

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

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CONVOLVE, INC.,

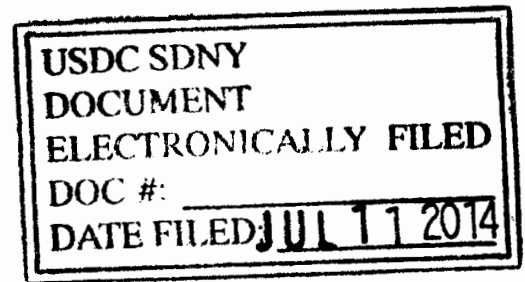
Plaintiff,

-against-

COMPAQ COMPUTER CORP. and SEAGATE
TECHNOLOGY LLC,

Defendants.
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GEORGE B. DANIELS, United States District Judge:



MEMORANDUM DECISION
AND ORDER

00 Civ. 5141 (GBD) (JCF)

Defendants Compaq Computer Corp. and Seagate Technology LLC bring this motion for summary judgment pursuant to Federal Rule of Civil Procedure 56, seeking dismissal of Plaintiff Convolve, Inc.'s Tenth – and only remaining – Claim for Relief. (Mot. for Summ. J. (“MSJ”), ECF No. 1029.) Plaintiff’s Tenth Claim for Relief seeks damages and injunctive relief for Defendants’ alleged infringement of United States Patent No. 6,314,473 (“the ’473 patent”), which discloses a particular method for controlling computer disk drive speed and acoustics by means of input shaping and user interface technologies.¹ (Am. Compl. ¶¶ 63-66, 115-120, ECF No. 50.) Specifically, Plaintiff alleges that Defendants infringed the ’473 patent by selling Compaq computers containing Seagate disk drives that, alone or in combination with Compaq’s F10 BIOS interface, wrongfully incorporated Plaintiff’s claimed technology. (*See, e.g.*, Am. Compl. ¶¶ 1-2, 4-13, 38-44, 54-62, ECF No. 50.)

Defendants move for summary judgment on the grounds that: (1) the accused drives do not

¹ The ’473 patent is entitled: “System for removing selected unwanted frequencies in accordance with altered settings in a user interface of a data storage device.” (Pl.’s Ex. 1.)

Plaintiff’s exhibits were submitted with the May 2, 2014 Affidavit of Kevin J. McNamee Opposing Defendants’ Motion for Summary Judgment. (ECF No. 1035.) Defendants’ exhibits are annexed to the April 2, 2014 and May 16, 2014 Declarations of Eric W. Hagen in Support of Defendants’ MSJ papers. (ECF Nos. 1033, 1039.)

infringe the '473 patent because they do not satisfy the “inverse relation,” “user interface,” or “commands” elements of the asserted claims under this Court’s construction of those terms; (2) there is no evidence that Defendants specifically intended to induce infringement with respect to the accused drives;² (3) the asserted claims are invalid under the doctrines of anticipation and obviousness; (4) the doctrine of intervening rights precludes a finding of infringement liability for conduct that pre-dates a December 2, 2008 substantive amendment of certain asserted claims; (5) Plaintiff cannot establish that Defendants’ alleged conduct satisfies the legal standard for willful infringement; and (6) Plaintiff cannot establish Defendants’ damages liability with respect to non-Seagate disk drives. (Mem. in Support of MSJ, ECF No. 1031 (“MSJ Mem.”); Reply Mem. in Support of MSJ, ECF No. 1038 (“Reply Mem.”).) Plaintiff opposes the motion for summary judgment on all grounds. (Mem. in Opp’n to MSJ, ECF No. 1035 (“Opp’n Mem.”).)

The evidence presented by the parties raises no genuine issue of material fact as to the lack of Defendants’ infringement liability based on the following three independent grounds: (i) the ATA and SCSI interfaces in Seagate’s accused disk drives do not satisfy the patent’s required “user interface” element, as construed by this Court; (ii) the commands issued by Compaq’s F10 BIOS utility do not satisfy the patent’s required “commands” element, as construed by this Court; and (iii) Defendants are entitled to intervening rights arising from the substantive December 2, 2008 amendment of certain asserted claims.³ Defendants’ motion for summary judgment is

² On June 19, 2014, Defendants filed a Motion for Leave to File Supplemental Memorandum of Law Regarding New Controlling Authority on Induced Infringement in light of the Supreme Court’s recent decision in *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S. Ct. 2111 (June 2, 2014). That motion was denied. This Court has, however, reviewed the *Limelight* opinion.

³ This Court finds determination of the intervening rights, user interface, and commands issues to be dispositive of the issue of direct infringement liability, and of this action. In light of this ruling, Plaintiff’s claims of inducement and willful infringement, which depend on a finding of direct infringement, fail as a matter of law. *Limelight*, 134 S. Ct. at 2117 (internal quotation marks and citation omitted) (“[O]ur case law leaves no doubt that inducement liability may arise if, but only if, there is direct infringement.”); *Cook Biotech Inc. v. Acell, Inc.*, 460 F.3d 1365, 1379-1380 (Fed. Cir. 2006) (“[B]ecause we have concluded that there was no direct act of infringement . . . [Plaintiff’s willful infringement case is] rendered moot.”). This Court does not rely on any other grounds for summary judgment asserted by Defendants.

therefore GRANTED. Plaintiff's Tenth, and only remaining, Claim for Relief is DISMISSED.

I. Factual Background⁴

Convolve, Inc. accuses Defendants Compaq Computer Corp., a manufacturer of computing systems, and Seagate Technology LLC, a manufacturer of disk drives, of selling disk drives and computer systems that infringe Convolve's '473 patent. (Am. Compl. ¶¶ 115-120.) The '473 patent teaches a method of customizing disk drive speed and acoustics that allows computer users "to control the trade-off between speed and acoustics." (Am. Compl. ¶ 1.) Specifically, Convolve alleges that Defendants directly and indirectly infringed claims 1, 3, 4, and 7-15 of the '473 patent through sales of the following products: Seagate's Barracuda ATA-III, Barracuda ATA-IV, and U Series 5 drives (collectively, the "ATA drives"); Seagate's Cheetah 73LP, Cheetah X15 18LP, and Cheetah X15 36LP drives (collectively, the "SCSI" or "JIT" drives, *see* PFII ¶ 478), and Compaq computers containing Compaq's F10 BIOS utility in combination with Seagate's ATA drives. (Oct. 30, 2007 Initial Expert Report, Pl.'s Ex. 3 at 3, Table 1; Pl.'s Resp. to Defs.' Local Rule 56.1 Statement of Undisputed Facts ("PFI") ¶ 7; Pl.'s Local Rule 56.1 Counter-Statement of Undisputed Facts ("PFII") ¶¶ 634, 636.)⁵

On July 13, 2000, original plaintiffs and patent holders Convolve and the Massachusetts Institute of Technology ("MIT") filed a Complaint against Defendants alleging, among other claims, misappropriation of trade secrets and infringement of U.S. Patent Nos. 4,916,635 and 5,638,267. (Compl., ECF No. 1.) On November 6, 2001, the Patent & Trademark Office ("PTO") granted Convolve's application for the '473 patent. (Am. Compl. ¶ 6; PFI ¶ 2.) On January 25,

⁴ Unless otherwise noted, the facts herein are undisputed.

⁵ Plaintiff's Statement of Undisputed Facts is one document comprised of two distinct parts: Part I is a response to Defendants' Local Rule 56.1 Statement of Undisputed Facts; Part II is Plaintiff's Local Rule 56.1 Counter-Statement of Undisputed Facts. The numbered paragraphs in Plaintiff's Counter-Statement begin anew at 1; so as to avoid confusion, citations to Plaintiff's responsive 56.1 filing are denoted by "PFI," and references to Plaintiff's Counter-Statement are cited as "PFII."

2002, Convolve and MIT filed an Amended Complaint asserting the additional claim that Defendants sold products infringing the '473 patent after the patent was issued.⁶ (Am. Compl. ¶ 6; PFII ¶ 663.) Beginning March 30, 2004, this Court held a two-day *Markman* hearing to address the construction of the '473 patent claims, and issued a *Markman* Order on August 9, 2005. (Mar. 30-31, 2004 *Markman* Hr'g Trs., ECF Nos. 265-266; *Markman* Order, ECF No. 397.) An Amended *Markman* Order was issued on January 13, 2006, modifying only this Court's construction of the "user interface" claim element.⁷ (Am. *Markman* Order, ECF No. 442.)

During the 2006-2011 time period, Defendant Seagate filed three separate *ex parte* requests with the PTO for reexamination of the '473 patent, seeking to invalidate the asserted claims. (Pl.'s Ex. 6: Dec. 1, 2006 Seagate Reexam. Request; Pl.'s Ex. 14: Aug. 22, 2008 Seagate Reexam. Request; Pl.'s Ex. 85: PTO Denial of Seagate's Feb. 23, 2011 Reexam. Request.) The PTO granted Defendant Seagate's December 2006 Reexamination Request and, on November 27, 2007, rejected claims 1, 3, 4, and 7-15 as anticipated by prior art (i.e., Koizumi, U.S. Patent No. 5,982,570). (Pl.'s Ex. 7: Jan. 26, 2007 PTO Office Action; Defs.' Ex. 38: Nov. 27, 2007 PTO Office Action.) Plaintiff Convolve submitted a Request for Reconsideration of the PTO's decision, explaining why it believed Koizumi did not anticipate the rejected claims. (Defs.' Ex. 46: Jan. 28, 2008 Request for Reconsideration of Nov. 27, 2007 Office Action.) On June 16, 2008, the PTO issued a Final Office Action, responding to Convolve's reconsideration arguments and maintaining its rejection of claims 1, 3, 4, and 7-15 as anticipated by Koizumi. (Defs.' Ex. 47: June 16, 2008 PTO Final Office Action.) In response, Plaintiff Convolve amended patent claims 1, 3, 4, 7-10,

⁶ The Amended Complaint also asserted claims for breach of contract, tortious interference with contract, fraud, violation of California Business and Professions Code § 17200, et seq., breach of confidence, and breach of good faith and fair dealing, which have since been dismissed. (Am. Compl. ¶¶ 67-95, 121-138.)

⁷ At Plaintiffs' request, to which Defendants did not object, the word "software" was added to this Court's construction of the "user interface" limitation, so that the final, amended claim construction reads: "software, hardware, firmware, or a combination thereof that allows a person, directly or indirectly, to alter parameters." (Am. *Markman* Order at 1.)

14 and 15, modifying all instances of the term “acoustic noise” to read “seek acoustic noise,” and again requested that the PTO reconsider reissuing the ’473 patent. (Pl.’s Ex. 11 at 1-10: July 31, 2008 Amendment After Final and Interview Summary.) On December 2, 2008, the PTO issued a Reexamination Certificate determining the rejected claims patentable as amended and allowing claims 11-13 as originally issued. (Pl.’s Ex. 1 at 58: ’473 C1, Dec. 2, 2008 Reexam. Certificate (“First Reexamination Certificate”).)

The PTO also granted Defendant Seagate’s August 2008 Reexamination Request and, in an Office Action dated June 8, 2009, rejected claims 1, 3, 4, and 7-15 as obvious in light of prior art (i.e., the combination of the Ray Thesis and the Koizumi patent). (Pl.’s Ex. 13: Nov. 20, 2008 PTO Office Action; Defs.’ Ex. 41: June 8, 2009 PTO Office Action.) In a Final Office Action dated January 4, 2010, the PTO allowed as patentable claims 11-13 and claims 1, 3, 4, 7-9, and 14, as amended on December 2, 2008. The PTO maintained its June 8, 2009 rejection of claims 10 and 15 as obvious in light of the Ray Thesis and the Koizumi patent. (Defs.’ Ex. 42: Jan. 4, 2010 PTO Final Office Action.) Following Plaintiff Convolv’s response to the rejection of claims 10 and 15, the PTO ultimately certified the patentability of all reexamined claims, including claims 10 and 15, without further amendment. (Pl.’s Ex. 15: July 20, 2010 Reexam. Certificate (“Second Reexamination Certificate”).) Defendant Seagate’s third and final Reexamination Request was denied by the PTO on April 1, 2011. (Pl.’s Ex. 85.)

On August 16, 2011, this Court granted Defendants’ motion for summary judgment, dismissing the last remaining trade secret and patent infringement claims in this action,⁸ and denied Plaintiffs Convolv and MIT’s motion for summary judgment. (Aug. 16, 2011 Mem. Decision and Order, ECF No. 994.) Plaintiffs filed a timely Notice of Appeal on November 3, 2011. (ECF

⁸ These claims pertained to the ’473 and ’635 patents only. In March 2010, this Court dismissed the ’267 patent from the case. (See Order, ECF No. 982.)

No. 1005.) On July 1, 2013, the Federal Circuit affirmed summary judgment on the trade secret and '635 patent claims, but vacated this Court's judgment of non-infringement of the '473 patent for failure to meet the "selected unwanted frequencies" limitation, and remanded for further proceedings.⁹ (Fed. Cir. Opinion, ECF No. 1013; Mandate, ECF No. 1014.) On remand, Defendants renew their motion, on the grounds not previously addressed by this Court, for summary judgment dismissal of Plaintiff Convolve's '473 infringement claims.¹⁰

II. Summary Judgment Standard

Summary judgment is appropriate when the evidence presented demonstrates that "there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). The moving party bears the initial burden of establishing the absence of any material factual dispute. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). To defeat a motion for summary judgment, the nonmoving party must raise a genuine issue of material fact by citing to admissible evidence that supports each claim on which summary judgment is sought. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 585-86 (1986); Fed. R. Civ. P. 56(a), (c).

In determining whether there exists a genuine issue as to a material fact, this Court is required to "resolve all ambiguities and draw all inferences in favor of the party against whom summary judgment is sought." *Stern v. Trustees of Columbia Univ.*, 131 F.3d 305, 312 (2d Cir. 1997). However, a nonmoving party cannot avoid summary judgment simply by relying on

⁹ This Court previously granted summary judgment on the grounds that "only one frequency was targeted in the ATA IV drive," the "low-pass filters" employed by the SCSI drives did not "identify and then target specific unwanted frequencies," and the "Convolve method" was "too generic to refer to the identification, targeting and reduction of specific frequencies," as required by the patent. (Aug. 16, 2011 Mem. Decision and Order at 49, 50, 52.) The Federal Circuit reversed the dismissal on these grounds, holding that, with all reasonable inferences drawn in Convolve's favor, Convolve's expert's testimony and certain documentary evidence created a genuine issue of material fact remained on each of these issues. (Fed. Cir. Opinion at 31-33.)

¹⁰ Because MIT brought claims only with respect to the '635 patent, the dismissal of which was affirmed by the Federal Circuit, it is no longer a party to this case.

“conclusory allegations or unsubstantiated speculation.” *Fujitsu Ltd. v. Fed. Express Corp.*, 247 F.3d 423, 428 (2d Cir. 2002) (citation omitted). Nor is the “mere existence of a scintilla of evidence” sufficient for this purpose. *Anderson v. Liberty Lobby*, 477 U.S. 242, 252 (1986); *see also Niagara Mohawk Power Corp. v. Jones Chem., Inc.*, 315 F.3d 171, 175 (2d Cir. 2003). Instead, a nonmoving party must show that there is a genuine dispute as to a material fact by pointing to the presence of evidence in the record “such that a reasonable jury could return a verdict for the nonmoving party.” *Anderson*, 477 U.S. at 248.

“Summary judgment is as appropriate in a patent case as it is in any other case.” *C.R. Bard, Inc. v. Advanced Cardiovascular Sys., Inc.*, 911 F.2d 670, 672 (Fed. Cir. 1990); *see also Desper Prods., Inc. v. QSound Labs, Inc.*, 157 F.3d 1325, 1332 (Fed. Cir. 1998). A patent infringement analysis involves two steps. First, the court determines the scope and meaning of the patent claims asserted. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996) (“[T]he interpretation and construction of patent claims, which define the scope of the patentee’s rights under the patent, is a matter of law, exclusively for the court.”). Second, the accused product, method, or process is compared to the asserted claims, properly construed. *See Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998). The plaintiff bears the burden of showing that each and every claimed element of the patent, or its equivalent, is present in the accused device. *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1301 (Fed. Cir. 2011) (quoting *Lemelson v. United States*, 752 F.2d 1538, 1551 (Fed. Cir. 1985)).

III. There Is No Genuine Factual Dispute As To Whether The Accused Products Meet All Required Claim Limitations

The parties disagree on the meaning – and thus the correct application – of this Court’s construction of the “commands” and “user interface” elements of the asserted claims. Defendants submit that infringement of these claim elements is ripe for summary judgment because the only

remaining dispute concerns the meaning of this Court’s construction of these terms. (Tr. 12:8-20; MSJ Mem. at 18-20; Reply Mem. at 9-10.) Plaintiff contends that summary judgment is inappropriate because Defendants’ interpretation of the claim limitations contradicts the *Markman* Order and, pursuant to Plaintiff’s understanding, the undisputed facts satisfy the claims as construed by this Court. (Opp’n Mem. at 11-13; Tr. 63:14-64:8.) Plaintiff urges this Court to reject the “new claim construction argument[s]” made by Defendants with respect to these elements. (*See, e.g.*, Tr. 64:11-17.) Plaintiff misconstrues and misapplies the “user interface” and “commands” claim limitations as construed by this Court. Because the parties do not dispute any material facts with respect to the “user interface” or “commands” limitations, summary judgment is warranted.

A. Claim Construction

It is well-established that “the construction of a patent, including terms of art within its claim, is exclusively within the province of the court.” *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996); *Cheese Sys., Inc. v. Tetra Pak Cheese & Powder Sys., Inc.*, 725 F.3d 1341, 1347 (Fed. Cir. 2013) (citation omitted) (“Claim construction presents only legal questions.”). Moreover, “[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it,” lest the parties submit an incompletely constructed claim to the jury. *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008); *see also Every Penny Counts, Inc. v. Am. Ex. Co.*, 563 F.3d 1378, 1383 (Fed. Cir. 2009) (“[T]he court’s obligation is to ensure that questions of the scope of the patent claims are not left to the jury. In order to fulfill this obligation, the court must see to it that disputes concerning the scope of the patent claims are fully resolved.”).

A district court may deem it necessary to modify its claim construction due to new information gleaned from an evolving record. *Pfizer, Inc. v. Teva Pharm., USA, Inc.*, 429 F.3d 1364, 1377 (Fed. Cir. 2005) (“[A] conclusion of law such as claim construction is subject to change upon the development of the record.”). Or, a dispute between the parties may prompt clarification of the court’s own claim interpretation. *O2 Micro*, 521 F.3d at 1360 (“When the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute.”); *Pressure Prods. Med. Supplies, Inc. v. Greatbatch Ltd.*, 599 F.3d 1308, 1316 (Fed. Cir. 2010) (holding that district court properly undertook to clarify claim term during trial, since failure to do so would “invite[] the jury to define th[e] term on its own in a manner [the Federal Circuit] has questioned in [previous decisions]”).

B. The “User Interface” Limitation

The “user interface” element of the asserted claims has been construed as follows: “software, hardware, firmware, or a combination thereof that allows a person, directly or indirectly, to alter parameters.” (Am. *Markman* Order at 1.)¹¹ The parties do not dispute that, in the accused products, “the commands from a person . . . must travel through intermediate devices or software” before the drive parameters are changed pursuant to the user’s mode selection. (Opp’n Mem. at 8-9; MSJ Mem. at 14.) In its contention that the ATA and SCSI interfaces on the disk drives are “user interfaces” in the context of this case, Plaintiff relies on an interpretation of

¹¹ In construing the “user interface” claim term, this Court considered Plaintiffs Convolve and MIT’s proposed construction (“Any software, hardware, firmware, or combination thereof which can be used to alter operational parameters of a data storage device. A user interface does not require direct access by a person but may be accessed via other software or hardware, e.g., as a jumper, protocol, software program, keyboard or mouse.”) and Defendants’ proposed constructions (“an electrical device, a mechanical device, or a software method with which a [human end-user] directly interacts to communicate with a machine”; “a graphical user interface [GUI] or electro-mechanical switches, either of which must be controllable by the computer’s end-user”; and “a way for an *end-user* to select settings and enter them into the computer, either through a GUI or using mechanical switches”). (Pl.’s ’473 Claim Constructions at 1, Ex. A to Joint Claim Construction and Prehearing Statement, ECF No. 79 (Nov. 12, 2002); Defs.’ ’473 Claim Constructions at 1-2, Ex. B to Joint Claim Construction and Prehearing Statement, ECF No. 79 (Nov. 12, 2002); Jan. 15, 2003 Defs.’ Resp. Claim Construction Brief at 20; *see also Markman* Hr’g Tr. 210:4-15.)

the “user interface” limitation that effectively reads the term “user” out of the claim language. Applying the proper construction to the undisputed facts establishes that the ATA and SCSI disk drives, by themselves, do not meet the “user interface” claim limitation and therefore cannot support a finding of infringement of this element.

Defendants move for summary judgment on Plaintiff’s allegation that an accused ATA or SCSI disk drive, regardless of the presence of an F10 BIOS interface in the computer, may by itself constitute a “user interface” sufficient to meet the claim limitation as constructed by this Court. (*See* MSJ Mem. at 12-18; Reply Mem. at 6-8; Opp’n Mem. at 7-10.) Plaintiff asserts that there is a genuine issue of material fact as to whether an ATA or SCSI interface – a “device-to-device” connector located in or on the disk drive that enables the disk drive and host processor to communicate “in the same language” (MSJ Mem. at 13) – is a “user interface” under this Court’s construction of that term. (Opp’n Mem. at 7-8; PFII ¶¶ 448-460.) Plaintiff bases this argument not on this Court’s adoption of its proposed construction, but on this Court’s inclusion of the words “directly” and “indirectly” in the “user interface” construction. (Am. *Markman* Order at 1.) Plaintiff contends that, by including the word “indirectly” in its “user interface” claim construction, this Court intended to allow for broad constructions of the term “user interface” in which the interface is several degrees removed from the user, and the user “indirectly” uses the interface, such as the construction advocated by Plaintiff. (Opp’n Mem. at 7; PFII ¶¶ 457-460.) Defendants argue that, in the context of the construed claim, Plaintiff’s interpretation of “indirectly” is incorrect. (MSJ Mem. at 16-17.) It is Defendants’ position that an accused disk drive, on its own, does not constitute or contain a user interface, and thus Plaintiff fails to demonstrate that the

accused products satisfy this required element of the asserted claims.¹² (MSJ Mem. at 12-18; Reply Mem. at 6-8.)

The parties' dispute over the "user interface" limitation turns on the proper scope and application of this Court's claim construction – specifically, on whether Plaintiff's contention that the ATA and SCSI interfaces located in the disk drive qualify as "indirect" user interfaces within this Court's construction of that term; thus, resolution of this issue is appropriate for summary judgment. *See Gen. Mills, Inc. v. Hunt-Wesson, Inc.*, 103 F.3d 978, 983 (Fed. Cir. 1997) ("Where the parties do not dispute any relevant facts regarding the accused product, . . . but disagree over possible claim interpretations, the question of literal infringement collapses into [one of] claim construction and is amenable to summary judgment."); *accord Mantech Envtl. Corp. v. Hudson Envtl. Servs., Inc.*, 152 F.3d 1368, 1371 (Fed. Cir. 1998) ("Where the determination of infringement turns solely on the legal question of the proper construction of the claims, summary judgment is appropriate.").

Plaintiff's application of the "user interface" construction is inconsistent with that ordered by this Court, and advances a position that cannot be accepted under principles of proper claim interpretation. In Plaintiff's construction of the term, an ATA or SCSI interface would be deemed to be a "user interface," despite being a part of "multiple layers" that are remotely situated from the site of contact at which a user selects a preferred mode of computer operation.¹³ (Opp'n Mem.

¹² Specifically, Defendants argue that Plaintiff erroneously "reads the [user interface] construction in such a way that allows it to claim that device-to-device connection interfaces are 'user interfaces,'" and that Plaintiff's interpretation of the "user interface" element demonstrates that Plaintiff "has ignored the Court's express requirement that the user interface requires interaction by a 'person,' not a device." (MSJ Mem. at 12-13.) Defendants conclude that "a disk drive merely having the ability to accept commands from the actual user interface on the host computer does not make the ATA / SCSI interface part of the 'user interface.'" (MSJ Mem. at 17.)

¹³ In contrast, Plaintiff distinguishes software programs like Compaq's F10 BIOS from Seagate's ATA and SCSI interfaces because the F10 BIOS is a graphical user interface ("GUI") that "facilitate[s] user selection of acoustic or performance seek modes" by "provid[ing] settings to the user and allow[ing] the user to alter settings." (Opp'n Mem. at 10-11 (citation omitted).) Plaintiff contends that the fact that GUIs like the F10 BIOS facilitate a user's mode selection and visually provide settings to a user "does not make the ATA or SCSI interface any less of a user interface" than the F10 BIOS. This argument must be soundly rejected. The type of user "facilitation" described by Plaintiff is

at 8; PFII ¶¶ 446-447.) Plaintiff asserts that such a construction is appropriate because an ATA or SCSI interface, like “all” the invention’s intermediary layers, constitutes a “portion[] of the user interface” that “indirectly” permits the user to “communicat[e] information . . . to the CPU.” (Opp’n Mem. at 8; PFII ¶¶ 446-447.)

A court’s claim construction must not read any terms out of the asserted claims. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (“[C]laims are interpreted with an eye toward giving effect to all terms in the claim.”); *id.* at 951 (rejecting proposed claim construction because effect “would be to read limitations . . . out of the claim”); *see also Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1348 (Fed. Cir. 2012) (rejecting district court’s claim construction because it “effectively read[] the term ‘free’ out of the limitation”). Plaintiff’s interpretation of “user interface” is untenable because its effect is to expand the “user” aspect of the term to the point of obsolescence. Under Plaintiff’s construction, the term “indirectly” has no foreseeable limit; as long as a sequence of commands is initiated by a user while selecting a setting for performance or acoustic mode, then each iteration or conduit the command must go through until it effectuates the desired outcome is itself a “user interface.” Under Plaintiff’s construction, any interface ensnared in the entire communication sequence between the commanding user and the ultimate implementation of the user’s command would separately qualify as a user interface.¹⁴ This construction is not permissible.

The ’473 patent’s “user interface” element may not be construed so broadly as to be co-extensive with the invention itself; if it were, that claim element would always be satisfied by any

an indispensable component of a user interface. The terms “indirectly” and “combination” in the “user interface” claim construction do not alter this fact.

¹⁴ (Opp’n Mem. at 8 (quoting Plaintiff’s expert) (“[the] ‘multiple layers of hardware and software’ . . . between the user controlling the mouse or keyboard and that device actually functioning . . . are all still portions of the user interface”); PFII ¶¶ 446-447.)

command-relaying interface, alone, once a user originated the command – no matter how far removed from the user that “interface” is – and the “user” qualification of “interface” would be divested of meaning. Nor would there be a need to identify the “user” interface in any accused product, since any and all interfaces in the chain of command would qualify. Plaintiff’s attenuated interpretation of “user interface” effectively reads the term “user” out of the asserted claims and, therefore, is not consistent with this Court’s claim construction. *Bicon*, 441 F.3d at 950-51; *see also Elekta Instrument S.A. v. O.U.R. Sci. Int’l, Inc.*, 214 F.3d 1302, 1307 (Fed. Cir. 2000) (concluding that ordinary meaning of claim term must apply because “any other conclusion renders the reference to [another claim term] superfluous”).

The proper interpretation of this Court’s “user interface” construction limits the application of “indirectly” to the manner in which a user alters disk drive parameters by communicating a command to the computer (through some combination of software, hardware, and firmware), and the manner in which the user’s command – once received by the user interface – is executed.¹⁵ “Indirectly” does *not* characterize the connection between the user and all subsequent interfaces in the chain of execution of said command.

As expressly stated by this Court, inclusion of the term “indirectly” in the claim construction was intended to protect the patent owner against potential infringers who would attempt to frustrate an otherwise direct relationship “between the user and the invention” by

¹⁵ The language of the claims themselves supports the conclusion that a user interface, as contemplated by the claims, will not generally – if ever – be situated beyond the host processor and in the disk drive itself, as are the ATA and SCSI interfaces. At least Claim 1 of the patent locates the user interface in or near the host processor, such that a user can “work[] with” the host processor, which comports with this Court’s understanding that the user interface must be located so as to be accessible to – and facilitate interaction with – the user. (*See, e.g.*, ’473 Patent Claim 1, col. 43:16-31 (claiming a “[u]ser interface for operatively working with a processor to affect operation of a data storage device,” with the “user interface comprising . . . means for causing the processor to output commands to the data storage device”).) A court should discount claim construction arguments from the parties or their experts that are at odds with the plain language of the patent’s claims, specifications, or prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed. Cir. 2005) (citations omitted) (“[A] court should discount any expert testimony ‘that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent.’”).

interposing, or characterizing as an interface, an intermediary structure before the site of the user's selection of the operating mode. (*Markman* Order at 19.) The term "indirectly" was *not* included to independently define as the user interface each subsequent step necessary to execute the selected mode setting.¹⁶ To the contrary, this Court specifically identified the need to "distinguish[] the [user] interface from other types of interfaces . . . [such as one] which allows one software program to interface with another." (*Markman* Order at 19.) In short, "indirectly" preserves nothing more than the true relationship between the user and his *actual act of selection*.¹⁷ Device-to-device communications involved in the subsequent execution of a user's selected mode do not satisfy this criteria.

Thus, a "user interface" in the context of this action may not exclude the site at which a user actually selects an operating mode, which is the only act taken by a user that is relevant to the claimed method. (*See Markman* Order at 19 (identifying "user," in the context of this action, as one who "dictate[s] what the parameters should be"), 20 (identifying "user" as one who "in this case, set[s] the drive parameters").) Plaintiff's allegations and asserted claims also confirm that the first step in the method comprising the claimed invention occurs when a user selects between quiet and performance modes of computer operation. (*See, e.g.,* Am. Compl. ¶ 6; Pl.'s Ex. 109; Am. Final Infringement Contentions at 23-27; Pl.'s Ex. 1 at 58: '473 C1 col. 1:22-44; *see also* Opp'n Mem. at 7-8.)

¹⁶ This same rationale applies to the claim construction's inclusion of the word "combination." That term was included to avoid the pedantic argument that a combination of procedural instrumentalities (e.g. mouse, keyboard, etc.) between the user and the point of mode selection would preclude a finding that the point of mode selection was a user interface; it shall not be used to extend the meaning of "user interface" to exclude the point where a user actually interacts with the invention. (*Contra* Opp'n Mem. at 10-11.)

¹⁷ The use of "indirectly" does not safeguard Plaintiff's attempt to make some of the very arguments that were specifically rejected in this Court's *Markman* Order. Plaintiff's revived arguments are identical, in effect, to its previous argument that "user" should be construed to include a "device," which this Court clearly rejected for the same reasons. (*Markman* Order at 19 ("Plaintiffs' construction of 'user' . . . is too broad. It fails to give meaning to the adjective 'user,' which distinguishes the interface from other types of interfaces used in the computing field"))

Plaintiff makes several unsuccessful arguments that it asserts “preclud[e] summary judgment that the accused drives’ ATA and SCSI interfaces are not ‘user interfaces’ as defined by the Court.” (Opp’n Mem. at 7.) First, Plaintiff proffers the opinion of its expert that the ATA and SCSI codes in the accused drives constitute “user interfaces” that “allow[] the user to ‘indirectly’ control the seek time or acoustic noise level of the drive . . . via programs and subprograms that implement the ATA/SCSI standards.” (Opp’n Mem. at 7-8; *see also* Phinney Decl. ¶¶ 179-190.) Plaintiff’s expert suggests that the ATA and SCSI interfaces are “user interfaces” because “the user dictates drive parameters through settings provided by the ATA and SCSI interfaces” and that “the disk drives themselves . . . provide settings in the ATA and SCSI interface that allow a user to dictate . . . [drive] parameters.” (Decl. of Dr. Joshua Phinney ¶¶ 180, 187.) Plaintiff’s expert acknowledges, however, that the user does not actually make a setting *selection* by means of interacting with the disk drive. (Phinney Decl. ¶ 188 (“the very essence of the phrase user interface as construed by the Court” is that the “settings (e.g. performance or quiet mode) are to be set by a source outside of the drive; i.e. the user”).)

Plaintiff’s expert advocates a construction of the “user interface” limitation that is decidedly different than the one this Court reached in its *Markman* Order. (Am. *Markman* Order at 1.) An expert’s opinion as to claim interpretation may not supplant that of the court; the federal courts retain the exclusive authority to construe patent claims as a matter of law. *See AWH Corp.*, 415 F.3d at 1318 (citations omitted) (reiterating construing courts’ authority to disregard expert opinion that is in conflict with written record of patent); *see also Markman*, 517 U.S. at 372 (“the construction of a patent, including terms of art within its claim, is exclusively within the province of the court”).¹⁸

¹⁸ Nor do such statements by an expert transform the task of claim construction into a question of fact. *Lighting Ballast Control LLC v. Philips N. Am. Corp.*, 744 F.3d 1272, 1284 (Fed. Cir. 2014) (“[T]he elaboration of experts or

Plaintiff relies on an incorrect interpretation of the “user interface” limitation in its contention that the ATA and SCSI interfaces on the disk drives are “indirectly” “user interfaces.” This interpretation effectively reads “user” out of the limitation. The undisputed facts establish that the ATA and SCSI interfaces on the disk drives cannot, on their own, satisfy the “user” element of “user interface,” properly construed. The ATA and SCSI interfaces, and therefore the disk drives by themselves, cannot support a finding that the accused products infringe the “user interface” element in asserted claims 8, 9, and 11-15. (*Contra* Pl.’s Ex. 3 at 3, Table 1.)¹⁹ Defendants’ motion for summary judgment of non-infringement of the “user interface” limitation is therefore GRANTED.

C. The “Commands” Limitation

This Court constructed the term “commands” to mean “input signals to the data storage device” that have been “shaped by a processor.”²⁰ (*Markman* Order at 22, 24.) “Shap[ing],” as used herein, refers to “[t]he method of altering the inputs to a system.” (*Markman* Order at 2.) “Shaping input signals,” or commands, was constructed to mean “applying a transformation to a signal.” (*Markman* Order at 28.) The undisputed evidence demonstrates that the F10 BIOS user interface does not issue “shaped” commands as required under the “commands” limitation of the asserted claims and, therefore, the F10 BIOS does not infringe the ’473 patent.

tutorial explanation of technical subject matter does not convert patent claim construction into a question of fact.”); *Arthur A. Collins, Inc. v. N. Telecom Ltd.*, 216 F.3d 1042, 1046 (Fed. Cir. 2000) (citations omitted) (“[F]raming the expert’s conclusion as an assertion that a particular critical claim limitation is found in the accused device” is “insufficient to raise a genuine issue of material fact.”).

¹⁹ Without the foregoing argument, Plaintiff has provided evidence of infringement of the “user interface” element only with respect to Compaq’s F10 BIOS utility, discussed *infra*. As noted below, Plaintiff’s inclusion of the SeaAAM and SeaTools utilities in its user interface submissions was improper. (*See infra* n.21.)

²⁰ In construing the “commands” claim term, this Court considered Defendants’ proposed construction (defining “command” as a “shaped input signal” that is “produced by the ‘processor’” and “can cause an action in the ‘data storage device’”) and Plaintiffs Convolve and MIT’s statements at argument about construction of the term (agreeing with Defendants’ construction of commands, except contending that they must be output from somewhere other than the disk drive, which would not include the controller). (Defs.’ ’473 Claim Constructions at 53; *Markman* Hr’g Tr. 272:17-273:22, 268:6-9.)

Plaintiff accuses Defendant Compaq's F10 BIOS utility, a user interface present in certain of the accused computers, of direct and indirect infringement "in combination" with Seagate's ATA disk drives.²¹ (*See, e.g.*, Pl.'s Ex. 109 at 23, 25; Pl.'s Ex. 3 at 3, Table 11; *see also* MSJ Mem. at 5.) Specifically, Plaintiff alleges that the F10 BIOS utility is the means by which certain Compaq computers provide for user "select[ion] between quick and quiet modes." (Pl.'s Ex. 109 at 3-4.) Plaintiff claims that, in combination with Seagate's ATA disk drives and "any other hard disk drive that changes seek trajectory shape in response to the F10 BIOS Utility performance/quiet command," the F10 BIOS infringes Claims 1, 3, 4, and 7-15 of the '473 patent. (Pl.'s Ex. 109 at 3-4.)

Defendants move for summary judgment of non-infringement with respect to the F10 BIOS on the ground that the commands issued by that interface are not commands "shaped by a

²¹ In its submissions on this motion, Plaintiff includes Seagate software programs SeaAAM and SeaTools in its discussion of user interfaces that work with the accused drives on Compaq computers. (Opp'n Mem. at 10-11; PFII ¶ 452.) Defendants contest Plaintiff's inclusion of these programs because Plaintiff "never identified SeaAAM or SeaTools in its infringement contentions." (Reply Mem. at 8.) The only user interface Plaintiff identified in its '473 Amended Final Infringement Contentions was the F10 BIOS. (Pl.'s Ex. 109 at 3-4, 23-54.) Plaintiff may not seek to avoid summary judgment by pointing to allegedly infringing products that were never accused in any of its infringement contentions, nor were they the subject of discovery in this case.

Moreover, the evidence demonstrates that the SeaAAM and SeaTools utilities were not included as components in the actual accused devices; they were only available for download as separate products. (PFII ¶ 516 ("SeaTools Enterprise Edition was available for downloading from Seagate's website after the '473 patent issued."); Phinney Decl. ¶ 235 ("Though seemingly not currently available on Seagate's website, a copy of the utility can be found by typing 'SeaAAM' in an Internet search engine.")) As such, neither utility may support a claim of direct infringement absent evidence that Defendants exercised "control or direction" over users who might download these separate utilities, and there is no such evidence here. *See Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329-30 (Fed. Cir. 2008) (citation omitted) ("[W]here the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party. . . mere 'arms-length cooperation' will not give rise to direct infringement by any party.").

Plaintiff's separate allegations that Defendants provided the SeaAAM and SeaTools utilities in order to induce infringement (*see* Opp'n Mem. at 14) must also fail because this Court finds that there was no direct infringement of the '473 patent. *See Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1034-35 (Fed. Cir. 2002) (citations omitted) ("It is well settled that there can be no inducement of infringement without direct infringement by some party. Upon a failure of proof of direct infringement, any claim of inducement of infringement also fails."); *see also Limelight*, 134 S. Ct. at 2117 (internal quotation marks and citation omitted) ("[O]ur case law leaves no doubt that inducement liability may arise if, but only if, there is direct infringement."). Therefore, the F10 BIOS is the only accused user interface (external to the disk drive itself, *see* Part III.B, *supra*) on which Plaintiff may rely in this case.

processor,” and thus do not meet the required claim limitation. (MSJ Mem. at 18-20; Reply Mem. at 9-10; Tr. 13:12-14.) Plaintiff contends that “the F10 BIOS does not have to shape the output seek current directly” to fit within this Court’s “commands” construction because the transmission of generic commands to the disk drive satisfies the applicable claim construction as well. (Opp’n Mem. at 13.)

The parties do not dispute that the F10 BIOS interface does not generate shaped commands. (See, e.g., Opp’n Mem. at 12; Reply Mem. at 9-10; Defs.’ Ex. 5: July 1, 2008 Dep. of Shukri Souri at 324:19-21 (Plaintiff’s expert testifying that the F10 BIOS does not output seek current).) The parties’ disagreement turns on the scope of this Court’s claim construction, i.e., whether the term “commands” was construed to include both shaped and unshaped, or generic, commands. Thus, contrary to Plaintiff’s assertions (Opp’n Mem. at 13), this issue is appropriate for summary judgment. *Gen. Mills*, 103 F.3d at 983; *accord Mantech*, 152 F.3d at 1371.

Defendants submit that this Court’s construction requires that “commands” within the claim limitation be “shaped by a processor,” and sent to the data storage device as “shaped input signals” from the processor that performed the shaping. (Tr. 13:12-14; Reply Mem. at 9-10; DF ¶ 32; *Markman* Order at 24.) Defendants contend that because Plaintiff has conceded that commands issued by the F10 BIOS are not shaped as required by the asserted claims, the F10 BIOS cannot infringe the ’473 patent, and summary judgment of non-infringement with respect to the F10 BIOS is warranted. (Reply Mem. at 9; Tr. 12:8-11, 13:14-15, 15:10-15; *Uniloc*, 632 F.3d at 1301 (quoting *Lemelson*, 752 F.2d at 1551 (“The plaintiff bears the burden of showing that each and every claimed element of the patent, or its equivalent, is present in the accused device.”).)

In response, Plaintiff asserts that the “commands” claim element is satisfied by the F10 BIOS as a result of its transmission of unshaped, “generic” commands to the processor on the disk drive, which device subsequently shapes the commands. (Opp’n Mem. at 13.) Alternatively,

Plaintiff states that whether the F10 BIOS commands are shaped is irrelevant to any finding of infringement, as the accused products are alleged to infringe the patent “regardless of the presence of the F10 BIOS” because the disk drives themselves constitute user interfaces that generate shaped commands or input signals.²²

Defendants challenge Plaintiff’s assessment that the construed claim language allows for the inclusion of unshaped, or generic, commands. (Reply Mem. at 9.) Defendants assert that Plaintiff misconstrues this Court’s claim construction and derives its interpretation of “commands” from an inapplicable section of the *Markman* Order. (Reply Mem. at 9; Tr. 13:15-18; *see* Opp’n Mem. at 13; PFII ¶ 437, citing *Markman* Order at 22 (construing “data storage device” claim element).)

Plaintiff’s interpretation of the applicable claim construction is in error; this Court previously held that, unlike the specification, the asserted claims require commands – not in the generic sense – but in the form of shaped input signals. (*Markman* Order at 22-24.) This Court expressly distinguished the specification’s “more general use” of (unshaped) “commands” from the “context-specific” (shaped) use in the claims themselves. (*Markman* Order at 22.) Plaintiff bases its F10 BIOS argument on the claim construction’s discussion of the “more general” usage of “commands” in the specification, without acknowledging the distinction made by this Court in the preceding and following lines of its order. (*See* Opp’n Mem. at 12-13; *Markman* Order at 22

²² (*See* Opp’n Mem. at 12; PFII ¶ 434 (“Compaq computers containing accused Seagate drives are themselves accused of ’473 patent infringement, regardless of the presence of the F10 BIOS feature.”), ¶ 613 (“Compaq computers containing the JIT [SCSI] Drives are accused of infringing the ’473 patent regardless of the presence of the F10 BIOS setup utility.”), ¶ 448 (asserting that the ATA interface in each ATA drive and the SCSI interface in each SCSI drive satisfies the “user interface” limitation of the asserted ’473 patent claims), ¶ 452 (stating that SeaAAM, SeaTools and F10 BIOS utilities are “user interfaces” used in conjunction with the accused drives), ¶¶ 461-477 (alleging that all accused ATA drives are equipped with an ATA interface), ¶¶ 478-489 (asserting the accused SCSI drives are all equipped with a SCSI interface); *see also, e.g.*, Pl.’s Ex. 3 at 132 (“Furthermore, the Court’s construction of ‘user interface’ is met not only by the ATA interface . . . but also by the F10 BIOS on the Compaq computer system.”); *see also* Tr. 64:4-8; discussion at Part III.B, *supra*.)

(emphasizing distinction between the “context-specific use within one claim” and “a more general use in the specification,” and finding that “[c]laim 10 refers to a specific kind of ‘command,’ one that has been shaped by a processor”).) Plaintiff’s reliance on the usage of generic “commands” in the invention’s preferred embodiment (as expressed in the specification) cannot overcome the controlling usage of shaped “commands” in the claims themselves. *Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1347 (Fed. Cir. 1998) (“Laitram IV”) (“[I]t is the *claims*, not the written description, which define the scope of the patent right.”).

This Court construed, in no uncertain terms, the relevant claim limitation. (*Markman* Order at 23-24 (construing “outputting commands to the data storage device”).) In the specific context of the asserted claims, “commands” was construed to mean: “input signals to the data storage device” that have been “shap[ed]” by the “disclosed method” in the invention, the “*result*” of which is then “sent (as output) from the processor performing the shaping to the data storage drive (as input).” (See *Markman* Order at 24 (emphasis added).) This construction unambiguously requires the claims’ “commands” to be shaped when issued from the processor in order to satisfy the claim limitation at issue here. Applying the correct construction of this claim element, Plaintiff’s concession that the F10 BIOS commands are not shaped when issued is fatal to its F10 BIOS infringement claims. See *Uniloc*, 632 F.3d at 1301; *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1535 (Fed. Cir. 1991) (“[T]he failure to meet a single limitation is sufficient to negate infringement of the claim.”).

Because it is undisputed between the parties that the F10 BIOS does not issue “shaped” commands, the F10 BIOS cannot be said to issue “commands” under the properly construed limitation in the asserted claims. The F10 BIOS therefore does not infringe the claimed method.

As there is no other user interface that has been properly identified and accused by Plaintiff,²³ this finding of non-infringement with respect to the F10 BIOS leaves Plaintiff's allegations devoid of a basis upon which to allege direct infringement of the "user interface" claim element, which is required by each asserted claim. (See Pl.'s Ex. 1, cols. 43:15-46:14; Pl.'s Ex. 109 at 23-54; Pl.'s Ex. 3 at 3, Table 1.) Plaintiff's allegations of indirect, or induced, infringement must also fail because Plaintiff is unable to prove direct infringement of the '473 patent. *Limelight*, 134 S. Ct. at 2117. Therefore, because Plaintiff has not provided this Court with evidence sufficient to establish infringement of the "commands" limitation by the F10 BIOS, or of the "user interface" element with respect to any accused product, Defendants are entitled to summary judgment of non-infringement as to all asserted claims (1, 3, 4, and 7-15).

IV. Intervening Rights

Even if Plaintiff had cited to evidence sufficient to avoid summary judgment, patent infringement liability is precluded by intervening rights arising from the December 2, 2008 substantive amendment to the asserted claims.

Defendants move for summary judgment dismissal of Plaintiff's lawsuit on the ground that Defendants acquired intervening rights upon the filing of the PTO's First Reexamination Certificate. Defendants base this argument on the fact that the PTO rejected Plaintiff's claims upon reexamination, and required Plaintiff to substantively amend the '473 patent before the certificate of patentability – declaring all claims allowable as amended – could issue. (See MSJ Mem. at 38-41; Reply Mem. at 18-19.) Plaintiff does not dispute that the '473 patent was amended during the First *Ex Parte* Reexamination, but contends that the amendment was "clarifying" as opposed to "substantive," such that intervening rights did not attach. (See Opp'n Mem. at 31-33.)

²³ Neither the ATA and SCSI interfaces, nor the SeaTools and SeaAAM utilities, can satisfy the required "user interface" element of the asserted claims in this case. (See *supra* Parts III.B.)

The parties do not dispute that Defendants' alleged infringement occurred in 2001 and 2002. Because the December 2, 2008 amendments to claims 1, 3, 4, 7-10, 14, and 15 of the '473 patent were required by the PTO to distinguish prior art before it would allow reissuance of the patent, the amendment was substantive in nature. Therefore, intervening rights attached on December 2, 2008, and Defendants are not subject to liability for any alleged infringement of the '473 patent prior to that date. Defendants' motion for summary judgment on this ground is therefore, independently, GRANTED.

A. Intervening Rights²⁴

Reexamination proceedings "permit a patentee or other interested person to obtain review and[,] if necessary[,] correction of the claims resulting from the initial examination of the patent."

²⁴ Plaintiff argues that Defendants' intervening rights argument must fail because it is an affirmative defense that Defendants did not plead in their Answer and failed to amend their pleadings to include. (PFII ¶¶ 304-306; Opp'n Mem. at 31.) However, the defense of absolute intervening rights, which Defendants assert here, is not waived even when it is not raised until after the liability stage at trial. *See BIC Leisure Prods., Inc. v. Windsurfing Int'l, Inc.*, 1 F.3d 1214, 1221-22 (Fed. Cir. 1993) (finding that district court did not err in admitting defendant's intervening rights defense, despite the fact that it was not asserted in defendant's pleadings nor litigated during the liability stage of trial). Moreover, a district court has significant latitude in determining whether to allow claims and defenses, particularly where, as here, Plaintiff has not suffered any prejudice because the defense of intervening rights was asserted shortly after the December 2008 amendment to the patent was made (*see* Feb. 27, 2009 Defs.' Mots. for Summ. J., ECF Nos. 906-909; Aug. 16, 2011 Mem. Decision and Order at 46). *See, e.g., Kruse Tech. Partnership v. Volkswagen AG*, 544 F. App'x 943, 952-53, 956 (Fed. Cir. 2013) (finding it within district court's discretion to grant or deny leave to amend infringement contentions based upon considerations of prejudice); *see also BIC Leisure Prods.*, 1 F.3d at 1217, 1222 (allowing intervening rights defense at damages phase of trial because plaintiff had ample notice of the defense through prior deposition testimony, negating any prejudice, and the defense was an important part of the merits of the action).

Plaintiff also repeatedly asserts – with respect to the intervening rights ground for summary judgment and others – that this Court should be compelled or persuaded by decisions of a Magistrate Judge in the Eastern District of Texas, who presided over *Convolve Inc. v. Dell, Inc., et al.*, No. 2:08-CV-244 (E.D. Tex., filed June 18, 2008), and findings by the jury in that case. (*See, e.g.,* Opp'n Mem. at 1-2, 4-8, 10, 15, 19, 22-25, 29, 31, 33; PFII ¶¶ 276-303.) That litigation was an action brought by Plaintiff in this case over the same '473 patent, but against different defendants (Dell Inc., Western Digital Corp., Hitachi Global Storage Technologies, Inc., and Hitachi Ltd.), which defendants are represented by different counsel, and in which – as Plaintiff concedes (Opp'n Mem. at 10) – the Texas magistrate judge adopted a different claim construction for "user interface" than that adopted by this Court. (*Compare* Am. Markman Order at 1 *with Convolve v. Dell Markman* Order at 16, No. 08-cv-00244-RSP, ECF No. 211 (E.D. Tex. Jan. 5, 2011).) Despite Plaintiff's contentions that the "same" arguments were made in the Texas case as in this case (Opp'n Mem. at 1-2, 4-8, 10, 15, 19, 22-25, 29, 31, 33), it is highly unlikely—and this Court finds no basis for presuming—that those arguments were made in exactly the same way, nor could they have been based on the same facts, circumstances, accused products, and alleged infringing conduct. Therefore, this Court finds no reason to consider the determinations made by the judge or jury in the Eastern District of Texas case applicable, persuasive, or compelling, and declines to further address Plaintiff's arguments on this point herein.

Bloom Eng'g Co. v. N. Am. Mfg. Co., 129 F.3d 1247, 1249 (Fed. Cir. 1997). The reexamination statute requires that, when a party's appeal or time for appeal has been exhausted, "the [Director of the PTO] will issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent any proposed amended or new claim determined to be patentable." 35 U.S.C. § 307(a). If a patent claim is canceled or amended during reexamination, and reissued in a form that is not "substantially identical" to its original counterpart, there can be no liability for alleged infringement of that claim that pre-dates issuance of the reexamination certificate. 35 U.S.C. §§ 307, 252; *Bloom Eng'g Co.*, 129 F.3d at 1250. This is the doctrine of intervening rights.

A new or amended claim incorporated into a patent following reexamination "will have the same effect as that specified in section 252 for reissued patents." 35 U.S.C. § 307(b). Under Section 252, the issuance of a reissued patent effectuates the surrender of the original patent, and the reissued patent nullifies any pending litigation or preexisting causes of action based on the original patent, unless the claims of the original and reissued patents are "substantially identical." 35 U.S.C. § 252. Whether claims are "substantially identical" turns on "whether . . . amendments to the claim language [] effected substantive changes in claim scope." *Marine Polymer Techs., Inc. v. HemCon, Inc.*, 672 F.3d 1350, 1363 (Fed. Cir. 2012). A court determines whether a claim's scope has been substantively changed by conducting "an overall examination of the written description, the prosecution history and the language of the respective claims." *Laitram IV*, 163 F.3d at 1348 (citing *Laitram Corp. v. NEC Corp.*, 952 F.2d 1357, 1362-63 (Fed. Cir. 1991) ("Laitram I")).

But for those claims that are reissued in substantially identical form, amended claims of a patent "can not be enforced against infringing activity that occurred before issuance of the reexamination certificate." 35 U.S.C. § 252; *Bloom Eng'g Co.*, 129 F.3d at 1250; *Fresenius USA*,

Inc. v. Baxter, Int'l, Inc., 721 F.3d 1330, 1340 (Fed. Cir. 2013) (“[I]f the original claim is cancelled or amended to cure invalidity, the patentee’s cause of action is extinguished and the suit fails.”). Instead, when substantive changes result from reexamination of a patent, “any person . . . who, prior to the grant of reissue, made, purchased, offered to sell, or used . . . anything patented by the reissued patent” acquires the protection of intervening rights and is immune from liability for alleged infringing conduct that occurred prior to the reissuance of the patent.²⁵ 35 U.S.C. § 252; *Fresenius*, 721 F.3d at 1339 (“Even if the claim is amended during reexamination to render the claim valid, no suit can be maintained for the period prior to the validating amendment.”). In such a circumstance, infringement liability and damages are limited to the period following issuance of the reexamination certificate. *Seattle Box, Inc. v. Indus. Crating & Packing, Inc.*, 731 F.2d 818, 827-28 (Fed. Cir. 1984).

Whether the claims of a patent have been substantially amended as a result of reexamination is a question of law to be decided by the Court. *See Westvaco Corp. v. Int'l Paper Co.*, 991 F.2d 735, 741 (Fed. Cir. 1993); *see also AIA Eng'g Ltd. v. Maotteaux Int'l S/A*, 657 F.3d 1264, 1271-72 (Fed. Cir. 2011). “This rule flows from the general principle that ‘the interpretation and construction of patent claims, which define the scope of the patentee’s rights under the patent, is a matter of law, exclusively for the court.’” *Laitram IV*, 163 F.3d at 1346-47 (citation omitted).

B. The December 2008 Amendment

In the First *Ex Parte* Reexamination requested by Seagate, the PTO reexamined claims 1, 3, 4, and 7-15 of the patent and, on November 27, 2007, initially rejected all twelve of those claims as being anticipated by the Koizumi patent (U.S. Patent No. 5,982,570). (Defs.’ Ex. 38 at 1, 7.)

²⁵ For patent claims that *are* reissued in substantially identical form, however, the exception to the grant of intervening rights applies. Within this exception, the reissued patent operates as a seamless continuation of the original patent, and does “not affect any action [previously] pending nor abate any cause of action [previously] existing.” 35 U.S.C. § 252; *see also Kaufman Co. v. Lantech, Inc.*, 807 F.2d 970, 978 (Fed. Cir. 1986).

On June 16, 2008, following Plaintiff's request for reconsideration (Pl.'s Ex. 122; Defs.' Ex. 46), the PTO issued a Final Office Action in which it maintained its rejection of those '473 claims as anticipated by Koizumi. (Defs.' Ex. 47 at 2-7.) Plaintiff subsequently obtained a July 15, 2008 Interview with the PTO and submitted an "Amendment After Final and Interview Summary" following that conversation. (Pl.'s Ex. 11; Defs.' Ex. 48; *see also* Pl.'s Ex. 9: July 16, 2008 PTO Interview Summary.)

Plaintiff's Interview Summary included proposed amended claim language for the twelve '473 claims rejected by the PTO. (Pl.'s Ex. 11 at 2-6; Defs.' Ex. 48 at 2-6.) The amended language added the word "seek" before every instance of "acoustic noise" in the claims, in order to distinguish the type of acoustic noise targeted by the claimed '473 method from the "spindle" acoustic noise targeted by the method disclosed in the Koizumi patent. (Pl.'s Ex. 11 at 2-6, 9-13; Defs.' Ex. 48 at 2-6, 9-13.) In the Interview Summary, Plaintiff described each claim amendment as "clarify[ing]," contending that a person having ordinary skill in the art would have known that the original claims were "always" "implicit[ly] and inherent[ly]" limited to "seek" acoustic noise. (Pl.'s Ex. 11 at 7-13; Opp'n Mem. at 31-32; Defs.' Ex. 48 at 7-13.)

On December 2, 2008, the PTO issued the First Reexamination Certificate, accepting Plaintiff's proposal to amend the '473 claims and specify that the claimed method applies only to "seek" acoustic noise as sufficient to distinguish the '473 patent from the prior art in Koizumi. (Pl.'s Ex. 12 at 3; *see also* Defs.' Ex. 49 at 3-5 ("Prior art Koizumi discloses that noise attributed to the spindle is reduced by selecting a quite [sic] mode, but does nothing to . . . reduc[e] the *seek* noise for selected frequencies as now clearly required by [the amended claims].").) With Plaintiff's amendment, the PTO Reexaminer found all previously rejected '473 claims to be "patentable as amended." (Defs.' Ex. 45: First Reexam. Certificate, col. 1:18-19.)

C. The December 2008 Amendment Was Substantive

Defendants argue that Plaintiff's amendment of the '473 claims narrowed or limited those claims so as to constitute a substantive alteration of the patent, thus entitling Defendants to the protection of intervening rights. (MSJ Mem. at 38-41; DF ¶¶ 77-90.) Plaintiff disputes that the intervening rights doctrine applies, and contends that the claim amendments were merely clarifying in nature, as it was "inherent" in the original version of the patent that all '473 claims pertained only to "seek" acoustic noise. (Opp'n Mem. at 31-33; PFII ¶ 311.) Analysis of the original and amended claims, as well as consideration of the additional factors outlined by the Federal Circuit in *Laitram IV*, reveals that the December 2008 amendment was substantive in nature.

1. The Amendment Was Required for Reissuance of the Patent

The PTO rejected reexamined claims 1, 3, 4, and 7-15 on November 27, 2007 as unpatentable due to anticipation by prior art Koizumi, and the PTO maintained its rejection on the same ground on June 16, 2008. (Defs.' Exs. 38, 47.) The examiner found that, "[s]ince Koizumi teaches that unwanted acoustic noise is reduced when silent mode is selected, and that the seek trajectory shape is changed, i.e. altered, to become flatter . . . [Koizumi] anticipates the ['473] claim based on the broadest reasonable interpretation of the language of the claims."²⁶ (Defs.' Ex. 47 at 7.) In rejecting the claims, the Reexaminer noted and conscientiously addressed each distinction proffered by Plaintiff between Koizumi and the '473 patent. The Reexaminer concluded, however, that none of these distinctions – including Plaintiff's arguments concerning

²⁶ Compare language excerpted from representative Claim 11 in the original '473 patent, requiring: "[a] disk drive operatively controlled by a user interface, said user interface providing settings capable of altering one of a seek time of the disk drive and acoustic noise level of the disk drive . . . the disk drive comprising means for outputting commands to alter seek trajectory shape by shaping input signals to the means for performing the seek operation to reduce selected unwanted frequencies . . . in accordance with the altered settings in the user interface." (Pl.'s Ex. 1, col. 44:47-60.)

spindle noise – were apparent from the language of the '473 claims. (Defs.' Ex. 47 at 4 (“[Convolve’s] interpretation . . . can not be gleaned from the language of the claims as they presently exist in the '473 patent.”); *see also* Defs.' Ex. 47 at 7 (“[Convolve has] set forth narrow arguments . . . that are more specific than required by the broad limitations of [the '473] claims.”).) Ultimately, Plaintiff overcame the PTO’s rejection of its patent based on Koizumi only by amending the rejected claims.²⁷ (Defs.' Ex. 49.)

The PTO Reexaminer certified reissuance of the rejected claims only *after* Plaintiff added the term “seek” to “acoustic noise,” explaining in his statement of reasons for patentability that, since Koizumi “disclose[d] that noise attributed to the *spindle* is reduced by selecting a quite [sic] mode,” the '473 claims, “[a]s now amended,” were sufficient to distinguish the claimed method from that disclosed in Koizumi. (Defs.' Ex. 49 at 3 (emphasis added).) It was only *after* receiving the proposed amendment that the Reexaminer found that the claimed '473 method of “[reducing] the *seek* acoustic noise level” was “*now clearly required* by [the reexamined] claims.” (Defs.' Ex. 49 at 3 (final emphasis added).) In pertinent part, the PTO Reexaminer emphasized that the designation of the patent’s targeted acoustic noise as “seek” acoustic noise finally distinguished the claimed method from prior art: “[T]he prior art of record does not suggest or render obvious that a user interface controls the seek time and subsequently outputs commands to a data storage drive, in combination with the claimed features specifically requiring that a seek trajectory is altered by shaping the input signals to reduce selected unwanted frequencies of the *seek* acoustic noise by altering the setting at the user interface.” (Defs.' Ex. 49 at 3-4 (emphasis in original).)

²⁷ The reexamination process is formulated to result in this outcome for imprecisely claimed inventions; patent holders are permitted to amend their claims in response to an adverse PTO decision, in order to reflect their “actual contribution to the art,” without suffering the effects of a permanent revocation of patent protection. *In re Yamamoto*, 740 F.2d 1569, 1571-72 (Fed. Cir. 1984) (“[Patent owners’] interests are not impaired” by the PTO’s obligation to give claims their “broadest reasonable interpretation consistent with the specification” during reexamination proceedings, because they are able to “obtain[] appropriate coverage for their invention” by “correct[ing] errors in claim language and adjust[ing] the scope of claim protection as needed.”).

Having incorporated Plaintiff's amendment into the claim language, the PTO reversed its prior decisions and allowed the previously rejected claims as patentable over Koizumi's prior art. (First Reexam. Cert., col. 1:18-19; Pl.'s Ex. 9 at 2.)

The Federal Circuit has held that the allowance, upon amendment, of previously rejected claims is a "highly influential piece of prosecution history" in determining whether a patent's claims have been substantively changed by an amendment. *Laitram IV*, 163 F.3d at 1348 (finding that amendment substantively changed claims because "[m]ost significantly, . . . [the amendment] resulted in the allowance of claims that had been rejected in the reexamination proceeding over prior art"). Plaintiff acknowledged the Federal Circuit's conclusion in *Laitram IV* that "it is difficult to conceive of many situations in which the scope of a rejected claim that became allowable when amended is not substantively changed by the amendment," *id.*, and pointed only to *Kaufman Co. v. Lantech, Inc.* as an example of a case in which an amendment made to distinguish a patent from prior art was determined not to be substantive in nature. (June 3, 2014 Oral Arg. Tr. 57:10-22.) *Kaufman* does not support Plaintiff's contention on this point.

Plaintiff accurately reports that the *Kaufman* Court determined the patent claim amendments in that case to be "without substantive change." (Opp'n Mem. at 32-33; Tr. 57:21; *see Kaufman*, 807 F.2d at 977.) However, the claims of the patent at issue in *Kaufman* were never rejected, or found to be unpatentable, over prior art. To the contrary, the *Kaufman* claims were amended "notwithstanding" the fact that "[a]ll of the reexamined claims were found to be patentable over numerous prior art references." *Kaufman*, 807 F.2d at 972. Thus, the outcome in *Kaufman* is consistent with the proposition that where – as here – a patent's claims, having previously been rejected as unpatentable over prior art, only become allowable once amended, those amendments are properly deemed to be "substantive" and not "clarifying."

It is implausible that a claim insufficient to sustain patentability – such that the PTO would withdraw patent protection unless the claim is modified, and restore patent protection only when amendment is made – could be “clarifying” in nature or effect. It is difficult to argue that an amendment is “clarifying” and not “substantive” when the PTO declared the reexamined claims invalid without the amendment. The PTO’s sustained rejection, until amendment, of the original ’473 claims distinguishes this case from *Kaufman* and supports the conclusion that the amendment constituted a substantive change to the asserted claims.

2. The Content of the Amendment Was Not Implicit In the Original Claims

Plaintiff argues that the December 2, 2008 amendment was not substantive because the limitation that the claims target only “seek” – and no other type of – acoustic noise was implicit, or inherent, in the claims as originally patented. (Opp’n Mem. at 31-32; PFII ¶¶ 311-312, 318.) Plaintiff submits that the patent’s specification (PFII ¶¶ 311, 331-332), the parties’ understandings during patent prosecution (PFII ¶¶ 337-339) and claim construction (PFII ¶¶ 320-324), the opinions of its experts (PFII ¶ 319) and Defendants’ experts (325-330), and the PTO Reexaminer’s single use of the word “clarifying” in reference to the amendment (PFII ¶¶ 308-309) compel a finding that the amendment itself was not substantive. (Opp’n Mem. at 31-33.) Plaintiff’s arguments are unavailing. The claim language itself is the most significant interpretative guide for the courts, and the terms of the original ’473 claims are unambiguous. Nor do other indications of the terms’ meaning mandate a finding that the amendment was anything other than substantive.

a. The Amendment Was Not Implied By the Patent Specification

It is well-settled that “it is the claims, not the written description, which define the scope of a patent right.” *Laitram IV*, 163 F.3d at 1347. While a court may consider a patent’s prosecution history, specification, prior art, and other pertinent information for context, determination of whether a claim amendment is substantive is “circumscribed by the well-established principle that

a court may not import limitations from the written description into the claims.” *Id.* (citing *Electro Med. Sys. v. Cooper Life Scis., Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994) (“[C]laims are not to be interpreted by adding limitations appearing only in the specification.”)); *see also Hill-Rom Servs., Inc. v. Stryker Corp.*, No. 2013-1450, 2014 WL 2898495, at *2 (Fed. Cir. June 27, 2014) (citation omitted) (“While we read claims in view of the specification, of which they are a part, we do not read limitations from the embodiments in the specification into the claims.”). Thus, Plaintiff’s contention that the ’473 patent specification “evidences” that the acoustic noise targeted in the original claims was limited to “seek” acoustic noise is not a permissible interpretation.

Moreover, review of the specification language excerpted by Plaintiff does not support a limited definition of “noise,” even if Plaintiff’s specification argument were persuasive: the excerpt is consistent in referring specifically to “seek” *time* but only generically to “noise level,” e.g. “a seek time and a noise level,” “a relatively high noise level/low seek time,” “disk drive noise level and seek time,” “both the seek time and noise level parameters.” (PFII ¶ 331.) This excerpt demonstrates that Plaintiff clearly knew how to specify the “seek” limitation when it so desired. The specification language therefore does not support Plaintiff’s assertion that the specification and the original claims inherently targeted “seek” acoustic noise, even if such a limitation were permitted to be read from the specification into the claims themselves. *Schreiber Foods, Inc. v. Beatrice Cheese, Inc.*, 31 F. App’x 727, 730 (Fed. Cir. 2002) (citation omitted) (“The interpretative process forbids importing limitations from the specification into the defining language of the claims.”); *cf. Kaufman*, 807 F.2d at 977 (finding that amendment language²⁸ was already effectively in both the specification and the claims, to the point where the amendments were “unnecessary” and “redundant” with the claim language).

²⁸ The amendments to the claims in *Kaufman* added the word “rotationally” to “interconnected,” and specified that “the downstream roller means rotates faster than the upstream roller means.” *Kaufman*, 807 F.2d at 972-73.

b. The Amendment Was Not Implied By the Prosecution History of the Patent

Plaintiff argues that the parties' representations during patent prosecution²⁹ and claim construction, and the documented opinions of their experts during those times, demonstrate that the patent claims were always understood to be limited to "seek" acoustic noise. (See PFII ¶¶ 319-330, 337-339, 325-330.) But the understandings of the parties, and statements of their experts in the context of litigation, cannot import limitations into the claims that are not contained in the language of the claims themselves.³⁰

Even if this were not the case, the representations and opinions cited by Plaintiff do not clearly demonstrate that the patent's original claims were inherently limited to "seek" acoustic noise. In many instances, a statement that Plaintiff asserts pertains only to seek acoustic noise, actually does not contain the "seek" modifier in front of the "acoustic noise" term at all. (See, e.g., PFII ¶ 322, stating that Defendants represented to this Court that the patent's methods "trade *seek* speed for *seek* acoustics," though Defendants' actual language reads "trade-off between speed and noise," and does not use the term "seek" other than to qualify the terms "speed" and "operations";

²⁹ The prosecution history of a patent consists of the entire record of proceedings in the Patent and Trademark Office. This includes all express representations made by or on behalf of the applicant to the examiner to induce a patent grant, or, as here, to reissue a patent. Such representations include amendments to the claims and arguments made to convince the examiner that the claimed invention meets the statutory requirements of novelty, utility, and nonobviousness. Thus, the prosecution history . . . limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance." *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

³⁰ Proposed claim constructions by the parties may be informative as to the parties' understandings of the claim language, but they are not binding on a court. *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1323–24 (Fed. Cir. 2008) ("Because the court has an independent obligation to construe the terms of a patent, we need not accept the constructions proposed by either party . . ."). Moreover, assertions by a party's expert, while helpful to a court's technical understanding of a patent or the usage of a technical term in the pertinent field, may not supplant a court's determination that a particular claim construction is warranted based on the presence or absence of language in the written record of the patent itself. See *Lighting Ballast*, 744 F.3d at 1284-85 ("[E]xperts in the science or technology may assist the court in understanding the meaning and usage of a claim term, but this does not morph the question [of claim construction] into one of fact."); *AWH Corp.*, 415 F.3d at 1317-18 (extrinsic evidence, including expert and inventor testimony, "can shed useful light on the relevant art," but it is "less significant" and "less reliable than the patent and its prosecution history in determining how to read claim terms"); *Laitram IV*, 163 F.3d at 1346, 1349 (finding that intervening rights attached despite "uncontroverted expert testimony" that amended claim was not substantive change); *Key Pharms v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998).

compare Plaintiff's characterization of specification language, Part III.C.2(a), *supra*.) Instead, this characterization relies on Plaintiff's own inference and interpretation. This evidence is insufficient to overcome the other evidence before this Court of the circumstances under which the amendment was made.

The claims of a patent "serve both a definitional and a [public] notice function." *Werner-Jenkinson Co. v. Hilton David Chem. Co.*, 520 U.S. 17, 33 (1997). In order to effectively serve both of these functions, claims that do not otherwise indicate they are subject to a limitation – such as one targeting a particular type of acoustic noise over another – cannot privately be limited based on the parties' alleged understandings of the claims' scope, or an expert's testimony in the context of litigation. *See Vectra Fitness, Inc. v. TNWK Corp.*, 162 F.3d 1379, 1384 (Fed. Cir. 1998) (citation omitted) ("The public is entitled to rely upon the public record of a patent in determining the scope of the patent's claims."); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) ("[W]here the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper."); *see also AWH Corp.*, 415 F.3d at 1318.

The positions of the parties during claim construction proceedings, whether Plaintiff's or Defendants' or a view that is jointly held, are not part of the patent prosecution history. *Standard Oil Co.*, 774 F.2d at 452. As such, these views and statements do not supersede a determination by the PTO – such as the one by the Reexaminer here – that a limitation is not reflected in the actual language of the claims.³¹ Even statements that *are* part of the prosecution history do not

³¹ Furthermore, if the parties' statements during claim construction proceedings were relevant to this determination, the proposed construction of "acoustic noise" that Plaintiff submitted to this Court made no attempt to limit the term to "seek" acoustic noise. (Pl.'s '473 Claim Constructions at 7, (defining "acoustic noise" as "[n]oise in the acoustic spectrum, usually measured in decibels").) Nor did it include the term "seek" in any defined claim term incorporating "acoustic noise." (*See, e.g.*, Pl.'s '473 Claim Constructions at 6-8.) This is so even though Plaintiff limited other, comparable terms in its proposed constructions, by qualifying them with "seek." (*See, e.g.*, Pl.'s '473 Claim

affect the scope of a patent's claims if they are not clear and unmistakeable and made for the purpose of obtaining claim allowance. *3M Innovative Properties Co. v. Tredegar Corp.*, 725 F.3d 1315, 1322 (Fed. Cir. 2013) ("This court does not rely on the prosecution history to construe the meaning of the claim to be narrower than it would otherwise be unless a patentee limited or surrendered claim scope through a clear and unmistakable disavowal."); *AWH Corp.*, 415 F.3d at 1312. Absent a "clear and unmistakable disavowal" by Plaintiff, limiting the scope of "acoustic noise" to exclude spindle and other acoustic noise during prosecution of its patent, "acoustic noise" maintains its ordinary meaning. *3M*, 725 F.3d at 1324-26 (finding that, absent "exclusionary language" or a clear and unmistakable disavowal, ordinary meaning of claim term applied and invoked the "full breadth of [the] claim scope").

The only evidence of an express patent prosecution disavowal advanced by Plaintiff is embodied in an April 2, 2001 fax to the PTO, which Plaintiff asserts establishes that it "specifically stated that *all* claims of the '473 patent were directed to controlling *seek* acoustic noise." (PFII ¶¶ 337-338.) But this claim is belied by both the excerpt³² quoted by Plaintiff and the unambiguous purpose of the faxed document. First, the fax language quoted by Plaintiff does not use the term "seek acoustic noise." It, again, discusses a "seek operation" and "seek trajectory," but only general "acoustic noise." (PFII ¶ 338.) This cannot necessarily be interpreted to mean "seek acoustic noise," particularly since Plaintiff itself characterized Koizumi as addressing "acoustic noise" in the context of a "seek operation." (Pl.'s Ex. 127 at 6 ("with respect to seek operation . . . Koizumi is concerned with acoustic noise").)

Constructions at 8 ("seek time"), 16 ("seek trajectory"), 22 (defining claim element using qualified term "seek time," but unqualified term "acoustic noise level").)

³² "As stated above, all of the independent claims have been amended herein to state that the noise to be reduced during a seek operation is acoustic noise. Thus, as now claimed, it is the acoustic noise level of the data storage device that is controlled by changing seek trajectory shape to reduce unwanted frequencies by shaping input signals to the data storage device." (PFII ¶ 338 (quoting Pl.'s Ex. 127: Apr. 2, 2001 Fax [Requesting Reconsideration of Mar. 29, 2001 Rejection])).)

Second, the document Plaintiff cites as the “4/2/01 PTO Amendment” was submitted by Plaintiff as part of a request that the PTO reconsider and reverse its rejection, due to anticipation by the combination of prior art Rowan (U.S. Patent No. 5,986,426) and Koizumi, of certain claims in Plaintiff’s patent application. (Pl.’s Ex. 127 at 4-8; Pl.’s Ex. 4: Mar. 29, 2001 Office Action.) The April 2, 2001 amendment submission proposed adding the term “acoustic” before every instance of “noise” in the patent application, and expressly stated that it was amending the claims in Plaintiff’s patent application to specify that the ’473 patent targeted “acoustic noise” and not “electrical noise,” as in the Rowan patent. (Pl.’s Ex. 127 at 4 (“The pending independent claims have been amended herein to state explicitly that the noise controlled [by Convolve’s invention] is acoustic noise as opposed to electrical noise.”).) The amendment submission does not employ the term “seek acoustic noise” in any instance. Though not part of the amendment, Plaintiff went on to distinguish Rowan as “altering control of only the spindle motor to reduce acoustic noise.” (Pl.’s Ex. 127 at 6.) Plaintiff contended that “the combined teachings of Koizumi and Rowan” did not suggest “alter[ing the] acoustic noise level of a data storage device by changing seek trajectory shape to reduce unwanted frequencies.” (Pl.’s Ex. 127 at 6.) With the addition of “acoustic” before the term “noise,” the original patent examiner allowed the claims and granted the ’473 patent.

The 2001 amendment cannot establish that the term “seek” was thereafter implicitly incorporated into the original claim language. In 2007 and 2008, the PTO Reexaminer considered this prosecution history and *nevertheless* determined that the reexamined claim language must be rejected, on the grounds that it was insufficiently specific to disclose all of the invention’s allegedly required elements, or to distinguish it from Koizumi. (Defs.’ Ex. 47 at 2-7, 11-12.) In light of this determination, and the subsequent December 2, 2008 amendment – required for patentability –

that added the word “seek” to “acoustic noise,” Plaintiff’s prosecution history argument is unavailing.

These considerations weigh against a finding that statements by the parties or their experts rendered the “seek” limitation implicit in the original claims.

c. The Reexaminer’s Characterization Does Not Render the Amendment Implicit

Plaintiff repeatedly seeks to bolster its argument that the substance of the December 2008 amendment was already implicit in the original claims by citing to the PTO Reexaminer’s single use of the word “clarifying” in describing the amendment.³³ (Opp’n Mem. at 31-32; PFII ¶¶ 308-309; Tr. 49:7, 50:21-22, 52:6; *see* Pl.’s Ex. 9 at 4.) However, against the abundance of evidence that the amendment was substantive in nature, Plaintiff relies too heavily on the Reexaminer’s isolated statement. In the context in which the amendment was made, the Reexaminer’s characterization is flatly undermined by the PTO’s actions rejecting the patent’s claims – twice – during the same reexamination. In relevant part, the amendment was deemed necessary by the PTO both to distinguish the ’473 patent from prior art (Koizumi) and to permit reissuance of the patent, neither of which factors support a determination that the amendment was merely “clarifying.” *See, e.g., Laitram IV*, 163 F.3d at 1348. Moreover, Plaintiff has not set forth any evidence that the PTO Reexaminer’s single use of the term “clarifying” in this isolated instance was a term of art. Given that the normal principles of claim interpretation render the claim amendment substantive, Plaintiff’s reference to the Reexaminer’s isolated use of the term

³³ The PTO summarized the conclusion of the post-rejection Interview it granted Plaintiff as follows: “PTO representatives agreed [with arguments presented by Convolv] that while in Koizumi the reduced noise appeared to be related to spindle noise, the independent claims of the ’473 patent did not clearly make the distinction that the reduced selected unwanted frequencies were specifically directed to targeting the reduction of seek noise as argued by [Convolv]. The PTO representatives indicated, however, that claim amendments clarifying that seek noise is reduced by the input shaped signals would be favorably considered in distinguishing the ’473 claims over Koizumi.”

“clarifying” is insufficient to merit an alternate conclusion. *Accord, e.g., Cobra Int’l Inc. v. BCNY Int’l, Inc.*, 864 F. Supp. 2d 1328, 1340 (S.D. Fla. 2012).

3. The Amendment Narrowed the Scope of the Claims

As the content of the amendment was not implicit in the original patent claims, this Court must determine whether the amendment substantively changed the scope of the claims. *Bloom Eng’g Co.*, 129 F.3d at 1250-51 (considering “whether the scope of the claims of the . . . patent in suit was substantively changed”). The Federal Circuit has concluded, in similar cases, that an amendment substantively narrows the scope of a patent’s claims when a claim term is changed to exclude situations that were ostensibly included in the original language of the claim. *See, e.g., Institut Pasteur v. Focarino*, 738 F.3d 1337, 1343 (Fed. Cir. 2013); *Laitram IV*, 163 F.3d at 1349; *Bloom Eng’g Co.*, 129 F.3d at 1251. Here, because the plain language of the original claims (“acoustic noise”) ordinarily includes “seek,” “spindle,” and other acoustic noise within its scope, Plaintiff’s necessary amendment, limiting its claims only to “seek” acoustic noise (and excluding “spindle” and other types of acoustic noise), substantively narrowed the scope of those claims. *See AWH Corp.*, 415 F.3d at 1312 (“[T]he words of a claim are generally given their ordinary and customary meaning.”).

Adding to a claim term a new modifier that changes the term’s meaning from that of the original term to a subset of the original term narrows the scope of the claim. *See, e.g., Laitram IV*, 163 F.3d at 1349 (“[T]he terms ‘alphanumeric characters’ and ‘type quality alphanumeric characters’ are not synonymous, but . . . the latter is a species of the former. Accordingly, the addition of the ‘type quality’ limitation narrowed the original claims, substantively changing them.”). It is inconsequential that the patentee may have intended for the original claim to target, in practice, only the more particular term, which may have been included in the broader term’s definition. *See Institut Pasteur*, 738 F.3d at 1343; *Laitram IV*, 163 F.3d at 1349.

The *Institut Pasteur* patentee amended its claims by adding the term “chromosomal” before “DNA” in order to limit the DNA targeted by the claimed method to chromosomal DNA only. *Institut Pasteur*, 738 F.3d at 1340-41. That plaintiff contended that the original claims’ requirement that the targeted DNA recombine with a plasmid that was “homologous to the sequence of a chromosome” already limited the scope of the patented method to chromosomal DNA. *Institut Pasteur*, 738 F.3d at 1343. The Federal Circuit rejected this argument, finding that, because non-chromosomal DNA could be homologous to chromosomal DNA in some situations, “the original claim covered situations where nonchromosomal DNA is the targeted DNA.” *Institut Pasteur*, 738 F.3d at 1343. Thus, the Circuit held that “amending the claim to target only ‘chromosomal’ DNA substantively altered (narrowed) its scope.” *Id.*

The *Institut Pasteur* analysis applies equally, in this case, to the ’473 amendments. Plaintiff here, having amended its claims to limit the patented method’s application only to “seek” acoustic noise, argues that the original claims were already implicitly limited to “seek” noise. (*See supra* Part IV.C.2.) But the original claims employ the term “acoustic noise” with no modifier, which – by its plain language – covers situations where “spindle” or other acoustic noise, as well as “seek” acoustic noise, is targeted by the claimed method. (*See* Pl.’s Ex. 1, U.S. Patent No. 6,314,473 B1 cols. 43:15-46:14.) As in *Institut Pasteur*, amending the claims to specifically target only one of these subsets of acoustic noise (“seek”) substantively altered, by narrowing, the claims’ scope. *Compare Institut Pasteur*, 738 F.3d at 1343. This conclusion is reinforced by the fact that, without the specific and explicit reference to “seek” acoustic noise provided by the amendment, the PTO rejected the reexamined claims. (*See supra* Part IV.C.2(c); *see also, e.g.*, Defs.’ Exs. 38, 47, 49.)

D. Defendants Are Entitled to Intervening Rights

The December 2008 amendment, which narrowed the scope of the '473 patent's original claims and resulted in allowance of those claims, as amended, after prior rejections, was substantive in nature. "When a claim is substantively amended," the doctrine of intervening rights "treats the amendment as raising an irrebuttable presumption that the original claim was materially flawed, so there can be no liability for acts of infringement before the amended claim issues." *Institut Pasteur*, 738 F.3d at 1343; *Bloom Eng'g Co.*, 129 F.3d at 1249 ("[I]f the patentee later cures [an identified] infirmity by reissue or reexamination, the making of substantive changes in the claims is treated as an irrebuttable presumption that the original claims were materially flawed" and "the [reexamination] statute relieves those who may have infringed the original claims from liability during the period before the claims are validated.")). The substantive amendment to the '473 patent was effective as of the date of the First Reexamination Certificate: December 2, 2008. (Pl.'s Ex. 12.) Defendants are entitled to the protection of intervening rights for any accused conduct prior to that date.³⁴

The parties do not dispute that Defendants' alleged infringement occurred in 2001 and 2002, long before December 2, 2008. (*See, e.g.*, Opp'n Mem. at 30; PFI ¶ 77; PFII ¶¶ 634-643; MSJ Mem. at 38; Defs.' Ex. 14.) Because the December 2, 2008 amendments to claims 1, 3, 4, 7-10, 14, and 15 of the '473 patent were substantive in nature, intervening rights attached at that time, and Defendants are not subject to liability for any alleged prior infringement of the asserted '473 claims. Summary judgment of non-infringement for Defendants, pursuant to the intervening rights doctrine, is therefore warranted.

³⁴ This result is consistent with the original purpose of the intervening rights doctrine. *Fresenius*, 721 F.3d at 1339 ("[T]he language and legislative history of the reexamination statute show that Congress expected reexamination to take place concurrent with litigation, and that cancellation [or substantive amendment] of claims during reexamination would be binding in concurrent infringement litigation.").

CONCLUSION

Defendants' motion for summary judgment is GRANTED. Plaintiff's Tenth Claim for Relief is DISMISSED in its entirety. The Clerk of the Court is directed to close the motion at ECF No. 1029 and this case.

Dated: New York, New York
July 11, 2014

SO ORDERED.



GEORGE B. DANIELS
United States District Judge