IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

BUSHNELL, INC., et al.,	)	
Plaintiffs,	)	
v.	)	**CIVIL ACTION**
THE BRUNTON COMPANY, et al.,	)	**No. 09-cv-2009 KHV/JPO**
Defendants.	)	

MEMORANDUM AND ORDER

Under 35 U.S.C. § 101 et seq., Bushnell, Inc. and Laser Technology, Inc. ("LTI") bring suit against The Brunton Company, Lanshuo Photoelectric Science and Technology Co. Ltd. and LS Global LLC d/b/a I-On Optics. Under 35 U.S.C. §§ 283-285, plaintiffs allege infringement of five U.S. patents: LTI patent Nos. 5,612,779, 5,652,651, 6,057,910 and 6,226,077 and Bushnell patent No. 5,926,259. On November 24, 2009, the Court sustained plaintiffs' Renewed Motion For A Preliminary Injunction (Doc. #95) filed September 11, 2009. See Doc. #118. Specifically, the Court entered a preliminary injunction, effective November 25, 2009, enjoining Brunton and Lanshuo from importing and selling Brunton Echo 440 laser rangefinders and Lanshuo models LS010B, LS011, LS011A, LS012, LS013 and LS013D. This memorandum and order sets forth the basis for the Court's ruling.

Procedural Background

Plaintiffs' original complaint, filed January 7, 2009, alleged that Bushnell owned patent No. 5,926,259 (the "'259 patent") and that LTI and non-party Kama-Tech owned the four LTI patents. On April 6, 2009, plaintiffs filed a motion for a preliminary injunction to enjoin Brunton and Lanshuo from importing and selling rangefinders which allegedly infringe the LTI patent No.

5,612,779 (the "'779 patent") and the '259 patent. The Court scheduled a hearing for April 29, 2009. Two days before the hearing, defendants filed a motion to dismiss for lack of subject matter jurisdiction and failure to join a required party under Rule 19, Fed. R. Civ. P. See Doc. #33, filed April 27, 2009; see also Memorandum In Support Of Defendants' Motion To Dismiss Plaintiffs' Complaint (Doc. #38) filed April 29, 2009 (asserting, inter alia, that plaintiffs lacked standing to bring suit). On April 29-30 and June 8, 2009, the Court conducted a hearing on the preliminary injunction motion. Each side presented expert testimony and other evidence.

On August 31, 2009, the Court sustained defendants' motion to dismiss. See Docs. #88, 89. The Court found that plaintiffs lacked prudential standing because Kama-Tech was not a party to the suit and a Bushnell subsidiary, not Bushnell, owned the '259 patent at the time when plaintiffs filed suit.[1] See Memorandum And Order (Doc. #89) filed September 3, 2009.[2] The Court also granted Bushnell leave to amend the complaint to allege that it acquired the '259 patent after it filed suit, and thus obtained constitutional standing from the date of the amended complaint. Id. at 20 n.19.

On September 8, 2009, Kama-Tech assigned its entire interest in the LTI patents to LTI, and LTI is now the sole owner of the LTI patents. Plaintiffs then sought leave to amend their complaint to identify LTI as the sole owner of the LTI patents. On September 9, 2009, the Court sustained plaintiffs' motion to amend. That same day, plaintiffs filed a second amendment complaint. See Doc. #94. On September 11, 2009, they filed Plaintiffs' Renewed Motion For A Preliminary Injunction (Doc. #95).[3]

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[1] The Court concluded that since LTI and Bushnell had constitutional standing at the inception of the suit, they could attempt to cure the defect in prudential standing defect.

[2] The Court also overruled as moot plaintiffs' motion for a preliminary injunction.

[3] In support of their motion, plaintiffs state that "[t]he prior briefing . . . and supporting (continued...)

Factual Background

For many years, LTI and others have manufactured rangefinders for professional sport and hunting uses. The rangefinders emit laser light in pulses and measure the amount of time it takes for the pulses to travel to a target and return. The rangefinders then convert the time measurement into a distance to the target. In the mid-1990's, such rangefinders sold for thousands of dollars at retail. In 1994, Bushnell asked LTI to design a laser rangefinder that could retail for $500 or less. LTI agreed to research and develop the rangefinder, and Bushnell agreed to pay for its research and to develop a market for consumer rangefinders.

LTI identified significant technical hurdles to developing a consumer rangefinder: it had to be much lighter and smaller and use less expensive electronics than professional rangefinders.[4] Each of the changes made it more difficult for the rangefinder to detect reflected signals because the signals were weaker. Weak reflected signals create problems because random signals – called noise – also exist in the environment. If the reflected signal is not significantly stronger than the noise, the device must distinguish between noise and true reflected signals. The nature of hunting and golfing contributes to the noise problem. Targets (such as deer or trees) are not highly reflective, and brush or rain may partially obscure the return signals and cause false reflections. Therefore, to spot a target such as deer, the laser detector must be sensitized to pick up weaker signals. When the laser

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[3](...continued)
evidence, including evidence and argument presented at the hearing on the original motion, require no supplementation." See Plaintiffs' Memorandum In Support Of Their Renewed Motion For A Preliminary Injunction (Doc. #96) filed September 11, 2009, at 2, 6 (defendants continue to sell accused laser rangefinders with no change in design and continued presence of infringing goods "threatens further irreparable harm in the form of market and price erosion, as well as the other harms originally briefed").

[4] At the time of the patents at issue here, professional laser rangefinders used expensive optical lenses and complex electronics and cost thousands of dollars. Such laser range finders were the size of a shoe box, required an external battery and weighed about four pounds.

detector is sensitized to pick up weak return signals, it also becomes sensitized to weak background noise which is created electronically in the laser rangefinder, to ambient light and to unwanted atmospheric or object reflections. Thus, a key problem is compensating for the noise in the system.

LTI's Chief Technology Officer, Jeremy Dunne, coordinated the process which led to the developments claimed in the '779 and '259 patents. The '779 patent, entitled "Automatic Noise Threshold Determining Circuit and Method for a Laser Range Finder," overcomes the noise issues with two separate techniques. First, the automatic noise threshold circuit automatically adjusts so that the laser pulse receiver sensitivity is increased or decreased based on the level of noise which it detects. Second, if a certain number of pulses give the same distance result, the unit determines that the result is the measured range, attributes the other pulse ranges to noise and disregards them. The '259 patent, entitled "Laser rangefinder with target quality display," issued in the name of Jeremy Dunne and Stephen Bamberger, is assigned to Bushnell. The '259 patent discloses a method of displaying the reflective quality of a target as a bar graph, and claims a feature which allows the user to select different sensitivity modes for the rangefinder.

Over the last fifteen years, Bushnell has invested more than $2.2 million in research and development for new rangefinders. Bushnell has paid LTI more than $14.6 million in royalties for sale of rangefinders. Bushnell reinvests approximately five per cent of its laser rangefinder revenue in developing and maintaining its market position for laser rangefinders. Bushnell has invested more than 20 million dollars in developing a market for laser rangefinders. Gyori Dec. ¶ 17.

Bushnell has sold two million laser rangefinder units covered by the '779 and '259 patents, for gross revenue of $395,000,000. Gyori Dec. ¶ 7. In 2008, Bushnell generated approximately $53,000,000 in laser rangefinder sales in the United States, including $11.7 million in sales of the Sport 450. Many large retail chains sell Bushnell laser rangefinders, including Academy, Bass Pro

Shops, Cabela's, Dick's Sporting Goods, Gander Mountain, Sportsman Warehouse and Wal-Mart. Smaller golf and hunting specialty stores also sell Bushnell laser rangefinders.

LTI and Bushnell have a field limited exclusive agreement for sports optics products below a certain retail price. Within this field, LTI only develops consumer laser rangefinder products for Bushnell, and Bushnell only sells products developed by LTI. Bushnell pays LTI to design new products, and pays royalties for the use of LTI patented technology in laser rangefinders. To preserve the revenue generated by plaintiffs' laser rangefinders, Bushnell and LTI have agreed not to license the patents to new entrants in the marketplace.

Lanshuo manufactures and, in the United States, Brunton sells a recently introduced laser rangefinder called the Echo 440. By February of 2008, Bushnell had learned of Brunton's Echo 440. Plaintiffs were concerned about patent infringement by Brunton, but Brunton did not seem like a serious threat. At the time, Brunton was selling the Echo 440 on the internet for $180. Bushnell's low price unit, the Sport 450, was retailing for $149. Given its reputation and relationships in the market, Bushnell did not think that the Echo 440 could compete effectively with its low price unit. Bushnell therefore raised patent infringement concerns with Brunton, but did not begin legal proceedings.

In November of 2008, Bushnell learned that Bass Pro Shop was advertising Brunton's Echo 440 unit at a retail price of $99 – about $50 below Bushnell's lowest price unit.[5] Gyori Dec. ¶¶ 10-11. Before 2008, Bass Pro had sold Bushnell's Sport 450 as its holiday season "opening price point" unit (its lowest price laser rangefinder). Id. Typically, Bass Pro gives premium advertising placement and shelf space to the opening price point unit. Id. During the holiday season in 2008,

[5] The retail price of the Echo 440 was well below anything Bushnell had seen in the market.

Brunton's Echo 440 unit dominated the opening price point position. As a result, Bushnell lost up to $1 million in gross revenue.[6] On January 7, 2009, immediately after the holiday season ended, plaintiffs filed this lawsuit. Bushnell then contacted Brunton to discuss the possibility of settlement. By the beginning of March of 2009, Bushnell had determined that Brunton was not willing to discuss stopping sales of the Echo 440. On April 13, 2009, plaintiffs filed their first motion for a preliminary injunction. At the preliminary injunction hearing (and by affidavit), Phil Gyori, Bushnell's executive vice president of marketing, testified how the Echo 440 had affected Bushnell's business.

Bass Pro has told Bushnell that if it does not lower its price in response to Brunton's, Bass Pro will not purchase the Sport 450 for its holiday season promotion in 2009. Bass Pro has also told Bushnell that even if Bushnell matches Brunton's price, Bass Pro will split its purchases of low end units evenly between Bushnell and Brunton.

Brunton has approached numerous other Bushnell accounts including its highest volume account, Cabela's.[7] Bushnell estimates that if Brunton continues to sell the Echo 440, Bushnell will lose $3 million to $5 million in sales this year.

In response to sales of the Echo 440, Bushnell has reduced the price of the Bushnell Sport 450 unit by 17 per cent.[8] Gyori Dec. ¶¶ 14-15. Gyori opines that it will be "devastating" if Bushnell

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[6] Since the end of 2008, Bass Pro has continued to sell the Echo 440 as its low-end unit. Gyori Dec. ¶ 11. Bass Pro has transferred to the Echo 440 a lot of shelf space formerly devoted to the Sport 450.

[7] Some time before April of 2009, Academy (a Texas retailer) informed Bushnell that it may sell Brunton units instead of Bushnell units. Plaintiffs have not presented evidence whether Academy has begun to do so.

[8] Bushnell has done so despite a four per cent cost increase that it normally would have passed on to its customers.

is forced to reduce the price of all of its units by 17 per cent. He testified that the market will not allow Bushnell to raise prices dramatically again to recoup losses, and that such losses are not easily calculated.

Gyori testified that a significant reduction in Bushnell's income stream could require the company to lay off employees and default on bank covenants, which in turn could result in higher interest payments for Bushnell to continue operations. Gyori also opined that further loss of sales will affect Bushnell's ability to invest in R&D and marketing investments, which will hinder its ability to recoup investments.

Gyori stated that Echo 440 has caused a significant loss of good will to Bushnell in the marketplace. For example, he asserts that Bushnell's customers are questioning when it will sell a similarly low-priced unit and why Bushnell's higher end units are also not similarly priced. As a result, Bushnell's reputation as both an innovator and a competitively priced producer of quality products has been damaged.

Gyori testified that Bushnell has identified several new market entrants which may be using the Bushnell/LTI technology, including parties in this lawsuit, I-On Optics and Sightmark, as well as Mahco, NC Star and Optisan. Gyori testified that each of them appears poised to try to take market share from Bushnell by copying its patented technology and undercutting its prices. Gyori opines that if the Court does not enjoin sales of the Brunton Echo 440, other competitors may begin to buy and sell laser rangefinders produced by Lanshuo. He contends that success by Brunton is likely to embolden other entities to sell the Lanshuo offering and leverage their relationships in the marketplace to cut into Bushnell's market share. Unnamed retailers have told Bushnell that if Brunton continues to sell the Echo 440, they will be forced to purchase lower priced units to compete with the Bass Pro entry.

Gyori opined that dollar for dollar, displacement of Bushnell's Sport 450 would damage Bushnell more than it will possibly profit Brunton.[9]

LTI President and Chief Operating Officer Miller testified and provided affidavit evidence on how sales of the Echo 440 impacted LTI. LTI earns a significant part of its total revenue from royalty and other agreements with Bushnell.[10] Thus, as Bushnell sales drop, LTI revenues drop and it can devote fewer resources to R&D of new products. Reduced revenue negatively impacts LTI's ability to be a significant innovator in the market.

Miller opined that infringement by Brunton and Lanshuo is likely to induce other potential infringers to believe that LTI's patent portfolio is not an impediment to market entry. Unnamed companies have approached LTI with concerns regarding potential patent infringement and suggested development agreements with LTI. When LTI has refused those requests because of its exclusive arrangement with Bushnell, the companies have not entered the market. Miller believes that if Brunton continues to successfully sell its allegedly infringing and unlicensed units, these other entities are likely to conclude that they can sell competitive units that employ LTI technology.[11]

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[9] Gyori opined that if Brunton's continued infringement requires Bushnell to reduce its prices by 17 to 30 per cent (the reduction required to match Brunton's price),the damages would exceed the gross sales of Brunton in this category. Gyori Dec. ¶ 23.

[10] Although plaintiffs have not revealed how much LTI receives in royalties for the Sport 450, it logically would be only a fraction of the revenue that Bushnell receives for Sport 450 sales, which was $11.9 million in 2008.

[11] Previously LTI has successfully defended its patent portfolio – including some of the patents at issue here – against Nikon and Asia Optical. See Laser Tech., Inc. v. Nikon, Inc., 215 F. Supp.2d 1135 (D. Colo. 2002). Miller testified that the litigation was a major distraction and delayed significant product development during the three years of the lawsuit. Further, LTI expended millions in legal fees and costs, and suffered lost opportunity because of the distractions and drain on key resources. The patents were found to be valid but Miller questions whether LTI recouped the real harm which it suffered. LTI asserts that if infringers are allowed to continue in the marketplace, its past investment may be lost and a further drain on LTI resources and product

(continued...)

Moreover, if infringers sell low-end units at $99, Miller thinks that this could directly impact LTI sales in the professional market.[12]

Lanshuo is a Chinese corporation with its principal office and primary place of business in China. Lanshuo's chairperson and manager, Zhu Jie, provided affidavit information concerning the company's financial information. In 2008, Lanshuo generated more than 50 percent of its revenue from the sale of laser rangefinders in the United States. See Doc. #101-4, at 1-2. Since plaintiffs filed their complaint, Lanshuo sales have dropped significantly; 2009 sales through the middle of September were 80 per cent lower than sales in 2008. Due to the downturn in business, Lanshuo has lost more than 15 per cent of its employees. Jie also states that unnamed customers have declined to purchase Lanshuo products because of this litigation and the threat of an injunction.

Preliminary Injunction Standards

The purpose of a preliminary injunction is to preserve the status quo pending the outcome of the case. Tri-State Generation & Transmission Ass'n, Inc. v. Shoshone River Power, Inc., 805 F.2d 351, 355 (10th Cir. 1986). The Patent Act provides that injunctions "may" issue "in accordance with the principles of equity." 35 U.S.C. § 283. A preliminary injunction is "extraordinary" relief. Abbott Labs. v. Andrx Pharm., Inc., 452 F.3d 1331, 1335 (Fed. Cir. 2006). The decision to grant or deny injunctive relief is an act of equitable discretion by the district court. eBay, Inc. v. MercExchange, L.L.C., 547 U.S. 388, 391 (2006).

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[11](...continued)
development efforts is likely.

[12] For example, LTI's lowest price professional product, True Pulse, retails for $699. Miller believes that Brunton's continued presence at a retail price of $99 may cause price pressure on the True Pulse because there is a "tipping point" at which even professional users will accept inaccuracies that may exist as a result of lower cost circuitry. LTI would then have to respond in its sales of its own professional grade laser rangefinders by reducing the price.

As the party moving for injunctive relief, plaintiffs must establish that (1) they are likely to succeed on the merits, (2) they are likely to suffer irreparable harm without preliminary relief, (3) the balance of equities tips in their favor and (4) an injunction is in the public interest. See Winter v. Natural Res. Defense Council, Inc., 129 S.Ct. 365, 374 (2008); see also Tri-State, 805 F.2d at 355.

Analysis

As a preliminary matter, defendants assert that the Court should not reach the renewed motion for a preliminary injunction because plaintiffs' actions preclude them from invoking the Court's equitable powers. Brown-Crummer Inv. Co. v. City of Purcell, 128 F.2d 400, 404 (10th Cir. 1942) (court of equity is forum of conscience and demands that those seeking relief come with "clean hands and right conduct"). Specifically, defendants assert that plaintiffs did not conduct a proper pre-suit inquiry and that they were not candid with the Court regarding ownership of the patents.

In ruling on plaintiffs' original motion for a preliminary injunction, the Court determined that Bushnell had incorrectly alleged that it owned the '259 patent. See Memorandum and Order, (Doc. #89) at 9 ("Plaintiffs essentially admit that Bushnell did not own the '259 Patent when it filed suit on January 7, 2009."). Defendants point out that plaintiffs were aware of the alleged infringement since at least February of 2008, and that they had ample time to determine who owned the '259 patent before they filed suit on January 7, 2009. They also note that although they filed a motion to dismiss which pointed out Bushnell's lack of ownership on April 27, 2009, Bushnell proceeded with its motion for preliminary injunction without disclosing its lack of standing at the hearing on April 29, 2009.

The Court agrees that plaintiffs should have proceeded more cautiously in filing the original complaint. The Court finds that the above conduct, standing alone, does not preclude the equitable remedy of a preliminary injunction.[13]

Defendants also argue that the Federal Rules of Civil Procedure do not provide for renewal of a motion which the Court has denied, and that plaintiffs must receive leave of Court to renew their motion. See Century Laminating, LTD. v. Montgomery, 595 F.2d 563, 565 (10th Cir. 1979); (Hershberger v. Blewett, 55 F. 170, 172 (D.C. Cir. 1893). Defendants point out that under D. Kan. Rule 15.1, a motion "for leave to file a pleading or other document that may not be filed as a matter of right shall set forth a concise statement of the . . . leave sought to be allowed with the proposed pleading attached." D. Kan. Rule 15.1. Defendants assert that plaintiffs have not followed Rule 15.1 and the Court should therefore reject the renewed motion as improvidently filed. Defendants' argument is not well-taken. The Court overruled plaintiffs' original motion for a preliminary injunction as moot because they lacked standing. The Court directed plaintiffs to file an amended complaint, and they did so. Plaintiffs then received permission to file a second amended complaint, which addressed the standing problem as to the LTI patents and the '259 patent. The renewed motion for injunctive relief asks the Court to address issues which the Court did not reach in ruling on the first motion, and plaintiffs did not need leave of Court to file it. The Court therefore addresses the merits of plaintiffs' renewed motion.

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[13] This conduct does, however, bear on whether plaintiffs delayed seeking the requested preliminary injunction – a matter which the Court addresses below in considering the issue of irreparable harm.

I. Substantial Likelihood Of Success On Merits

Standard

With regard to the first factor – a likelihood of success on the merits – the moving parties must show that "in light of the burdens and presumptions that will inhere at trial," (1) they will likely prove that defendants infringed the patent, and (2) they will likely withstand the non-moving party's challenges, if any, to the validity and enforceability of the patent. See Titan Tire Corp. v. Case New Holland, Inc., 566 F.3d 1372, 1376 (Fed. Cir. 2009) (citing Gonzales v. O Centro Espirita Beneficente Uniao do Vegetal, 546 U.S. 418, 429 (2006) (burdens at preliminary injunction stage track burdens at trial)). With regard to likelihood of success, the Federal Circuit recently summarized the analysis of the factor in a patent case at the preliminary injunction stage as follows:

> [T]he trial court, after considering all the evidence available at this early stage of the litigation, must determine whether it is more likely than not that the challenger will be able to prove at trial, by clear and convincing evidence, that the patent is invalid. We reiterate that the "clear and convincing" standard regarding the challenger's evidence applies only at trial on the merits, not at the preliminary injunction stage. The fact that, at trial on the merits, the proof of invalidity will require clear and convincing evidence is a consideration for the judge to take into account in assessing the challenger's case at the preliminary injunction stage; it is not an evidentiary burden to be met preliminarily by the challenger.
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> If the trial court is persuaded, then it follows that the patentee by definition has not been able to show a likelihood of success at trial on the merits of the validity issue, at least not at this stage. This decision process, which requires the court to assess the potential of a "clear and convincing" showing in the future, but in terms of what is "more likely than not" presently, rests initially in the capable hands and sound judgment of the trial court.

Titan, 566 F.3d at 1379-80.

As noted, plaintiffs must show "in light of the presumptions and burdens that will inhere at trial on the merits" that (1) they will likely prove infringement (2) their infringement claim will

likely withstand defendants' challenges to the validity and enforceability of the patents. See id. at 1376. Defendants deny infringement and in the alternative, assert that the '779 and '259 patents are invalid for indefiniteness and for obviousness, and that '259 patent is unenforceable under the doctrine of equitable estoppel.[14]

A. Infringement

Plaintiffs assert that the Echo 440 infringes claims 11, 18, and 19 of the '779 patent, and claims 22 and 24 of the '259 patent. These allegations of infringement raise the following questions about the Echo 440: (1) whether it includes a timer to calculate distance based on time of flight; (2) whether it contains an automatically adjusting noise threshold circuit; (3) whether it matches return pulses and discards nonmatching pulses; (4) whether it calculates target quality by comparing the number of returned pulses with the number of emitted pulses; and (5) whether it contains a selector for the user to chose a sensitivity mode and then displays that mode.

Proof of infringement requires construction of the patent claims to determine their scope and comparison of the construed claims to the accused device. Elbex Video, Ltd. v. Sensormatic Elecs. Corp., 508 F.3d 1366, 1370 (Fed. Cir. 2007); see Markman v. Westview Instruments, Inc., 517 U.S. 370, 372 (1996) (construction of claims is question of law for court); Bell Atl. Network Servs. Inc. v. Covad Commc'ns Group, Inc., 262 F.3d 1258, 1267 (Fed. Cir. 2001) (comparison of properly construed claims to accused device is question of fact).

Claim construction begins by considering the language of the claims themselves. See Phillips v. AWH Corp., 415 F.3d 1313-14 (Fed. Cir. 2005) (en banc). In construing claim terms, the Court should generally give terms their ordinary and customary meaning; "the meaning that the term

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[14] In passing, defendants also argue that the '259 patent is invalid because it includes a means plus function claim. As plaintiffs point out, however, defendants do not set out any analysis of this assertion and the Court does not address it.

would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Id. at 1313. "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Id. The specification is the single best guide to the meaning of a disputed term. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996); see Phillips, 415 F.3d at 1315 (specification is primary basis for construing claims).

In addition to examining the intrinsic evidence, the Court may consider certain extrinsic evidence, "including expert and inventor testimony, dictionaries, and learned treatises." Markman, 52 F.3d at 980. While extrinsic evidence may be useful in shedding light on the relevant art, it is less significant than the intrinsic record in determining the "legally operative meaning of disputed claim language." C.R. Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 862 (Fed. Cir. 2004) (quoting Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n, 366 F.3d 1311, 1318 (Fed. Cir. 2004)). A court should also consider the patent prosecution history, Phillips, 415 F.3d at 1317, and may rely on dictionary definitions "so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents," id. at 1322-23.

At the hearing, the Court heard expert testimony regarding the meaning and scope of the terms in the claims. Dr. Mark Horenstein, Professor of Electrical Engineering at Boston University, testified on behalf of plaintiffs. Dr. Duncan Steel, Professor of Electrical and Computer Engineering and Physics at the University of Michigan, testified on behalf of defendants. Both experts are eminently qualified to testify on the subject of laser rangefinders. See Plaintiffs' Hearing Exhibit 17 (Dr. Horenstein's Vitae); Defendants' Hearing Exhibit 400 (Dr. Steel's Vitae). The experts' testimony has assisted the Court's understanding of the patents. See Markman, 52 F.3d at 981.

Before proceeding to the infringement analysis, the Court construes each contested claim. For the most part, for purposes of this motion, the Court adopts plaintiffs' proposed claim construction. Defendants note Dr. Steel's testimony that the Echo 440 "operates in a fundamentally different manner than that described in the '779 or the '259 Patents," and assert that regardless how the Court construes the claims, plaintiffs have no likelihood of success. See Defendants' Response (Doc. #42) at 15.

1. '779 patent claims 18 and 19

a. Preliminary Claim Construction

Claim 18 of the '779 patent recites as follows:

> An automatic noise threshold circuit for use in a laser rangefinder, comprising:
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> a laser light receiver for generating an electrical signal in response to a received light signal, said received light signal containing both signal and noise light pulses;
>
> and a circuit for automatically adjusting a noise threshold of said laser light receiver to a level at which said laser light receiver produces an output from said noise light pulses having a constant pulse firing rate.

'779 Patent, Claim 18 (emphasis added).

In Laser Technology, Inc., v. Nikon, Inc., 215 F.Supp.2d 1135 (D. Colo. 2002), the United States District Court for the District of Colorado interpreted the underlined language to mean "[a] circuit consisting of a feedback loop composed in part of diode 316 [from Figure 8 of the '779 patent] that adjusts a noise threshold of a laser light receiver to a level at which a laser light receiver produces an output from noise light pulses having a constant pulse firing rate."[15] Id. at 1141.

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[15] Claims 18 and 19 of the '779 patent are directed to the invention of employing an automatic noise threshold circuit. The automatic noise threshold circuit of the '779 patent automatically adjusts so that the laser pulse receiver sensitivity is increased or decreased based on (continued...)

Plaintiffs ask the Court to adopt the construction of claim 18 which the court articulated in Laser Technology. Defendants assert that the Court should not adopt that claim construction because it preceded the Federal Circuit opinion in Phillips, which allegedly rewrote the law of patent claim construction. In fact, Phillips reaffirmed many established canons of claim construction, while cautioning courts to minimize use of dictionary definitions. See Phillips, 415 F.3d at 1319-21 (specification is "single best guide" to meaning of disputed term). Defendants, however, do not assert that Laser Technology improperly relied upon dictionaries. Furthermore, the Court may give patent litigation substantial weight. See Hybritech v. Abbott Labs., 849 F.2d 1446, 1452 (Fed. Cir. 1988). The Court therefore adopts the claim construction set out in Laser Techonology.

Claim 19 of the '779 patent is dependent on claim 18, and recites as follows:

> The automatic noise threshold circuit of claim 18, wherein said circuit for automatically adjusting a noise threshold of said laser light receiver comprises,
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> a diode connected to receive an output of said laser light receiver, and a capacitor connected to said diode to be charged by said output, said capacitor operating to produce a threshold feedback voltage related to a number of noise pulses in said output.

Plaintiffs assert that claim 19 adds the further requirement that the circuit set out in claim 18 contains a capacitor connected to the diode and that the capacitor is charged by the output from the laser light receiver, and produces the threshold feedback voltage related to the number of noise pulses in the output in the feedback loop. Dr. Horenstein testified that in the disclosed patent embodiment, the diode and capacitor operate together so that the more noise in the system, the higher the threshold voltage becomes. The unit is thus desensitized so a stronger return signal is

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[15](...continued)
the noise that is being detected. By making this sensitivity adjustment, the circuit by analogy sets the volume on the receiver to maximize its ability to detect reflected signals without drowning out the system with noise signals.

required in order to be identified as a true return pulse. The converse is also true: less noise means weaker return signals will be identified as return pulses.

Defendants assert that independent claim 18 and dependent claim 19 are invalid and indefinite under 35 U.S.C. § 112, which provides that "[t]he 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 "definiteness" requirement is to ensure that claims are written in a way which gives notice of the extent of the legal protection which the patent affords, so that interested members of the public, e.g., competitors of the patent owner, can determine whether they infringe. Oakley, Inc. v. Sunglass Hut Int'l, 316 F.3d 1331, 1340 (Fed. Cir. 2003). Defendants assert that one cannot ascertain the metes and bounds of claim 18 and claim 19 of the '779 patent. Specifically, they argue as follows:

> (i) the phrase "a laser light receiver for generating an electric signal in response to a received light signal" is unclear as to the source of the received light signal.
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> (ii) the phrase "said received light signal containing both signal and noise light pulses" is unclear whether the noise light pulses in the received light signal are intentionally created or unintentional due to environmental factors or both.
>
> (iii) the phrase "and a circuit for automatically adjusting a noise threshold of said laser light receiver to a level at which said laser light receiver produces an output from said noise light pulses having a constant pulse firing rate" is unclear how the circuit for automatically adjusting a noise threshold of the laser light receiver actually adjusts the noise threshold of the laser light receiver to a level in which the laser light receiver produces an output from the noise light pulses having a constant pulse firing rate. In addition, the relationship between the output having a constant pulse firing rate and the noise threshold of the laser light receiver is not specified.

Dr. Horenstein testified, however, that a person having ordinary skill in the art would have no difficulty understanding claims 18 and 19. His detailed explanation of the technology claimed in the '779 patent supports this conclusion. See Hearing Transcript at 45, 57. Further, the District Court of Colorado found on summary judgment that claim 18 was not invalid for indefiniteness. See Laser

Tech., 215 F.Supp.2d at 26. The fact that that court was able to construe claims 18 and 19 demonstrates that the claims are not indefinite.

b. Comparison of claims 18 and 19 of the '779 patent to the Echo 440

Dr. Horenstein testified that the circuitry in claims 18 and 19 operates identically in the disclosed patent embodiment and the Echo 440. The diode and capacitor operate together so that as system noise increases, the threshold voltage also increases. This "desensitizes" the unit so that to be identified as a true return pulse, a stronger return signal is required. Conversely, less noise means that the system will identify weaker return signals as a return pulse. This aspect of the feedback loop is nearly identical in circuit elements used and the connectivity of those elements to the disclosed feedback loop. See '779 patent, Figs. 3 and 8. Dr. Horenstein identified nearly identical circuitry in the Echo 440 which performs a function identical to the preferred embodiment of the claimed invention. Dr. Horenstein experimentally confirmed that the accused circuitry operates to create a "constant pulse firing rate." Plaintiffs have shown a substantial likelihood that they will establish that the Echo 440 infringes claims 18 and 19 of the '779 patent.

2. '779 patent claim 11

Claim 11 of the '779 patent recites as follows:

> A method for discriminating between an actual return-reflected signal and associated noise in a signal receiving section of a signal transmitting device, the method comprising the steps of:
>
> transmitting a series of signal pulses to a target;
>
> receiving a number of reflected signal pulses from said target, said reflected signal pulses including both noise and actual return-reflected signal pulses;
>
> assigning a pulse value for each of said reflected signal pulses with respect to said series of signal pulses transmitted to said target [1]

> comparing each of said assigned pulse values with other ones of said assigned pulse values; [2]
>
> continuing to perform said comparing step until a predetermined number of said assigned pulse values coincide within a specified precision; and [2]
>
> determining said actual return signal to be represented by said predetermined number of said assigned pulse values. [2]

a. Preliminary Claim Construction

As to the claim language identified as [1], the court in Laser Technology found that the "[p]ulse value should be construed to mean a value identifying time-of-flight data, including noise and signals reflected from the target, that provides information sufficient to permit correlation of the received signal with other received signals to determine which of the received signals represents the actual return or target-reflected signal, as opposed to random noise signals." 215 F. Supp. 2d at 1151.

The court in Laser Technology interpreted the disputed claim language identified as [2], to mean the following:

> Comparison of pulse-value – both noise and target – continually until a large enough number of pulse values is gathered that falls within a specific, limited degree of variation. The comparison is not necessarily an immediate one. The actual target signal represents the distance from the rangefinder to target. It corresponds to the pulse values within that specifiied, limited degree of variation. The target signal is associated with the 'matching' pulse values that correspond within the specified limit.

215 F. Supp. 2d at 1154.

Defendants assert that Claim 11 is invalid and indefinite because one cannot ascertain the metes and bounds of the invention. Specifically, defendants allege as follows:

> (i) the term "signal transmitting device" is vague, and could describe many types of devices, such as a sonar device, an ultrasound device, or a radar device.

(ii) the phrase "transmitting a series of pulses to a target" is unclear as to what type of pulses are transmitted, i.e. sound or light.

(iii) the phrase "receiving a number of reflected signal pulses from said target, said reflected signal pulses including both noise and actual return-reflected signal pulses" is unclear whether the reflected signal pulses are received in the signal receiving section of the signal transmitting device, or in another portion of the signal transmitting device, or by a different device altogether.

(iv) the phrase "assigning a pulse value for each said reflected signal pulses with respect to said series of signal pulses transmitted to said target" is unclear as to how the pulse value is assigned, what the pulse value represents, or where the step of assigning takes place (i.e. in the signal receiving section of what device, or in a processor).

(v) the phrase "comparing each of said assigned pulse values with other ones of said assigned pulse values" is unclear whether this comparison is made in the signal receiving section, in what device, or how the comparison is made.

(vi) "determining said actual return signal to be represented by said predetermined number of said assigned pulse values" is unclear: (1) whether the step of determining takes place in the signal receiving section, or in another device, or in a processor associated with what device; (2) whether the determined actual return signal is the same as the actual return-reflected signal, or why there is more than one return signal; or (3) how the actual return signal is to be represented by the predetermined number of the assigned pulse values, or what this means with respect to discriminating between an actual return-reflected signal and associated noise in a signal receiving section of a signal transmitting device.

Dr. Horenstein, however, testified that a person having ordinary skill in the art would have no difficulty understanding claim 11, and his explanation of the technology claimed in the '779 patent supports this conclusion. Further, the Colorado district court found as a matter of law that claim 11 of the '779 patent was not invalid for indefiniteness. See Laser Tech., 215 F. Supp.2d at 1154. The fact that the court in Colorado was able to construe claim 11 demonstrates that the claim is not indefinite. The Court adopts its construction of claim 11 as set out above.

b. Comparison of claim 11 of the '779 patent to the Echo 440

Applying the claim interpretation set forth above, Dr. Horenstein testified that the Echo 440 performs this method. Specifically, the Echo 440 sends a series of laser pulses (at

least 20) and receives both noise and true pulse returns. When he pointed the unit at the sky, it continually sent laser pulses without stopping, but still received noise pulses. It never returned a range, indicating that no matches were found. When Dr. Horenstein pointed the Echo 440 at a high quality target, it sent 20 pulses, received reflected pulses and noise and then stopped and displayed an answer. When he pointed the unit at a lower quality target, it calculated and displayed target quality. According to Dr. Horenstein, these facts demonstrate that the unit assigns pulse values identifying time of flight data, compares return pulse values to distinguish the true reflections from noise and only stops when it reaches sufficient accuracy of compared values. The unit then displays that result. Dr. Horenstein testified that as a result, the Echo 440 literally meets the elements of claim 11. Dr. Steel countered that to develop a voltage pulse, the Echo 440 uses a floating alarm rate, while the '779 patent uses a constant pulse firing rate. He also testified, however, that the Echo 440 operates by matching return pulses and discarding pulses that do not match**.** The Court finds that plaintiffs have established a substantial likelihood that the Echo 440 infringes claim 11 of the '779 patent.

3. The '259 patent claim 22

Claim 22 of the '259 patent recites:

> In a laser rangefinder, said rangefinder including a laser transmit section operably emitting laser pulses directed toward a target, a laser receive section receiving laser pulses reflected from said target, a timer timing a flight time for each said pulse from a time of emission of said pulse to a time of reception of said reflected pulse, a calculator programmed to calculate a range to said target based upon said pulse flight times, the improvement comprising:
>
> a) said calculator also programmed to calculate the reflective quality of said target based upon the number of detected reflected laser pulses and/or the ratio of detected reflected laser pulses versus the number of emitted laser pulses;

b) a target quality display cooperating with said calculator to display said reflective quality of said target; and wherein

c) said target quality display comprises a bar graph.

a. Preliminary Claim Construction[16]

Claim 22 is written in the style of a so-called "Jepson" claim where the lengthy preamble lists standard components in the laser rangefinder which were considered to be in the prior art at the time of the invention. See Kegel Co., Inc. v. AMF Bowling, Inc., 127 F.3d 1420, 1426 (Fed. Cir. 1997). Three lettered subparagraphs describe the new part of the invention. Dr. Horenstein convincingly testified how one skilled in the art would understand the language in those three subparagraphs.

Subparagraph a) calls for a calculator which is programmed to calculate a range to a target based on pulse flight times, and also programmed "to calculate the reflective quality of said target based upon the number of detected reflected laser pulses and/or the ratio of detected reflected laser pulses versus the number of emitted laser pulses." Dr. Horenstein testified that this element requires the calculator to convert the flight time of laser pulses into a range and to calculate the reflective quality of the return signal.[17] The quality is calculated by counting the number of reflected pulses and creating a ratio between the number sent and number received. In the preferred embodiment of the '259 patent, a microprocessor acts as the calculator.

Subparagraph b) requires "a target quality display cooperating with said calculator to display said reflective quality of said target." Dr. Horenstein testified that by its plain language, this simply

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[16] The parties do not present any previous judicial construction of claim 22.

[17] Reflective quality is the ability of the target to reflect back laser pulses.

requires that the rangefinder display the results of the calculation performed in a). Here, the patent discloses use of a liquid crystal display.

Subparagraph c) requires that "said target quality display comprises a bar graph." Dr. Horenstein testified that the plain language of this paragraph simply requires that the display include a bar graph. In the'259 patent, the display is shown as a horizontal row of rectangles that are either left open or filled in to graphically indicate the quality of the return signal.

Defendants argue that claim 22 of the '259 patent is indefinite and invalid because it claims that the calculator is programmed to calculate the reflective quality of the target "based upon the number of detected laser pulses *and/or* the ratio of detected reflected laser pulses versus the number of emitted laser pulses." Defendants argue that this language creates multiple combinations of circumstances under which the claim could be used. A claim is indefinite when an "and/or" construction requires separate infringement determinations for every set of circumstances in which the claim may be used, and such determinations are likely to result in differing outcomes (sometimes infringing and sometimes not). See Halliburton Energy Servs., Inc., v. M-I LLC, 514 F.3d 1244, 1255 (Fed. Cir. 2008). Defendants assert that one skilled in the art would not understand when to determine reflective quality using (1) the number of detected reflected pulses *and* the ratio of the detected reflected pulses versus emitted pulses; (2) the number of detected reflected pulses; or (3) the ratio of detected reflected pulses versus the number of emitted pulses.

Plaintiffs respond that unlike in Halliburton, claim 22 is not so amorphously defined as to require a different infringement determination in each context where it is used. Plaintiffs assert that the calculation of the reflective quality of the target is concrete and is based on either the number of detected laser pulses, the ratio of detected laser pulses versus the number of emitted laser pulse, or a combination of both metrics. They argue that the scope of the claim does not change depending on

the context in which it used. They also point out that Dr. Horenstein had no difficulty understanding the scope of claim 22. The Court finds that claim 22 is not invalid for indefiniteness, and adopts plaintiffs' construction of claim 22.

b. Comparison of claim 22 of the '259 patent to the Echo 440

The parties agree that claim 22 calculates distance by utilizing a timer (or clock) to measure the amount of time it takes a pulse of light to travel to the target and return, then calculates the distance using the known the speed of light. Dr. Horenstein asserts that the Echo 440 also works by "time of flight." In contrast, Dr. Steel testified that the Echo 440 measures distance by using "phase," and not time of flight. Dr. Steel testified that (instead of a clock), defendants' device uses three counters and the Chinese remainder theorem to determine the phase. Based on defendants' responses to the Court's questions, however, the Court concludes that claim 22 and the Echo 440 both operate on time of flight. Further, defendants agree that the issue is whether defendants' counters are the same as plaintiffs' clock. The Court finds that the counters in the Echo 440 effectively measure the time of flight and thus function as the "timer" set out in claim 22 of the '259 patent.

Dr. Horenstein testified that the Echo 440 sends a series of laser pulses (at least 20) and receives both noise and true pulse returns. It computes results using standard logic circuitry. He also stated that the Echo 440 calculates a target quality by comparing either the number of return pulses or a ratio of return pulses to the number sent, and displays those results in a quality bar. Dr. Steel testified that the Echo 440 does not calculate reflective quality, but has a predetermined quality and displays that quality based on the number of identical distance measurements. Defendants state that the Echo 440 sets the quality based on the number of identical distance measurements. This is a distinction without a difference, however, and the Court finds that it meets the claim requirement

that quality be "based upon the number of detected reflected laser pulses." Plaintiffs have shown a likelihood of success on the merits as to infringement of claim 22.

4. The '259 patent claim 24

Claim 24 recites as follows:

> In a laser rangefinder, said rangefinder including a laser transmit section operably emitting laser pulses directed toward a target, a laser receive section receiving laser pulses reflected from said target, a timer timing a flight time for each said pulse from a time of emission of said pulse to a time of reception of said reflected pulse, a calculator programmed to operably calculate a range to said target based upon said pulse flight times, and a display with a range display portion displaying the calculated range, the improvement comprising:
>
> a) a selector which allows a user to select a single ranging sensitivity mode from a plurality of selectable ranging sensitivity modes, at least two of said plurality of selectable ranging sensitivity modes having different hold off times representing different respective times during which received pulses will not be used for ranging purposes and thus corresponding to different minimum ranging distances; and
>
> b) said display includes a ranging sensitivity mode display portion which displays the selected ranging sensitivity mode.

a. Preliminary Construction

The preamble of claim 24 is identical to the preamble of claim 22, and should be interpreted as set forth above. Sub-element a) requires "a selector which allows a user to select a single ranging sensitivity mode from a plurality of selectable ranging sensitivity modes, at least two of said plurality of selectable ranging sensitivity modes having different hold off times representing different respective times during which received pulses will not be used for ranging purposes and thus corresponding to two different minimum ranging distances." Dr. Horenstein testified that one skilled in the art would understand this language to require a switch or button of some type that allows the unit to be put into different sensitivity modes. Further, a "ranging sensitivity mode"

should be understood to mean a setting where certain return pulses are ignored. "Hold off times" are defined within the claim language to mean time intervals over which return pulses are ignored.

Sub-element b) requires that "said display includes a ranging sensitivity mode display portion which displays the selected ranging sensitivity mode." One skilled in the art would understand that this means the display must show the ranging sensitivity mode in which the unit is set.

b. Comparison of claim 24 of the '259 patent to the Echo 440

Applying this claim interpretation, Dr. Horenstein determined that the Echo 440 practices claim 24. The preamble is met for the reasons described above for claim 22. Dr. Horenstein testified that when the Echo 440 operated in different ranging modes, it ignored return pulses corresponding to the mode in which the unit was set. In other words, if the unit was in ">150" mode, and he pointed it at a target at less than 150 meters away, the unit received the return pulse showing the distance, but did not display a result. Dr. Horenstein concluded that the unit ignored return pulses inside that window, and displayed the mode in which it was set. Dr. Steel testified that the Echo 440 calculates the distance from the signal, and that the user can control whether to accept or ignore distances in certain predetermined ranges. The Court finds that plaintiff has shown a substantial likelihood that the Echo 440 infringes on claim 24 of the '259 patent.

B. Challenges To Validity And Enforcement

Defendants question the validity and enforceability of the '779 and '259 patents. Specifically, defendants challenge validity, asserting that (1) claims 11, 18 and 19 of the '779 patent and claim 22 of the '259 patent are indefinite and (2) prior art was not before the United States

Patent and Trade Office ('USPTO") and the USPTO should therefore reexamine the '779 patent.[18] Defendants also assert that the Court should not enforce the '779 and '259 patents because of plaintiffs' inequitable conduct.

1. Validity

a. Indefiniteness

A claim is indefinite where an accused infringer shows that a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as his or her knowledge of the relevant art. Halliburton, 514 F.3d at 1255. Claims are indefinite and invalid if they are "not amenable to construction" or "insolubly ambiguous." Id. In construing the challenged claims, the Court has rejected defendants' arguments of indefiniteness. Defendants have not raised substantial questions of invalidity based on indefiniteness.

b. Obviousness/anticipation

Under 35 U.S.C. § 103, defendant assert that the '779 and '259 patents are invalid based on prior art. Section 103 prohibits patents where "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C § 103(a). To establish invalidity at trial, defendants must clearly and convincingly set forth facts relating to obviousness. C.R. Bard, Inc., 157 F.3d at 1351. On a motion for preliminary injunction, however, defendants' burden is governed by the standards previously set forth at length.

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[18] Defendants also briefly assert that claim 11 of the'779 patent fails to state the best mode for practicing the invention. Defendants do not further articulate this assertion, however, and the Court will not construct the parties' arguments.

Courts consider the following factors in determining obviousness: (1) the scope and content of the prior art; (2) differences between the prior art and the claims; (3) the level of ordinary skill in the pertinent art; and (4) objective evidence of nonobviousness. KSR Int'l Co. v. Teleflex, Inc., 127 S.Ct. 1727, 1734 (2007).

Defendants argue that the '779 and '259 patents are invalid because they describe a laser rangefinder that was already in prior art. Defendants contend that the following U.S. patents raise a substantial question as to the validity of the '779 patent and/or the '259 patent:

> – 4,464,048 (8/7/84) Laser rangefinders
>
> – 4,521,107 (6/4/85) Apparatus for measuring distances by measuring time of travel of a measuring light pulse
>
> – 4,569,599 (2/11/86) Method of determining the difference between the transit times of measuring pulse signals and reference pulse signals
>
> – 3,947,119 (3/30/76) Active sensor automatic range sweep technique
>
> – 5,933,224 (8/3/99) Hand-held distance-measurement apparatus and system
>
> – 5,262,837 (11/16/93) Laser range finder
>
> – 4,344,705 (8/17/82) Distance measuring apparatus based on the pulse travel time method

Defendants' Response (Doc. #42) at 23. Defendants acknowledge that the USPTO is generally entitled to deference regarding prior art that it considered in issuing a patent. See PowerOasis, Inc. v. T-Mobile USA, Inc., 522 F.3d 1299, 1304 (Fed. Cir. 2008). Defendants, however, point out that the USPTO considered only one of the foregoing patents – U.S. Patent No. 4,569,599 – when plaintiffs prosecuted the '779 and '259 patents. Defendants note Professor Steel's testimony that much of what plaintiffs claim in their patents was well known in the prior art, and that the USPTO should reexamine the '779 and '259 patents. The Court cannot rely on generalized testimony as evidence of invalidity. See Schumer v. Lab Computer Sys. Inc., 308 F.3d 1304, 1315 (Fed. Cir.

2002). Further, courts should not attempt to apply patent references to determine for themselves whether the patents are invalid. See id. Defendants have not raised a substantial question of invalidity.

2. Enforceability

Defendants argue that the '259 patent is unenforceable because Bushnell misrepresented its status in filings with the USPTO. A patent applicant that qualifies for small entity status pays lower fees than large entities. Generally, an applicant is entitled to small entity status if the patent holder is a single person, a small business with fewer than 500 employees or a non-profit organization. See 37 C.F. R. § 1.27(a); 13 C.F.R. § 121. 802. Small entity patent holders can lose their status if they license or convey rights to an entity that is not a small entity.

Defendants argue that in applying for the patent, inventor Stephen Bamberger misrepresented his status as an independent inventor and assignee Bushnell misrepresented its status as a small entity. During prosecution of the '259 patent, Bamberger and Bushnell represented that they had not assigned the patent to any person or entity that did not qualify as an independent inventor or small entity. Jeremy Dunne, an LTI employee, was later added as an inventor of the '259 patent. During prosecution of the '259 patent, Dunne stated that Bushnell and LTI had a relationship. Defendants argue that because Dunne is an employee of LTI, a large entity, and Bushnell and LTI had a relationship relating to the '259 patent, Bushnell was required to file as a large entity when Dunne was added as an inventor. See Ulead Sys, Inc. v. Lex Computer & Mgmt. Corp., 351 F.3d 1139, 1142 (Fed. Cir. 2003) (when small entity enters licensing agreement with large entity, small entity must then file as large entity). Instead, Bushnell reaffirmed its small entity status, and Bushnell continues to pay maintenance fees as a small entity. Defendants assert that

Bushnell's failure to file as a large entity and pay the correct fee may be a fraud on the patent office and thus render the '259 patent unenforceable. See 37 CFR § 1.27(h).

Plaintiffs point out that Bushnell has never granted LTI a license or ownership rights to the '259 patent. Plaintiffs argue that even if LTI is a large entity, it has no rights in the '259 patent, and Bushnell therefore properly claimed small entity status. The Court agrees. See Ulead Sys, Inc., 351 F.3d at 1142. In any event, defendants have offered no evidence of intent to deceive, which is required to establish inequitable conduct. See Sanofi, 470 F.3d at 1380-81 (defendant must identify evidence of intent to deceive; generalized allegations lack particularity required to show deceptive intent). Defendants have not raised a substantial question of enforceability which is sufficient to preclude the equitable remedy of a preliminary injunction.

Based on all of the foregoing analysis, plaintiffs have shown a likelihood of success on the merits.

II. Irreparable Harm

In patent infringement cases, upon a clear showing of likelihood of success on the merits, courts have historically recognized a rebuttable presumption of irreparable harm. See, e.g., Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343, 1350 (Fed. Cir. 2001); Polymer Techs., Inc. v. Bridwell, 103 F.3d 970, 973 (Fed. Cir. 1996). In 2006, however, in eBay Inc. v. MercExchange, LLC, 547 U.S. 388, 392-94 (2006), the Supreme Court rejected the rule that courts will issue permanent injunctions against patent infringement absent exceptional circumstances. The Supreme Court re-emphasized that the decision whether to grant or deny injunctive relief rests within the equitable discretion of the district courts, and held that "such discretion must be exercised consistent with traditional principles of equity, in patent disputes no less than in other cases governed by such standards." See id. at 394. The Supreme Court also stated that courts must apply

the "traditional four-factor framework" which governs the award of injunctive relief. Id. Shortly after eBay, however, the Federal Circuit suggested that the presumption of irreparable harm might still apply in patent cases. See Abbott Labs., 452 F.3d at 1348 (patentee had not established likelihood of success on merits of patent infringement, and therefore was "no longer" entitled to presumption of irreparable harm); Voile Mfg. Corp. v. Dandurand, 551 F. Supp.2d 1301, 1306 (D. Utah 2008). In Sanofi-Synthelabo v. Apotex, Inc., 470 F.3d 1368 (Fed. Cir. 2006), the Federal Circuit acknowledged an alleged infringer's argument that eBay had eliminated the presumption in the context of a preliminary injunction, but did not address the issue because the patentee had demonstrated irreparable harm. See Sanofi-Synthelabo, 470 F.3d at 1383 n. 9.[19]

Many district courts which have directly addressed the issue have found that in patent cases, eBay eliminated the presumption of irreparable harm at the preliminary injunction stage. Voile Mfg. Corp., 551 F. Supp.2d at 1306 (citing, inter alia, Precision Automation, Inc. v. Tech. Servs., Inc., No. 07-CV-707-AS, 2007 WL 4480739, at *3 (D. Or. Dec.14, 2007) (eBay eliminated presumption of irreparable harm in preliminary injunction context); Tiber Labs., LLC v. Hawthorn Pharm., Inc., 527 F. Supp.2d 1373, 1380 (N.D. Ga. 2007) (eBay eliminates presumption of irreparable injury in patent cases, whether raised at preliminary or permanent injunction phase); Sun Optics, Inc. v. FGX Int'l, Inc., No. 07-137-SLR, 2007 WL 2228569, at *1-3 (D. Del. Aug. 2, 2007) (presumption of irreparable harm in preliminary injunction analysis did not survive eBay); Torspo Hockey Int'l, Inc. v. Kor Hockey Ltd., 491 F.Supp.2d 871, 881 (D. Minn. 2007) (same); Chamberlain Group v. Lear Corp., No. 05 C 3449, 2007 WL 1017751, at *5 (N.D. Ill. March 30, 2007) vacated on other

[19] After eBay, the Second and Ninth Circuits have applied the presumption in cases other than patent cases. See Time Warner Cable, Inc. v. DIRECTV, Inc., 497 F.3d 144, 162 (2d Cir. 2007) (Lanham act); Abercrombie & Fitch Co. v. Moose Creek, Inc., 486 F.3d 629, 633 (9th Cir. 2007) (trademark case).

grounds, 516 F.3d 1331 (Fed. Cir. 2008) (same); Canon Inc. v. GCC Int'l Ltd., 450 F.Supp.2d 243, 254 (S.D.N.Y. 2006) (consistent with equitable principles set out in eBay, preliminary injunction movant must demonstrate likelihood of irreparable injury in absence of requested injunction); z4 Techs., Inc. v. Microsoft Corp., 434 F.Supp.2d 437, 440 (E.D. Tex. 2006) (eBay eliminated irreparable harm presumption in permanent injunction context)). But see Christiana Indus. v. Empire Elecs., Inc., 443 F.Supp.2d 870, 884 (E.D. Mich. 2006) (eBay did not eliminate presumption); Idearc Media Corp. v. Nw Directories, Inc., No. 07-796, 2008 WL 2185334, at *9 (D. Or. May 23, 2008) (copyright case). Other courts have avoided the issue. See, e.g., Precision Links Inc. v. USA Prod. Group., Inc., No. 3:08cv576, 2009 WL 3076114, at *8, n.4 (W.D.N.C. Sept. 22, 2009) (plaintiff did not make strong showing of likelihood of success so court need not decide whether presumption of irreparable injury still valid); Everett Labs, Inc. v. Breckenridge Pharm., Inc., 573 F. Supp.2d 855, 867 (D. N.J. 2008) (in absence of explicit binding precedent, declining to find whether presumption of irreparable harm applies).

Plaintiffs assert that "this Court may apply the presumption of irreparable harm without impermissibly eviscerating its equitable discretion by considering other factors indicative of irreparable harm." Plaintiff's Brief In Support (Doc. #23) at 31 (citing Quantronix, Inc. v. Data Trak Techs., Inc., 536 F. Supp.2d 1039, 1049-50 (D. Minn. 2008) (applying presumption where plaintiff made "clear showing of patent validity and infringement"; factors – including irreversible loss of market share, lost profits and business opportunities – supported presumption)). The Court is persuaded by the reasoning of those courts which have found that the presumption does not apply to preliminary injunctions in patent cases. See, e.g.,Voile, 551 F. Supp.2d at 1306. Therefore, while it does not presume irreparable harm, it considers the nature of patent rights in evaluating whether

plaintiffs have shown that they will suffer irreparable harm without a preliminary injunction. See Quantronix, 536 F. Supp.2d at 1049.

Plaintiffs assert that they will suffer irreparable harm if the Court does not issue a preliminary injunction which prohibits defendants from importing and selling the Echo 440 and similar Lanshuo rangefinders. Bushnell has produced evidence of economic harm (including price erosion and loss of market share and revenue) and reputational harm (including loss of good will). Plaintiffs maintain that money damages cannot compensate for their loss of market share and good will. They argue that only exclusion of defendants' products from the marketplace can remedy the harm. They point to evidence that if the Court denies their motion for a preliminary injunction, there is no guarantee that they can later regain their lost market share or that defendants will be able to satisfy a damage award.

Defendants argue that the alleged harms are financial and can be adequately compensated with money damages. Defendants also assert that for more than two years, plaintiffs have known that defendants were selling laser rangefinders in the United States, and that their delay in bringing suit shows that they will not suffer immediate and irreparable harm absent an injunction.

As for economic harm, plaintiffs have produced evidence that defendants' sales of the Echo 440 have reduced Bushnell's sales and market share. For example, Bass Pro, a major customer, has replaced the Sport 450 with defendants' Echo 440 as its low end unit. Other major customers have told Bushnell that they may begin to replace the Sport 450 with the Echo 440. Bushnell estimates that it will lose between three and five million dollars in revenue this year due to defendants' sales

of the Echo 440. More importantly, Bushnell's Executive Vice President of Marketing, Phil Gyori, testified that the market will not allow Bushnell to raise prices to recoup its losses.[20]

LTI points to evidence that it faces harms similar to Bushnell. As owner of the '779 patent, LTI has agreed to work exclusively with Bushnell in the defined field and its success is tied to Bushnell's. Every unit that Bushnell does not sell decreases royalty payments to LTI. LTI also points to testimony that if Bushnell's sales continue to suffer, LTI will have to cut back on its own R&D investments. Moreover, if infringing units continue to sell at low prices, LTI's professional products may suffer price erosion.

Loss of market share and price erosion may be difficult to quantify and thus constitute irreparable harm. See Polymer Techs., 103 F.3d at 976; see also Abbott Labs v. Sandoz, Inc., 544 F.3d 1341, 1362 (Fed. Cir. 2008). Further, the right to exclude others from a specific market, no matter how large or small that market, is an essential element of the patent right. See Polymer Techs., 103 F.3d at 976 (principal value of patent is statutory right to exclude, so nature of patent weighs against holding that monetary damages will always suffice to make patentee whole). Here, plaintiffs have provided evidence of price erosion and lost market share. They have also provided testimony that raising prices if the infringing products are withdrawn is probably not possible. See id. (requiring purchasers to pay higher prices after paying lower prices to infringers not "reliable business option."). But see Atlanta Pharm. AG v. Teva Pharm. USA, Inc., 532 F. Supp.2d 666, 683-84 (D. N.J. 2007) (denying preliminary injunction where patentee did not prove that lost market

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[20] Gyori testified that to compete with the Echo 440 Bushnell has cut the price of the Sport 450 by 17 per cent. Gyori opined that if Bushnell has to cut the price of all of its products by 17 per cent, that would devastate its economic health. He also stated that a significant reduction in Bushnell's income stream could require it to lay off employees and reduce marketing efforts. Further, a dramatic reduction in income could cause it to default on bank covenants, thereby resulting in a higher debt load.

share and price erosion could not be calculated and compensated with money damages). Here, plaintiffs have shown that such harm is not calculable or compensable with money damages.

As for reputational harm, plaintiffs point to Gyori's testimony that defendants' distribution of the Echo 440 has caused Bushnell to suffer loss of good will in the marketplace. For instance, Gyori testified that Bushnell customers have questioned when Bushnell will sell a low price unit to match the price of the Echo 440 and why Bushnell's higher-end units cost so much more than the Echo 440. Plaintiffs assert that such questions damage Bushnell's reputation as an innovator and producer of competitively priced quality products. Courts have found that lost good will can indicate irreparable harm. Abbott Labs, 544 F.3d at 1362; BioTech. Gen. Corp. v. Genentech, Inc., 80 F.3d 1553, 1566 (Fed. Cir. 1996); Sanofi, 470 F.3d at 1381. Strained business relationships with third parties can also support a finding of irreparable harm. Sanofi, 470 F.3d at 1381 (patentee may have to lay off employees if injunction not granted); Rosen Entm't Syst., LP v. Icon Enters, Inc., 359 F.Supp.2d 902, 910-11 (C.D. Cal. 2005) (patentee's licensees lose sales to infringer who is not paying royalties). Further, courts have found irreparable harm if infringement indirectly encourages others to infringe the patent.[21] Rosen, 359 F.Supp.2d at 910-11. Plaintiffs' evidence of reputational harm and loss of good will supports a finding of irreparable harm.

Difficulty in Collecting Damages

Plaintiffs also argue that money damages may not be adequate because Lanshuo, which manufactures the Echo 440, is a foreign corporation with few assets in the United States. Plaintiffs

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[21] Plaintiffs point to testimony that several companies appeared poised to try to copy their patented technology and take market share from Bushnell. Gyori opined that if the Court does not enjoin sales of the Echo 440, many Bushnell customers may buy infringing rangefinders produced by defendants and others. Finally, plaintiffs assert that if some larger chain stores continue to sell the Echo 440, other stores will be forced to sell the Echo 440 to compete. These other stores may also conclude that the chains now selling the Echo 440 are not concerned with infringement issues.

assert that they will face significant difficulty collecting damages from Lanshuo. The Court agrees that the prospect of collecting money damages from a foreign defendant with few to no assets in the United States tips in favor of a finding of irreparable harm. See Canon Inc. v. GCC Int'l Ltd., 450 F.Supp.2d 243, 255-56 (S.D.N.Y. 2006) (locating and attaching assets sufficient to satisfy money judgment exceedingly difficult).

Delay

Defendants assert that for more than two years plaintiffs have known that defendants were selling the allegedly infringing laser rangefinders in the United States, and that their delay in bringing suit shows that they will not suffer immediate and irreparable harm absent an injunction. Defendants point to evidence that in April of 2007, more than 23 months before plaintiffs first sought injunctive relief, LTI expressed concern to defendants over some potential issues related to patent infringement. In mid 2007, Lanshuo's general manager responded to plaintiffs with a fax and several emails, asserting that its products were not infringing. See Zhu Jie Decl, Ex. 1, at ¶ 11; Zhu Jie Emails to D. Williams, attached to Zhu Jie Decl. as Exs. 2 & 3. Neither Williams nor LTI responded. Id.

Plaintiffs respond that through 2008, they were concerned about patent infringement but Brunton did not seem like a serious threat. At that time, Brunton was selling the Echo 440 on the internet for $180. Bushnell's low price unit, the Sport 450, was retailing for $149. Given its reputation and relationships in the market, Bushnell did not think that the Echo 440 could compete effectively with Bushnell's low price unit. Bushnell therefore raised patent infringement concerns with Brunton, but did not begin legal proceedings. In December of 2008, Bass Pro began selling the Echo 440 instead of the Sport 450, and shortly thereafter (in early January of 2009), plaintiffs filed suit.

Defendants counter that when plaintiffs did file suit, they inaccurately claimed that they held all interests in the patents at suit. Plaintiffs then waited three more months to seek injunctive relief. Moreover, although defendants raised the issue of standing in April of 2009, plaintiffs waited until the Court ruled on defendants' motion to dismiss before obtaining full ownership of the patents at issue. Defendants argue that plaintiffs' delay contradicts their claim that they will suffer immediate and irreparable harm without an injunction. The Court disagrees.

A finding that the patentee delayed in seeking a preliminary injunction strongly suggests that the patentee does not face irreparable harm. Reebok Int'l, Ltd. v. J. Baker, Inc., 32 F.3d 1552, 1557-59 (Fed. Cir. 1994); Roper Corp. v. Litton Systems, Inc., 757 F2d 1266, 1273 (Fed. Cir. 1985). Courts have found delays of more than one year to negate irreparable harm. High Tech Medical Instrumentation, Inc. v. New Image Indus., Inc., 49 F.3d 1551, 1557 (Fed. Cir. 1995) (no irreparable harm after 17 month delay); Ethicon, Inc. v. United States Surgical Corp., 762 F. Supp. 480, 505 (D. Conn. 1991) (delay of "over one year" between acquiring patent rights and filing motion for preliminary injunction). Indeed, this Court has held that a delay in bringing a preliminary injunction weighs against a finding of irreparable harm. Snyder v. Am. Kennel Club, 575 F. Supp. 2d 1236, 1242-43 (D. Kan. 2008) (finding no irreparable harm after 10-month delay in non-patent case); Adidas Am., Inc. v. NCAA, 40 F. Supp. 2d 1275, 1282 (D. Kan. 1999) (delay in seeking preliminary relief generally cuts against finding irreparable injury); see Packerware Corp. v. Corning Consumer Prods. Co., 895 F. Supp. 1438, 1452 (D. Kan. 1995) (three month delay "cuts against a finding of irreparable harm").

Here, plaintiffs knew of defendants' potential infringement for many months (if not years) before seeking a preliminary injunction. As noted, however, plaintiffs initially did not perceive defendants as a real threat. Further, plaintiffs had successfully defended the patent and had good

reason to think that the patent was valid and that potential infringers would take notice. Finally, plaintiffs had recently had a major expensive and distracting experience with patent litigation. The Court will not punish plaintiffs for taking a prudent and cautious approach before deciding to initiate another round of bruising patent litigation. The Court finds that plaintiffs' delay in seeking injunctive relief does not preclude a finding of irreparable harm.

III. Balance Of Hardships

To reach an irreparable harm balance, a trial court compares the irreparable harm that would be sustained by the movant if a preliminary injunction were erroneously denied with the irreparable harm that would be sustained by the non-movant if a preliminary injunction were granted in error. Canon, Inc., v. GCC Int'l, Ltd., 263 Fed. Appx. 57, 62 (Fed. Cir. 2008) (citing Dan B. Dobbs, Law of Remedies 193-94 (2d ed. 1993)). Here, the Court has found that plaintiffs have shown that they will suffer irreparable harm without a preliminary injunction. Lanshuo and Brunton have not shown that a reduction of sales of their rangefinders will result in irreparable harm to them. The balance of hardships weighs in favor of a preliminary injunction.

IV. The Public Interest

Entry of a preliminary injunction will discourage competition. The public benefits from lower prices spurred by free market competition. The public also has an interest in enforcement of patents. Some courts have held that competitive interests that favor the public must yield to the exclusivity granted by the issuance of a patent. See, e.g, Pfizer, 429 F.3d at 1382 (selling lower priced product does not justify patent infringement); Sanofi, 470 F.3d at 1383 (encouraging investment-backed risk is fundamental purpose of patent grant; enforcing patents encourages further innovation and is important to public interest). The Federal Circuit has generally found that the public interest prong favors the party that will likely prevail on the patent infringement claim. See

Voile, 551 F. Supp.2d at 1308 (citing Abbott Labs v. Andrx Pharm., Inc., 452 F.3d 1331, 1338 (Fed. Cir. 2006)). This prong weighs in favor of a preliminary injunction.

Conclusion

Because plaintiffs have shown irreparable harm, and in light of all the equities, the Court finds that the motion for a preliminary injunction should be granted.

Under Fed. R. Civ. P. 65(c), the Court may issue a preliminary injunction only if the movant gives security in an amount that the Court considers proper to pay the costs and damages sustained by any party found to have been wrongfully enjoined or restrained. The Court may in its discretion determine that a bond is unnecessary to secure a preliminary injunction if there is an absence of proof showing a likelihood of harm. Winnebago Tribe of Nebraska v. Stovall 341 F.3d 1202, 1206 (10th Cir. 2003); Coquina Oil Corp. v. Transwestern Pipeline Co., 825 F.2d 1461, 1462 (10th Cir. 1987). Here, defendants ask the Court to require "substantial security," but do not point to evidence of the specific amount of potential harm. The Court therefore does not require a bond at this time.

Dated this 25th day of November, 2009 at Kansas City, Kansas.

s/ Kathryn H. Vratil
KATHRYN H. VRATIL
United States District Judge