ("[C]laims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope"). Stinger cites the Court to various parts of the specification, primarily the background of the invention, that discuss the creation of an electrical arc during the first mode/time period. ['295 pat., col. 2:23-33, 59-66; col. 16:48-50]. Stinger then cites the Court to *Bell Atlantic Network Services, Inc. v. Covad Communications Group, Inc.* for the statement that "[w]hen a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he has defined that term 'by implication.' " 262 F.3d 1258, 1271 (Fed.Cir.2001). However, in Bell, the patent at issue repeatedly used the claim term "mode" in the written description in a manner that indicated that "mode" meant something different from "rate," and thus the court found that the patentees had defined the term "mode" by implication. 262 F.3d at 1270-73. But here, there is no repeated and consistent use of the term "to ionize" in a manner that indicates that it should be construed differently from its plain meaning. This is not a case where the specification reveals a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. Phillips, 415 F.3d at 1316.

Stinger essentially argues that the '295 patent uses the term "to ionize" and "to form an electrical arc" interchangeably. However, although the formation of ions within the air gap and the formation of an electrical arc are related, the two are not synonymous, and the '295 patent does not define them as such. Certainly the '295 patent sometimes mentions the formation of an arc without mentioning the process of ionization, and vice vera, but not to the extent where the Court is comfortable in holding that patentee uses "to ionize" and "to form an electrical arc" in a manner consistent with only a single meaning. Indeed, the preferred embodiment recognizes a distinction between the terms, stating that application of the high voltage output across the high impedance air gap "forms an electrical arc *having* ionized air within the air gap." ['295 pat., col. 5:63-65] (emphasis added). As used in that sentence, the word "having" implies that the ionization of the air is a separate process from the formation of an electrical arc is formed, and that the formation of ions within the air gap is the primary purpose of the high voltage output discharge across the high impedance air gap during the first time period.

However, that sentence also seems to imply that once the air within the air gap is ionized, an electrical arc necessarily forms within the air gap. But as the preferred embodiment recognizes, as did the parties' experts during the May 7, 2008 hearing, the electrical arc is still merely the byproduct of the ionization, not the cause of it; the application of high voltage output across the high impedance air gap is intended to ionize the air within the air gap and increase current flow in order to achieve breakdown of the high impedance air gap, which will most likely result in the formation of an electrical arc, visible or non-visible, across the air gap. (Dkt.# 95, pp. 68-69, 118-19). Although the formation of an electrical arc may in fact be the normal byproduct of the ionization of the air within the air gap and the breakdown of the high impedance air gap, there is nothing in Claims 2 and 40 that necessarily require the formation of an electrical arc if there are circumstances in which ionization and the breakdown of the high impedance air gap may be achieved without the formation of an electrical arc. Likewise, it appears that an electrical arc, if formed, may be extinguished after the breakdown of the high impedance air gap although the air within the air gap remains ionized. (Dkt. # 95, pp. 69-70). As discussed below, there is nothing in Claims 2 and 40 that prevent that as long as a state of low impedance is maintained in the second mode/time period.

Importantly, the fact that some claims define the invention by reference to the formation of an arc and the flow of current across the arc, while others define the invention without mentioning such a requirement, informs the Court that the requirement is not part of the claims where it does not expressly appear. *See* Saunders Group, 492 F.3d at 1332 ("[A] change to only some of the claims, however, is a strong indication

that the claims not reciting pressure activated seals were not intended to require them."); Wilson Sporting Goods Co. v. Hillerich & Bradsby Co., 442 F.3d 1322, 1329 (Fed.Cir.2006) (use of term "rigid insert" in one claim and the unqualified term "insert" in another meant that the term "insert" "does no inherently carry a 'rigid' limitation"); Ventana Medical Systems, Inc. v. Biogenex Laboratories, Inc., 473 F.3d 1173, 1180-82 (Fed.Cir.2006) (use of the term "direct dispensing" as opposed to the unqualified claim term "dispensing" in the disclosed embodiments and specification did not effect "a complete surrender ... of all types of dispensing except 'direct dispensing' "); E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1370 (Fed.Cir.2003) ("An invention may possess a number of advantages or purposes, and there is no requirement that every claim directed to that invention be limited to encompass all of them.").

This is an instance when the ordinary meaning of the claim language as understood by a person of skill in the art is readily apparent. *See* CCS Fitness, 288 F.3d at 1366 (stating that the accused infringer cannot overcome the "heavy presumption" that a "claim term carries its ordinary and customary meaning" merely by "pointing to the preferred embodiment or other structures or steps disclosed in the specification"). The plain meaning of the term "ionize" is "to convert wholly or partly into ions." *See* MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 616 (10th ed.2001). And that is exactly what is contemplated in Claims 2 and 40 through the generation of a "high voltage, short duration output across the first and second electrodes during a first time interval." TASER's proposed construction of "to enable ions to form" essentially mirrors this definition. The generation of a high voltage output across the air gap will ionize the air within the air gap, or in other words, enable ions to form within the air gap. As such, the Court adopts TASER's proposed construction and finds that the phrase "to ionize the air within the air gap" simply refers to the formation of ions within the air gap.

ii. "to maintain the current flow"

The term "to maintain the current flow" appears in both of the asserted claims of the '295 patent. Claims 2 and 40 require:

... a second lower voltage output across the first and second electrodes during a second time interval *to maintain the current flow* across the first and second electrodes and between the first and second contact points on the target to enable the current flow through the target to cause involuntary muscle contractions to thereby immobilize the target.

['295 pat., col. 20:19-24 and col. 24:50-55] (emphasis added). TASER argues that "to maintain the current flow" means "to provide for the current flow." (Dkt.# 83, p.2). Stinger counters that "to maintain the current flow" requires that the low voltage output will "continue and maintain the previously initiated discharge across the arced over air gap for a significant additional time interval." (Id.).

According to TASER, the phrase "to maintain to the current flow," as used in the asserted claims, only applies to the second mode (claim 2) and second time interval (claim 40) only. TASER contends that claim 2 refers to a second mode in which a second lower voltage output is generated across the first and second electrodes to provide for a current flow across the first and second electrodes and between the first and second contact points on the target. In other words, the generation of a second, lower voltage output in the second mode "maintains," i.e., provides for, a current flow across the air gap at a lower voltage level due to the reduction in the high impedance across the air gap from the high voltage, short duration output across the first and second electrodes in the first mode. Likewise, TASER contends that claim 40 refers to a second time interval, which corresponds to the second mode referenced in claim 2, during which time a current

flow across the first and second electrodes and between the first and second contact points on the target is maintained or provided for by a second, lower voltage output than the high voltage output generated in the first mode and time interval.

On the other hand, Stinger argues that the lower voltage output referenced in claims 2 and 40 cannot "maintain" a current flow unless the current flow previously existed during the first mode or first time interval. In other words, Stinger contends that in order "to maintain the current flow," a continuity must exist between the current flow in the first and second modes/time periods. Moreover, Stinger contends that TASER's proposed construction is inconsistent with the specification, which provides that "once [the] low impedance ionized path has been established," the low voltage output will "continue and maintain the previously initiated discharge across the arced over air gap for a significant additional time interval." ['295 pat., col. 6:4-5, 16-23]. As such, Stinger proposes to replace the language found in claims 2 and 40, "to maintain the current flow," with that found in the specification, "continue and maintain the previously initiated discharge across the arced over air gap for a significant additional time interval." For further support, Stinger cites to figure 6 of the patent application, which Stinger contends "shows that the voltage out remains above zero until the end of the low voltage 'second mode/second time interval' output." (Dkt.# 67, p.5).

The Court does not agree with either construction. Stinger's construction, if adopted, would improperly import a limitation from the preferred embodiment into claims 2 and 40. *See* Conoco, Inc. v. Energy & Envtl. Int'l, L.C., 460 F.3d 1349, 1357-58 (Fed.Cir.2006) ("[A]n inventor may use the specification to intentionally disclaim or disavow the broad scope of a claim[, but] this intention must be clear and cannot draw limitations into the claim from a preferred embodiment.") (citations omitted). In support of its construction, Stinger points to the description of the preferred embodiment, which states:

Because the ionization of the air gap during time interval T1 to T2 dropped the air gap impedance to a low level, application of the relatively low second capacitor voltage [ ] across the E1 to E3 air gap during time interval T2 to T3 will allow the second energy storage capacitor *to continue and maintain the previously initiated discharge across the arced-over air gap for a significant additional time interval*.

['295 pat., col. 6:16-23] (emphasis added). However, although the description of the preferred embodiment uses the phrase "continue and maintain the previously initiated discharge across the arced-over air gap for a significant additional time interval," claims 2 and 40 merely use the phrase "to maintain the current flow," making no reference to continuing the previously initiated discharge across the arced-over air gap. In addition, the "previously initiated discharge," as referred to in the description of the preferred embodiment, appears to refer to the relatively low voltage output signal derived from the second output capacitor in the second mode/time period (the period of time between Time 2 or "T2" and Time 3 or "T3"), not the short duration application of the high voltage output signal, which results from the discharge of the first energy storage capacitor through the voltage multiplier during the first mode/time period (the period of time between Time 1 or "T1" and Time 2 or "T2"). ['295 pat., col. 6:5-7, 13-16].

The preferred embodiment simply describes both an initial discharge during the first mode/time period that is intended to create a low impedance ionized path across the air gap, and a subsequent discharge during the second mode/time period, in which "capacitors C2 and C3 [are able to] discharge across stun gun output terminals E1 and E2" at a relatively low voltage output because "the ionization of the air gap during time interval T1 to T2 dropped the air gap impedance to a low level." ['295 pat., col: 7:49-51, col. 6:16-18]. Further, the sentence following the phrase in question in the preferred embodiment refers to "[t]his

continuing, lower voltage discharge of the second capacitor during the interval T2 to T3," which informs the court that the "previously initiated discharge" referred to in the preceding sentence was that of the second capacitor during the second time period. ['295 pat., col. 6:21-25]. Moreover, reading the phrase "to continue and maintain the previously initiated discharge," which is discussed in the context of time interval T2 to T3, to refer to the high voltage output resulting from the discharge of the first energy storage capacitor is inconsistent with the rest of the description of the preferred embodiment, which makes clear that time interval T2 to T3 involves the application of a "relatively low second capacitor voltage." ['295 pat., col. 6:16-20, col 7:35-62]. As such, the Court will not adopt Stinger's proposed construction of the disputed phrase. *See* CCS Fitness, 288 F.3d at 1366 (stating that the accused infringer cannot overcome the "heavy presumption" that a "claim term carries its ordinary and customary meaning" merely by "pointing to the preferred embodiment or other structures or steps disclosed in the specification").

Likewise, the Court will not adopt TASER's proposed construction. TASER proposes to replace the phrase "to maintain the current flow" with "to provide for the current flow"; that construction would replace "maintain" with "provide for." Initial reference to a general purpose dictionary establishes that "to support or provide for" is indeed one definition of the term "maintain." *See* MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 700 (10th ed.2001). However, other definitions of "maintain" include "sustain" and "to keep in an existing state," which are sufficiently different in nature to make reference to a general purpose dictionary relatively unhelpful. *See id*. Regardless, in the instant case, the context in which the phrase "to maintain the current flow" is used is instructive in determining the meaning of the disputed term. Phillips, 415 F.3d at 1314.

As discussed above, the disputed phrase refers to the current flow that is being driven across the air gap by the low voltage output generated during the second time period. As such, "maintain," as used in claims 2 and 40, does not, as Stinger contends, necessarily imply a continuity between the current flow as it exists in the first mode/time period and the current flow in the second mode/time period. FN1 Claims 2 and 40 state that during the second mode/time period, a low voltage output is generated across the first and second electrodes in order to maintain a current flow across the first and second electrodes and between the first and second contact points on the target so that the current flow through the target will cause involuntary muscle contractions and thereby immobilize the target. ['295 pat., col. 20:18-25, 24:50-56]. Thus, the current flow that exists in the second mode/time frame is provided for by the generation of a low voltage output across the first and second electrodes. And according to the disputed phrase, that current flow must then be maintained between the electrodes and the first and second contact points on the target during the second time period in order for the current flow to cause involuntary muscle contractions and immobilize the target.

FN1. The basic question is whether the disputed phrase requires an uninterrupted continuity in the current flow across an electric arc between the first and second modes/time periods. As discussed during the May 7, 2008 hearing, Figure 17 of the '295 patent shows that some voltage generated in the first mode/time period drops into the second mode/time period. (Dkt.# 95, p.86:14-17). However, that voltage is not continued throughout the second time period; instead, a second, lower voltage is generated during the second time period. (id., p.87:2-12). But what about the current flow and the electrical arc? In the first mode/time period, a high impedance state, which roughly is a ratio of large voltage to small current, exists and is broken down. (id., pp. 100:7-9, 117:16-24). Although somewhat unclear, it appears that in general, that breakdown will coincide with the formation of an electrical arc. Regardless, the breakdown enables the second mode/time period to operate in the inverse state, i.e., a low impedance state, which is a ratio of low voltage to large current. (id., p.117:16-24). Due to the creation of the low impedance state, a low voltage

output, rather than a high voltage output, is able to drive the current flow across the air gap and immobilize the target in the second mode/time period. (id., pp. 94-95). Although it is unclear whether an electrical arc is established by the low voltage output that drives the current flow across the air gap in the second mode/time period, it appears clear that current flow, which is simply the flow of electric charge, does exist in both the first and second modes/time periods. (id., p.107:17-23, p.116:20-22); 284. In simplistic terms, the difference is that the current is small during the first time period, and large during the second time period. But clearly the current that exists in the second mode is not exactly the same current that existed in the first mode; the current flow that exists in the state of high impedance during the first time period is expanded by a high voltage output in order to enable a large current flow driven by a low voltage output to exist in a state of low impedance during the second time period. (id., p.105:4-8, 16-23; pp. 106-07). Thus, to refer to " *the* current flow" is somewhat misleading when read out of context. However, when read in context with the preceding and subsequent phrases, it appears that although current must exist in both modes, no specific current flow must be maintained between the modes. Instead, what must be maintained, or sustained, is the state of low impedance throughout the second mode/time period, not necessarily a specific current flow. The disputed phrase does not prohibit the interruption of the current flow as long as that interruption does not destroy the state of low impedance or the flow of current necessary to immobilize the target.

In other words, the phrase "to maintain the current flow" is qualified by the subsequent phrase " *to enable* the current flow through the target to cause involuntary muscle contractions to thereby immobilize the target." ['295 pat., col.20:21-25] (emphasis added). In addition, the Court is informed by the previous phrase that the intended outcome of the first time period is " *to enable* current flow across the air gap at a lower voltage level" during the second time period. ['295 pat., col.20:17-19] (emphasis added). Reading the disputed phrase in this context, it appears that the current flow generated and/or driven by the low voltage output in the second mode must be maintained during the second time period such that the current flow maintains a state of low impedance and causes involuntary muscle contractions to immobilize the target. The fact that the current flow must be maintained so as to immobilize the target does not necessarily mean that the current flow must be continuous or uninterrupted. As TASER states, "[c]urrent flow sufficient to cause involuntary muscle contractions can be maintained during an interval even if the flow is interrupted or is not continuous" (Dkt. # 59, p.8; Counsel Decl. 7 para. 11, p.2); "immobilizing output current [can be delivered] as a series of pulses, rather than a continuous current flow." ['295 pat., col. 18:29-39]. Stinger does not contest these assertions.

Given the above discussion, the Court finds no reason to substitute "maintain" with "provide for" in the disputed phrase. In fact, reading the disputed phrase as "to provide for the current flow" seems to ignore the context in which the phrase is used in the asserted claims. The disputed phrase, as well as the subsequent phrase, relate to the entire second mode/time period; read in context, the current flow driven across the air gap in the second time mode is to be maintained such that the target is immobilized throughout the entire second time period. Construing the disputed phrase as "to provide for the current flow" does not necessarily capture this intent and thus is less instructive than simply retaining the word "maintain." In addition, nothing in the specification instructs the Court otherwise; the description of the preferred embodiment, and the figures/drawings it references, contemplates that the discharge of the second capacitor in the second mode will maintain a low impedance state and a current flow sufficient to maintain that state and immobilize the target until the end of the second time period (T3). ['295 pat., col. 6:26-33; FIGS. 4B, 5C, 6, and 8]. The word "maintain" is self-explanatory, and the Court finds that the phrase "to maintain the current flow" refers only to the current flow that is driven across the air gap in the second mode/time period and is not

necessarily limited to a continuous or uninterrupted flow, so long as a state of low impedance is maintained throughout the second mode/time period.

B. The '870 Patent

i. "grounded user of the weapon"

The term "grounded user of the weapon" appears in Claim 4 of the ' 870 patent. Claim 4 requires:

... a high voltage power supply for generated an output voltage delivered across the first and second contact points on the target to generate a positive voltage potential at one electrode and a negative voltage potential at the other electrode, thereby increasing the total voltage drop across a target while decreasing the maximum voltage potential between either electrode and a grounded user of the weapon.

['870 pat., col. 20:31-38]. The parties have agreed that positive voltage potential and negative voltage potential, as used in Claim 4 of the '870 patent, are both measured relative to ground. (Dkt. # 67, p.8; Dkt. # 95, p.135:10-13). The dispute here concerns the meaning of the term "ground." TASER argues that "grounder user of the weapon" means a "user coupled to a common reference conductor in the weapon." (Dkt.# 83, p.2). Stinger counters that "grounded user of the weapon" means "user coupled to earth." (Id.).

The term "ground," by itself, is a term that without context could refer to either a primary common reference ("circuit ground") or earth ground. (Dkt. # 95, p.150:2-5). The basic definition of "ground" includes both "an object that makes an electrical connection with the earth" or "a large conducting body (as the earth) used as a common return for an electrical circuit and as an arbitrary zero of potential," and "electric connection with a ground," (i.e., common reference point). *See* MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 513 (10th ed.2001). However, as TASER explains that "in E[lectronic] C[ontrol] D[evices] (as in battery-operated products generally) there is no expected connection to earth and no significant voltage measured with respect to earth. In ECDs, ground is not the earth but a common reference conductor (with zero electrical potential) built into the product." (Dkt. # 59, p.18; Counsel Decl. Ex 7 para. 21, p.3).

Importantly, the specification of the '870 patent describes an intended safety enhancement from using two secondary windings instead of a single secondary winding in an ECD. ['870 pat., col. 16:61-62]. As the specification states, if an ECD uses only one secondary winding, then the maximum voltage from one output electrode referenced to *primary weapon ground* can reach 50 KV. ['870 pat., col. 16:50-54]. However, the use of two secondary windings reduces the peak output terminal to ground voltage by fifty percent, from 50 KV to 25 KV, which reduces by more than a two to one ratio the risk that the user of the ECD will be shocked by the high voltage output pulses. ['870 pat., col. 16:55-61]. In other words, an ECD user may be shocked if the user inadvertently becomes coupled to the "primary weapon ground" (or common reference point), and the use of two secondary windings reduces the voltage of the electrodes referenced to primary weapon ground, thereby reducing the potential shock. (Dkt. # 59, pp. 18-19; *see* '870 pat., FIG 24). Thus, the reference in the specification to "primary weapon ground" indicates that "ground" refers to a primary common reference, not earth ground. (Dkt.# 95, p.141:9-13). Moreover, there is no mention of "earth" ground anywhere in the claim terms, specification or figures of the '870 patent. Further, as TASER points out, "[i]f the concept of ground in claim 4 were restricted to earth, the claim would not encompass the benefit explained in the patent or the embodiment of Figure 24." (Dkt.# 59, pp. 19-20).

However, Stinger asserts that although "the specification does refer to 'primary weapon ground' in defining the peak voltage of the circuit, the specification does not refer to 'primary weapon ground' in discussing the

'risk' to the 'user.' " (Dkt.# 67, p.9). And, according to Stinger, "[t]he risk to the user can only arise if the user is grounded to earth" because "[a] user in contact with only the primary circuit ground would receive no voltage." (Id.). But Stinger fails to explain this assertion or cite to anything in support of its contention that "ground," as used in the '870 patent, should be restricted to "earth" ground. TASER, on the other hand, notes that the specification never mentions "earth" ground or discloses a way to electrically connect the weapon's circuitry to earth ground. (Dkt. # 72, p.9; Dkt. # 95, p.138:23-25). TASER further contends that "[b]ecause all voltages in the circuit are relative to that primary weapon ground, the risk to the user of the weapon arises when the user becomes coupled to the primary weapon ground." (Id.; Dkt. # 95, p.139:7-14). The Court agrees and refuses to adopt a construction of the term "ground" that would exclude one of the figures in the patent. *See* MBO Labs, 474 F.3d at 1333 ("A claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct.") (internal quotation marks omitted). Therefore, the Court finds no reason to construe "grounded user of the weapon" to mean "user coupled to earth," and adopts TASER's proposed construction that the phrase "grounded user of the weapon" merely refers to a user coupled to a common reference conductor in the weapon.

C. The '262 Patent

i. "track date and time"

The term "track date and time" appears in two of the asserted claims of the ' 262 patent. Claims 1 and 13 require a microprocessor programmed to, among other things, "track date and time." ['262 pat., col. 7:49 and col. 8:62]. TASER argues that "track date and time" is self-explanatory and thus needs no construction. (Dkt.# 83, p.3). Stinger counters that "track date and time" means "store current, absolute date and time." (Id.).

Stinger contends that the specification of the '262 patent only describes an invention that keeps track of current, absolute date and time, such as 8:00 a.m. November 15, 2007. (Dkt.# 67, p.9). In support of its contention, Stinger cites to an example in the "Summary of the Invention" section of the '262 patent that states that "[t]he circuit includes a memory, keeps track of current time of day, keeps track of current date, receives the first signal to determine a first time, and responds to the first signal by recording current date and current time of day in the memory." ['262 pat., col. 2:37-41]. Stinger also notes that "Taser cites no example from the specification that excludes the use of current date and current time or defines any alternative method of calculating date and time." (Id., pp. 9-10). Further, Stinger points to the fact that Claim 6 requires a circuit that "keeps track of current time of day" and "current date," and Claim 9 requires "recording date and time of day." Stinger appears to argue that the specification and claim terms of the '262 patent reveal a definition given to the terms "track date and time" by the patentee that restricts the disputed term to "store current, absolute date and time."

TASER, on the other hand, argues that the terms "track date and time" are nontechnical, common words that do not require construction by the Court. (Dkt.# 59, p.22). TASER acknowledges that one example in the "Summary of Invention" refers to a circuit that keeps track of current time of day and current date in the memory, but also points out that the preceding example makes no mention of tracking current date or current time. As such, TASER asserts that Stinger's attempt to restrict the claim language with a limitation in only one of the examples in the specification is improper. In addition, TASER contends that the deliberate omission of the term "current" as a modifier of "date" and "time" from all but claim 6 of the patent is a strong indication that "date and time" in claims 1 and 13 are not necessarily limited to the present date and time. Further, TASER states that the fact that the specification does not define any alternative method of calculating date and time is irrelevant because "[t]here is no canon of claim construction that

holds that a clear limitation in a patent claim should be construed as narrowing it as much as possible until it conflicts with an example in the specification." (Dkt.# 72, p.10).

The Court finds that the phrase "track date and time" in Claims 1 and 13 of the '262 patent is relatively self-explanatory. *See* Brown v. 3M, 265 F.3d 1349, 1352 (Fed.Cir.2001) (claim term "or" required no elaborate construction). Although there are many ways to track date and time in a microprocessor-based circuit, one of which is to independently track current absolute date and time (Dkt.# 95, pp. 140:3-8, 144:18-21), there is nothing in the claims or specification of the '262 patent that lead the Court to impose limitations on the disputed phrase. While Claim 6 is restricted to keeping track of current time of day and current date, and Claim 9 is restricted to recording date and time of day for each occasion the weapon was operated, there is no such restriction placed on "track date and time" in Claims 1 and 13. Further, although one example in the Summary of the Invention describes an apparatus that keeps track of "current time of day" and "current date," another example describes an apparatus that merely keeps track of "date and time," without using the word "current." Further, the preferred embodiment merely states that "the memory in microprocessor retains a record of the date and time the weapon was fired." ['262 pat., col. 3:43-45]. As such, the Court finds no reason to adopt Stinger's proposed construction and impose the limitations "absolute" or "current" on the phrase "track date and time," as used in Claims 1 and 13. *See* Wilson Sporting Goods, 442 F.3d at 1329 (use of term "rigid insert" in one claim and a mere "insert" in another meant that the term "insert" "does not inherently carry a 'rigid' limitation"); Phillips, 415 F.3d at 1314 ("[T]he claim in this case refers to 'steel baffles,' which strongly implies that the term 'baffles' does not inherently mean objects made of steel.").

The Court agrees with TASER's expert's opinion that "tracking date and time means that you, through one way or another, have the ability to keep track of the date and the time. And that could be done directly or indirectly." (Dkt. # 95, pp. 144-45). There is nothing in the claims or specification that indicate otherwise. Indeed, "the '262 patent never mentions using an absolute date and time, never mentions using a real time clock, never discusses the use of any specific time system like GMT time." (Id., pp. 147-48). There is nothing to suggest that a person of skill in the art would have understood "track date and time" as anything other than a method of tracking data and time in "any way that an engineer would do in any circumstances." (Id., p.148:3-5). However, the Court agrees with Stinger to the extent that the disputed phrase requires that the process necessary to "track date and time" must be internal to the microprocessor that is discussed in Claims 1 and 13. (Dkt.# 95, p.153:14-20). The claim language clearly states that the microprocessor must be programmed "to track date and time"; the disputed phrase is thus restricted to the tracking of date and time in the programmed microprocessor. As such, the phrase "track date and time," as used in Claims 1 and 13, means the tracking of date and time in a program in a microprocessor through whatever means available to a person of skill in the art.

ii. "period of time"

The term "period of time" appears in one of the asserted claims of the '262 patent. Claim 11 requires: "The weapon of claim 9 wherein the period of time extends about 7 seconds." ['262 pat., col. 53-54]. TASER argues that "period of time" means "the predefined time of claim 9." (Dkt.# 83, p.3). Stinger counters that "period of time" is indefinite, i.e., there is no construction possible. (Id.).

Claim 11 of the '262 patent depends from Claim 9. (Dkt. # 59, p.25; Dkt. # 67, p.11). Claim 9 provides, in pertinent part, "means for discontinuing provision of the current in accordance with lapse of a predefined period." ['262 pat., col. 8:48-49]. According to TASER, the term "period of time" should be construed to refer to the "predefined period" in Claim 9, the period after which the current being supplied to a target is

discontinued. Stinger, on the other hand, argues that the term "period of time" in Claim 11 does not appear in Claim 9 and thus has no explicit antecedent that matches the term "predefined period" in Claim 9. However, "the failure to provide explicit antecedent basis for terms does not always render a claim indefinite." Energizer Holdings, Inc. v. Int'l Trade Comm'n, 435 F.3d 1366, 1370-71 (Fed.Cir.2006) (internal quotation marks omitted). In addition, there is nothing to suggest that a person of skill in the art would not understand that the "period of time" referred to in dependent Claim 11 must be the "predefined period" recited in Claim 9. *See* Philips, 415 F.3d at 1313 ("[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification."). Further, even if the Court did conclude, after applying all the available tools of claim construction, that the disputed term in Claim 11 is ambiguous, Stinger's argument would not overcome the presumption of validity under 35 U.S.C. s. 282. As such, the Court finds that "period of time" in Claim 11 refers to the predefined period of claim 9.

Accordingly,

IT IS HEREBY ORDERED that the disputed claims of the '295 patent are construed as follows: (1) "to ionize the air within the air gap" refers to the formation of ions within the air gap as a result of the high voltage, short duration output across the first and second electrodes during the first mode/time period; (2) "to maintain the current flow" is self-explanatory, and refers to the maintenance of the current flow that is driven across the air gap by the low voltage output in the second mode/time period and is not limited to a continuous or uninterrupted current flow to the extent that the current flow is able to maintain a state of low impedance throughout the second mode/time period.

IT IS FURTHER ORDERED that the disputed claim of the '870 patent is construed as follows: "grounded user of the weapon" refers to a user coupled to a common reference conductor in the weapon.

IT IS FURTHER ORDERED that the disputed claim terms of the '262 patents are construed as follows: (1) "track date and time" means the tracking of date and time in a program in a microprocessor through whatever means available to a person of skill in the art at the time of the invention; (2) "period of time" means the predefined period recited in Claim 9.

D.Ariz.,2009.
Taser Intern. Inc. v. Stinger Systems, Inc.

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