IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

NAPCO, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	1:21-CV-00025
	)	
LANDMARK TECHNOLOGY A, LLC,	)	
	)	
Defendant.	)	

MEMORANDUM OPINION AND ORDER

THOMAS D. SCHROEDER, District Judge.

In October 2020, Defendant Landmark Technology A, LLC ("Landmark") sent Plaintiff NAPCO, Inc. ("NAPCO") a letter expressing its belief that NAPCO's website – wwww.binders.com – was infringing on its patent, U.S. Patent No. 7,010,508 C1 ("the '508 patent"), and demanding that NAPCO pay it a licensing fee of $65,000. (Doc. 15-1.) Rather than pay the licensing fee, however, NAPCO sued Landmark, seeking (among other things) a declaratory judgment that the '508 patent is invalid, the entry of injunctive relief, and the recovery of damages resulting from Landmark's allegedly abusive conduct in violation of the North Carolina Abusive Patent Assertion Act (N.C. Gen. Stat. §§ 75-140, et seq.) ("APAA"). (Doc. 15.) Landmark later moved to dismiss the claims brought against it pursuant to the APAA (Doc. 17), and this court denied relief (Doc. 55). Landmark then filed an answer along with two counterclaims alleging that NAPCO infringed on the '508 patent,

which Landmark maintains is valid and enforceable. (Doc. 57.)

Now before the court are two motions related to this dispute. First, the parties ask the court, pursuant to Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996), to construe ten claim terms in the '508 patent.[1] (See Docs. 120, 123, 127, 128.) Landmark proposes constructions for each of the ten claim terms. (Doc. 120.) NAPCO, for nine of the ten claim terms, proposes no constructions and instead argues that these nine claim terms are invalid for indefiniteness. (Doc. 123 at 9-26.) As for the tenth claim term, NAPCO disputes Landmark's proposed construction and offers its own. (Id. at 26-28.) Second, and related to the issue of claim construction, Landmark moves to strike the declaration and testimony of NAPCO's retained expert witness, Mr. Scott Hanselman. (Doc. 137, 138.) NAPCO responded in opposition (Doc. 140), and Landmark replied (Doc. 142).

These motions are now ready for decision. For the reasons set forth below, Landmark's motion to strike (Doc. 137) will be denied; and the court adopts the claim construction advanced by NAPCO, thus concluding that claim 1 of the '508 patent is invalid for indefiniteness.

[1] The court limited the construction determination to these ten claim terms, although more were originally proposed by the parties. (See Doc. 102; Doc. 105; Doc. 112.)

I. BACKGROUND

The factual background of this case is extensively set out in the court's prior opinion denying Landmark's motion to dismiss. See NAPCO, Inc. v. Landmark Tech. A, LLC, 555 F. Supp. 3d 189, 199 (M.D.N.C. 2021).[2] Pertinent here, NAPCO is a North Carolina corporation and the owner of www.binders.com ("the website"). (Doc. 15 ¶ 3.) Vulcan, NAPCO's wholly-owned subsidiary, operates the website. (Id.) The website offers many consumer products for sale, including binders, folders, and other packaging materials. (See id. ¶ 107; Doc. 70-6 at 3-13.) Like many other websites, binders.com provides visitors with a shopping cart feature that allows them to select products for purchase; it also allows them to create a customer account and to enter their shipping and billing information, including credit card details and a billing address, should they choose to make a purchase. (Doc. 70-6 at 65, 87, 104.)

Landmark is a limited liability company organized under the laws of North Carolina, with its principal place of business in Durham, North Carolina. (Doc. 15 ¶ 5; Doc. 57 ¶ 5.) The sole member of Landmark is Raymond Mercado, a North Carolina resident. (Doc. 101 at 53.) Pertinent here, Landmark owns the rights to the '508 patent. (See Doc. 15-1 at 2; Doc. 57 ¶ 19.) The '508 patent,

[2] All citations to the record are to the paragraph number or ECF docket page.

entitled "Automated Multimedia Data Processing Network," was issued to Lawrence B. Lockwood as inventor on March 7, 2006. (Doc. 15-2 ("'508 patent") at Abstract.) Lockwood filed the patent application in 1995 (id.), largely as a continuation of other patent applications that claim priority to as far back as 1984 (see id.; Doc. 57 ¶¶ 9, 57). At some point, Landmark obtained enforcement rights in the '508 patent; however, no assignment was ever filed with the Patent and Trademark Office ("PTO"). (See Doc. 57 ¶ 19.)

In general, the '508 patent "relates to terminals used by banking and other financial institutions to make their services available at all hours of the day from various remote locations." ('508 patent at 1:22–25.) While the patented invention is claimed broadly, the specification contemplates a more constrained system that facilitates, via a remote self-service terminal, a virtual conversation between a loan application and a "simulated loan officer." (Id. at Abstract.) The specification describes the function of the remote terminals as follows:

> Each remote terminal displays the live image of a fictitious loan officer who helps the applicant through an interactive series of questions and answers designed to solicit from the applicant all the information necessary to process his loan application. The terminal can acquire credit rating information about the applicant from the credit reporting bureau and make a decision based on all the information gathered about the credit worthiness of the applicant and the amount of loan to which he is entitled. The loan amount is then

> communicated to the applicant and to the financial institution for further processing of the loan.

(Id. at 1:67-2:11.) As the abstract explains, the '508 patent represents a "system for filing applications with an institution from a plurality of remote sites, and for automatically processing said application in response to each applicant's credit rating." (Id. at Abstract.) The principal object of the '508 patent "is to provide an economical means for screening loan applications." (Id. at 1:47-48.) It also seeks to "reduce the amount of paperwork and processing time required by each loan application" and "offer a more personal way to apply for credit." (Id. at 1:56-60.)

The '508 patent expired on March 7, 2023. (See Doc. 143 at 161.)[3] Under the Patent Act, however, a patent-holder may seek damages against a putative infringer for up to six years following the date of alleged infringement, so long as the alleged infringement occurred prior to the patent's expiration. See 35 U.S.C. § 286; Kearns v. Chrysler Corp., 32 F.3d 1541, 1550 (Fed.

[3] "Prior to 1995, a patent's term was measured as 17 years from the date of issuance." Hyatt v. Hirshfeld, 998 F.3d 1347, 1351 (Fed. Cir. 2021). To qualify for such a term, however, a putative patentee had to file the patent application with the PTO before June 8, 1995. See Hyatt v. United States Pat. & Trademark Off., 48 F.4th 1347, 1349 (Fed. Cir. 2022). Lockwood filed an application for the '508 patent on April 7, 1995, so when the PTO eventually issued the patent on March 7, 2006, the patent was entitled to a 17-year term from that date. See Thomas J. Kowalski & Pamela G. Salkeld, The Impact of Gatt on the United States Patent and Trademark Office, 11 St. John's J. Legal Comment. 455, 456 (1996) (explaining that under "the old law" when "a patent application remained pending for many years, upon grant its application received the exclusive right for a seventeen-year term").

Cir. 1994). The parties agree that such is the case here. (See Doc. 143 at 161-62.)

Since it obtained enforcement rights in the '508 patent, Landmark has frequently sought to enforce it against potential infringers through the issuance of demand letters. (Doc. 15 ¶¶ 18-19; Doc. 57 ¶¶ 15, 19.) According to NAPCO, these demand letters are essentially identical; each includes the same offer to license the patent from Landmark for a fee of $65,000. (Id. ¶¶ 31-32.)

In October 2020, Landmark sent NAPCO a two-page demand letter accusing NAPCO and the website of infringing on the '508 patent. (Id. ¶¶ 12, 26; Doc. 15-1.) Specifically, the letter claimed that NAPCO's "automated multimedia data processing network systems," particularly binders.com, infringes on the '508 patent by utilizing a "data processing system[] wherein a computerized installation acts on inquiries and orders from stations[,] . . . communicat[ing] with stations which use program instructions and act as the user interface[,] . . . . [retrieving sequences] in a forwardly/backwardly chained response (as defined by the inventor) to data entered into a text input field[,] . . . and [updating data] in a computerized installation storage[.]" (Doc. 15-1 at 2-3.)

The letter then explained that Landmark was offering NAPCO a non-exclusive license to the '508 patent for $65,000. (Id. at 3.) It also stated that the $65,000 license fee represents "a

substantial discount to the historic licensing price of Landmark's portfolio, and w[ould] not be available in the event of litigation." (Id.; see Doc. 15 ¶ 43.) The demand letter did not include the name or address of the patentholder, nor did it include an element-by-element claim analysis or description of services that allegedly infringed the '508 patent. (Id.) Landmark sought NAPCO's response to the demand letter within 15 days. (Id.)

Instead, NAPCO sued Landmark, seeking a declaratory judgment that it did not infringe the '508 patent (Count I) (Doc. 15 ¶¶ 110-17), a declaratory judgment that the '508 patent is invalid (Count II) (id. ¶¶ 118-121), and the entry of injunctive relief and the recovery of damages resulting from Landmark's allegedly abusive conduct in violation of APAA and other applicable law (Count III) (id. ¶¶ 122-32). (Doc. 15.) NAPCO contends that its website does not infringe on the '508 patent and Landmark knew or should have known that; it also asserts that Landmark willfully disregarded the falsity of its assertion in sending the demand letter. (Id. ¶¶ 105-08.)

Soon thereafter, Landmark moved to dismiss Count III of the amended complaint, arguing among other things that the APAA is unconstitutional because it violates the First and Fourteenth Amendments to the U.S. Constitution, as well as the dormant Commerce Clause. (Docs. 17, 18.) Specifically, Landmark argued that the APAA imposed unconstitutional content-based restrictions

on speech, unconstitutionally compelled speech, and irrationally restricted bad faith patent infringement claims by non-operating entities while exempting other organizations. (Doc. 18 at 16-19.) On August 19, 2021, the court denied Landmark's motion to dismiss, finding that the APAA addresses only unprotected speech and that the exclusion of certain groups of patent holders was a reasonable choice by the North Carolina General Assembly. See NAPCO, 555 F. Supp. 3d at 217-222.

Following the court's decision, Landmark filed an answer, along with two counterclaims asserting that NAPCO willfully infringed the '508 patent and induced others into doing so as well, all in violation of 35 U.S.C. § 271. (Doc. 57 countercls. ¶¶ 16-30.) On Landmark's telling, NAPCO has "directly infringed, and continues to directly infringe, at least Claim 1 of the '508 Patent" through "the sales and distribution via electronic transactions conducted on and using at least, but not limited to, the NAPCO Website." (Id. ¶ 17.) Landmark also claims that NAPCO "has actively and knowingly" induced others into infringing the '508 patent by, among other things, "inducing its customers to utilize their own device [i.e., computer, tablet, or smartphone][4]

[4] As Landmark states in its infringement assertions: "Landmark contends that the representative station is representative of the computers and other devices (such as laptops, tablets, and smartphones) used by binders.com's customers, as well as by binders.com itself, which also transmit coded requests (e.g., inquiries and orders) to Defendant's computerized installation." (Doc. 57-8 at 13.)

in combination with the NAPCO Website, and incorporated and/or related systems, to search for and order information and products from the NAPCO Website in such a way as to infringe the '508 Patent." (Id. ¶ 26.)

Some months later, NAPCO filed its still pending motion for bond, pursuant to § 75-144 of the APAA and Federal Rule of Civil Procedure 64, which seeks to have Landmark post a bond equal to a good faith estimate of NAPCO's expected litigation fees, costs, and recoverable damages. (Doc. 69.) According to NAPCO, a bond is warranted because Landmark's infringement allegations are both subjectively and objectively baseless, as evidenced by (among other things) the frequent and identical demand letters Landmark sends to putative infringers (Doc. 70 at 6), the previous finding of the Patent Trial and Appeal Board ("PTAB") that claim 1 of the '508 patent was invalid (id. at 6-8), the sheer improbability that any reasonable person would think NAPCO's website infringed on a patent designed for self-service banking terminals (id. at 8-10), and the fact of Landmark's undercapitalization (id. at 10-11). Landmark responded in opposition. (Doc. 72.)

On June 21, 2022, the court heard argument on the motion for bond and ordered supplemental briefing on five discrete issues (Doc. 97), which the parties provided (Docs. 107, 117, 119). Meanwhile, various third-party technology companies and other organizations submitted an amicus brief defending the

constitutionality of the APAA's bond provision. (Doc. 134.)

Around the same time, the court concluded that the motion for bond – which turns in part on the propriety of Landmark's patent infringement assertion - depended in large measure on how the patent claims were construed by the court at the claim construction phase. Thus, the court informed the parties that it would delay resolution of the motion for bond until claim construction was complete and directed them to continue with the claim construction discovery and briefing deadlines set out in the court's prior scheduling orders. (See Doc. 101.) A few months later, the parties submitted their claim construction briefing (accompanied by the declarations of their respective expert witnesses, which the parties had exchanged some time earlier), addressing the ten claim terms from the '508 Patent selected by the court for claim construction. (Docs. 120, 121, 122, 123, 127, 128.)

Finally, about a week before the claim construction hearing, and nearly a year after NAPCO disclosed its expert's declaration to Landmark, Landmark moved to strike that declaration, arguing that the disclosure was late under the court's discovery schedule and that the testimony therein violated Rule 702 of the Federal Rules of Evidence. (Docs. 137, 138.) NAPCO responded in opposition (Doc. 140), and Landmark replied (Doc. 142). The court reserved ruling on the motion to strike and held a claim construction hearing on May 17, 2023. (Doc. 143.) Each side

presented argument and offered the testimony of its expert witness. (See id.)

II. ANALYSIS

A. Motion to Strike

As an initial matter, the court considers Landmark's motion to strike the declaration of NAPCO's expert witness, Mr. Scott Hanselman. (Docs. 137, 138.)

Landmark contends that Hanselman's declaration and testimony should be struck for two reasons: first, that the declaration was untimely under the court's discovery scheduling order, causing Landmark prejudice (Doc. 138 at 7-10); and second, that Hanselman's opinions on claim construction are unreliable under Rule 702 because they are conclusory, inconsistent with his prior testimony, and in conflict with the relevant legal standards governing claim construction (id. at 10-16). In response, NAPCO argues that Landmark's motion should be denied because: (1) its disclosure of Hanselman's declaration was timely (Doc. 140 at 5-8); (2) the declaration is plainly consistent with Hanselman's prior testimony and comports with the governing legal standard (id. at 8-12); and (3) the rationale for exclusion of expert testimony is inapplicable to the claim construction phase of the litigation, which concerns a pure issue of law for the court (id. at 12-14).

First, as to timeliness, the parties' positions are each

reasonable. The crux of their dispute turns on a putative conflict between the court's discovery scheduling order (see Doc. 64 at 6-9) and this court's Patent Local Rule 104.4, each of which ostensibly provides a different deadline for the end of claim construction discovery, and hence the deadline by which NAPCO should have disclosed Hanselman's declaration.

Landmark rightly points out that while the parties sought and obtained multiple extensions to file the joint claim construction statement, neither party sought (nor did the court otherwise issue) an extension of time to complete claim construction discovery, even though discovery presumably would need to be based on the parties' claim construction statements. (See Docs. 84, 94 (modifying the claim construction statement and briefing deadlines but otherwise noting that "all other dates to remain as originally ordered"); Doc. 64 at 7 (setting May 16, 2022, as the deadline to complete claim construction discovery).) Thus, under the court's scheduling order, as amended, although the joint claim construction statement was due June 3, 2022 (Doc. 94), the deadline to complete claim construction discovery – and thus to disclose any expert reports or declarations - remained May 16, 2022 (Doc. 64 at 7). Under these conditions, Landmark contends, NAPCO's June 2, 2022, disclosure of Hanselman's declaration was late.

NAPCO, in turn, points to Patent Local Rule 104.4, which provides:

> Not later than thirty (30) days after service and filing of the Joint Claim Construction Statement, the parties shall complete all discovery relating to claim construction, including any depositions with respect to claim construction of any witnesses, including experts, identified in the Joint Claim Construction Statement.

Pat. L. R. 104.4. Under this rule, NAPCO says, the deadline to complete claim construction discovery, notwithstanding the court's scheduling order, was necessarily thirty days after the parties filed the joint construction statement on June 3, 2022 - that is, July 5, 2022. (Doc. 140 at 5.) Accordingly, NAPCO concludes, its June 2, 2022 disclosure of Hanselman's report was timely.

The court need not resolve the apparent conflict between the scheduling order and the local patent rule, however, because regardless of whether NAPCO's disclosure was timely, Landmark has failed to show that it suffered prejudice. Notably, Landmark waited nearly a year after Hanselman's declaration was disclosed and less than a week before the claim construction hearing to move to strike the declaration. (Doc. 138.) And while Landmark claims prejudice in not deposing Hanselman, it never moved to do so despite ample opportunity. Finally, at the claim construction hearing, the court offered the parties an opportunity to reopen discovery for the limited purpose of allowing them to depose each other's experts, but they declined. (See Doc. 143 at 142.) Accordingly, Landmark's assertion that it was not afforded an opportunity to depose Hanselman rings hollow. See Symantec Corp.

v. Zscaler, Inc., No. 17-CV-04426-JST, 2018 WL 6270954, at *1 (N.D. Cal. Nov. 30, 2018) (declining to strike expert's claim construction testimony when defendant "waited to object" and identified "no harm it suffered as a result" of belated disclosure); Reflex Packaging, Inc. v. Lenovo (U.S.), Inc., No. C 10-01002 JW, 2011 WL 7295479, at *3 (N.D. Cal. Apr. 7, 2011) (declining to strike an expert declaration because plaintiff's belated disclosure did "not rise to the level of prejudice necessary" and because defendant never sought to "conduct a deposition or any other discovery concerning the testimony" of that expert despite the opportunity to do so).

Second, Landmark argues that Hanselman's testimony is unreliable under Rule 702, which governs the admissibility of expert witness testimony. (Doc. 138 at 2, 10-16.) Rule 702 provides that an expert witness can testify as to his or her opinion so long as (1) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue, (2) the testimony is based upon sufficient facts or data, (3) the testimony is the product of reliable principles and methods, and (4) the witness has applied the principles and methods reliably to the facts of the case. See Fed. R. Evid. 702(a)-(d). It is the trial judge's obligation to determine that an expert's opinions satisfy these elements by a preponderance of the evidence before considering

them.[5] When considering the admissibility of an expert's testimony, district courts have broad discretion to determine what factors to consider. See Kumho Tire Co. v. Carmichael, 526 U.S. 137, 150 (1999).

According to Landmark, Hanselman's testimony fails to satisfy Rule 702 for three reasons. First, Landmark argues, Hanselman's testimony is unreliable because he has "given flatly contradictory

[5] Claim construction is a question of law to be determined by the court. See Markman v. Westview Instruments, Inc., 517 U.S. 370, 390 (1996). So, too, is the issue of a patent's "definiteness." See Nature Simulation Sys. Inc. v. Autodesk, Inc., 50 F.4th 1358, 1360 (Fed. Cir. 2022) ("Indefiniteness . . . like claim construction, is a question of law[.]" (internal quotation marks omitted)). Some courts state that the principles laid out in Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), apply with less force in this context as there is no need to protect a jury from the pitfalls of potentially dubious scientific testimony. See United States v. Brown, 415 F.3d 1257, 1269 (11th Cir. 2005) ("There is less need for the gatekeeper to keep the gate when the gatekeeper is keeping the gate only for himself."); Peter S. Menell et. al., Patent Claim Construction: A Modern Synthesis and Structured Framework, 25 Berkeley Tech. L.J. 711, 815 (2010) ("The dominant and recommended approach is to apply evidentiary rules loosely [in the context of Markman proceedings], in part because Markman hearings are not heard by a jury."); cf. Endress & Hauser, Inc. v. Hawk Measurement Sys. Pty. Ltd., 122 F.3d 1040, 1042 (Fed. Cir. 1997) ("[T]he trial court has wide latitude in the kinds of aids, including testimony of witnesses, employed to assist in the job of claim interpretation as a matter of law."). However, the requirements of Rule 702 are not relieved merely because the court is the fact-finder. See, e.g., UGI Sunbury v. Permanent Easement for 1.7575 Acres, 949 F.3d 825, 833 (3d Cir. 2020) (finding that the district court "ignored the rule's clear mandate" in admitting speculative expert testimony, noting that Rule 702 applies in bench trials, and expressing criticism of cases stating that the gatekeeping function is "relaxed" in bench trials); Fed. R. Evid. 1011(a) (applying the Federal Rules of Evidence to proceedings before the district courts); Seaboard Lumber Co. v. United States, 308 F.3d 1283, 1302 (Fed. Cir. 2002) (noting that Rule 702's requirements of relevance and reliability must nevertheless be met). Because no jury is present, the latitude the district court enjoys is not in abandoning the rule, but in how to apply the rule's requirements. UGI Sunbury, 949 F.3d at 833.

testimony" on the question whether the patent specification at issue in this case "discloses algorithms." (Doc. 138 at 2; see also id. at 10-12.) Specifically, Landmark points to expert testimony Hanselman provided in another case,[6] which involved a similar patent – U.S. Patent No. 6,289,319 B1 (the '319 Patent) – that has virtually the same specification as the '508 Patent at issue here.[7] (Doc. 138 at 10-11.) In that case, Landmark says, Hanselman opined that the specification of the '319 Patent discloses an algorithm; yet here Landmark contends that Hanselman "says the opposite" – that is, that there is no algorithm disclosed in the specification. (Id.)

As NAPCO properly points out, however, Hanselman's testimony concerning the '319 Patent does not necessarily contradict his testimony here for at least two reasons. First, as in the Azure case, and contrary to Landmark's contentions, Hanselman does not dispute that the patent specification broadly discloses an "algorithm" for a system that processes a loan application.[8] (See

[6] See Landmark Technology, LLC v. Azure Farms, Inc., Case No. 3:18-CV-1568 (D. Or.). (See Doc. 138-2; Doc. 138-3.)

[7] As Landmark explains, "[t]he '508 Patent and '319 Patent share an identical specification because they both share a common ancestor - Patent Application No. 06,822,115, filed Jan. 24, 1986 - to which they both claim priority." (Doc. 138 at 3 n.2.) NAPCO does not dispute this. (Doc. 140 at 9.)

[8] As discussed further below, in computer science, an algorithm is simply a "systematic and precise, step-by-step procedure . . . for solving certain kinds of problems or accomplishing a task, for instance,

Doc. 138-2 ¶ 10 ("The figures and algorithms in the '319 patent are demonstrably simple flow charts with no intelligence or adaptability."); Doc. 143 at 138 (agreeing that the '508 patent broadly discloses an "algorithm").) Rather, Hanselman's testimony here is more specific: that, as it relates to the disputed claim terms at issue, the '508 patent specification does not sufficiently disclose corresponding algorithms that link the means to the claimed function, a shortcoming that renders the claim terms themselves indefinite. (See Doc. 140 at 9; see Doc. 143 at 138-39 ("It can be true that algorithms exist. It is also true that there is no way for me to get from the functional language into a specification and then understand how to apply an algorithm . . . required to build the thing.").)

Second, the question of indefiniteness was not at issue in Azure, so Hanselman was never asked to opine on that question. (See Azure Farms, Case No. 3:18-CV-1568, Pl. Complaint, ECF No. 1 (Landmark bringing infringement claims against Azure Farms); Def. Amended Answer and Counterclaims ECF No. 43 (denying infringement allegations and asserting counterclaim for bad faith patent infringement assertion under Oregon law).)[9] Thus, Landmark is

converting a particular kind of input data to a particular kind of output data[.]" Dictionary of Computer Science, Engineering, and Technology 13 (Phillip A. Laplante ed., 2000).

[9] Azure Farms did assert an invalidity defense that appears to have attacked the novelty of the '319 patent. But it never argued that the '319 patent was indefinite, as NAPCO does here. (See Azure Farms, Case

simply incorrect that "Hanselman has been on both sides of the indefiniteness issue[.]" (Doc. 138 at 2.) Accordingly, the court is not persuaded that Hanselman's testimony in this case is inconsistent with his prior testimony.[10]

Landmark also argues that Hanselman's declaration and testimony "are contrary to the governing legal standards" and therefore unreliable under Rule 702. (Doc. 138 at 13.) In support of its contention, Landmark points to Hanselman's declaration that the '508 patent's disclosure "cannot support 'four separate and distinct claim elements.'" (Doc. 138 at 13 (quoting Doc. 123-3 at 7).) This assertion, Landmark says, "directly contravenes longstanding Federal Circuit law that 'a particular means may perform more than one function.'" (Doc. 138 at 13 (quoting Rodime

No. 3:18-CV-1568, Def. Resp. in Opposition to Plaintiff's Second Motion to Dismiss and Motion to Strike, ECF. No. 53 at 10-11.)

[10] For the same reasons discussed above, Landmark's other arguments regarding Hanselman's putatively inconsistent testimony fail. Those arguments also fail for additional reasons. First, Landmark's contention that Hanselman provided inconsistent opinions regarding "forward-chaining" – another of the claim terms at issue here – is off the mark for the simple reason that Hanselman does not here argue that the term "forward-chaining" standing alone is indefinite; rather, he contends that the term forward-chaining disclosed in the '508 patent does not give proper definiteness within the entire claim phrase of "means for processing said operator-entered information, inquiries, and orders according to backward-chaining and forward-chaining sequences." (Doc. 140 at 10 (quoting '508 Patent at 7:7-10); see Doc. 123-3 at 9-11; Doc. 143 at 131-32.) Second, Landmark's argument that Hanselman's opinion concerning the '508 term "means for interactively directing" is inconsistent with his testimony concerning the '319 patent term "means for interactively controlling" ignores the "general presumption that different [claim] terms have different meanings[.]" Chicago Bd. Options Exch., Inc. v. Int'l Sec. Exch., LLC, 677 F.3d 1361, 1369 (Fed. Cir. 2012).

PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1305 (Fed. Cir. 1999)).)

At best, however, Landmark obfuscates Hanselman's testimony. As Hanselman explained during the claim construction hearing, it is "not [his] opinion that an algorithm can never support more than one function." (Doc. 143 at 102 (emphasis added).) Instead, Hanselman's specific contention here, and the one with which Landmark appears to actually take issue, is more prosaic: in his view, by reciting the same disclosure over and over again to support multiple claim elements, Landmark has failed to "clearly link" any one of those excerpts to an algorithm that would instruct a person of ordinary skill in the art to perform the function claimed. (See Doc. 123-3 at 6-7 ("No person of ordinary skill in the art would understand [this disclosure] . . . [to] support[] each of four separate and distinct algorithms supporting four separate and distinct claim elements as argued by the Burroughs Report."); Doc. 143 at 102 ("If you were going to lean on something so strongly that you need it to make – run double duty or triple duty, you would need it to be rock solid and clear.").) Accordingly, Hanselman's testimony is not contrary to governing law.

Finally, Landmark argues that Hanselman's declaration and testimony should be excluded under Rule 702 because it is "conclusory and unsupported." (Doc. 138 at 15.) The court disagrees. Hanselman's declaration provides detailed analysis on

how a person of ordinary skill in the art in 1986 would understand various claim terms in the '508 Patent. (See Doc. 123-3.) Hanselman's declaration also carefully considers and purports to rebut the declaration provided by Landmark's expert witness, Daniel J. Burroughs. (Id.) At the claim construction hearing itself, Hanselman provided extensive, thorough, and persuasive testimony about each of the disputed claim terms. (See Doc. 143 at 84-140.) Thus, contrary to Landmark's assertions, Hanselman's testimony is not the kind of "ipse dixit declaration" the court has excluded in the past. Cf. Precision Fabrics Grp., Inc. v. Tietex Int'l, Ltd., No. 1:13-CV-645, 2016 WL 6839394, at *8 (M.D.N.C. Nov. 21, 2016) (excluding testimony of expert witness who opined that he could see – with his unaided eyes – the "near microscopic swelling of a 45-micron sized film").

For all these reasons, therefore, Landmark's motion to strike Hanselman's declaration is denied.

B. Claim Construction

1. General Construction Principles

"It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted). When the parties dispute the terms of a patent claim, the court engages in claim construction, an exercise that "falls exclusively

within the province of the court, not that of the jury." Teva Pharms. USA, Inc. v. Sandoz, Inc., 574 U.S. 318, 325 (2015) (internal quotation marks omitted); see Markman, 517 U.S. at 390. "The construction of claims is simply a way of elaborating the normally terse claim language in order to understand and explain, but not to change, the scope of the claims." Embrex, Inc. v. Serv. Eng'g Corp., 216 F.3d 1343, 1347 (Fed. Cir. 2000) (alterations and citation omitted); see U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed. Cir. 1997).

Claim construction begins with the language of the claims themselves. Braintree Labs., Inc. v. Novel Labs., Inc., 749 F.3d 1349, 1354–55 (Fed. Cir. 2014) (citing Interactive Gift Express, Inc. v. Compuserve Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001)). Claim terms are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art at the time the patent application was filed. See Phillips, 415 F.3d at 1312–13.

When construing claim terms, courts "first look to, and primarily rely on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent[.]" Sunovion Pharm., Inc. v. Teva Pharm. USA, Inc., 731 F.3d 1271, 1276 (Fed. Cir. 2013) (citing Phillips, 415 F.3d at 1315; Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)). The patent specification, in particular, "is

always highly relevant to the claim construction analysis[,]" and "[u]sually, it is dispositive; it is the single best guide to the meaning of a disputed term." Phillips, 415 F.3d at 1315 (quotation omitted). The prosecution history, which includes the record of proceedings before the PTO, is also "often of critical significance in determining the meaning of the claims." Vitronics, 90 F.3d at 1582.

The court may also rely on "extrinsic evidence," which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." Markman v. Westview Instruments, Inc., 52 F.3d 967, 980 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996). For instance, technical dictionaries can assist the court in determining the meaning of a term to those of skill in the relevant art because such dictionaries "endeavor to collect the accepted meanings of terms used in various fields of science and technology." Phillips, 415 F.3d at 1318. In addition, expert testimony can be useful "to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field." Id.

At bottom, however, there is "no magic formula or catechism for conducting claim construction." Phillips, 415 F.3d at 1324.

What counts is that the court "attach the appropriate weight" to the evidence from the various sources, acknowledging the value and limitations of each kind of evidence. Id.

2. Means-Plus-Function Claim

Here, the parties agree that nine of the ten terms are "means-plus-function" phrases.[11]

Means-plus-function claim limitations, authorized by 35 U.S.C. § 112 ¶ 6, allow a patentee to draft claims "as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof[.]"[12] This provision allows "patentees to express a claim limitation by reciting a function to be performed rather than by reciting structure for performing that function[.]" Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1347 (Fed. Cir. 2015) (en banc) (citation omitted). In this way, § 112 ¶ 6 allows a patentee to claim "not what an invention is but what an invention does." Stephen Winslow, Means for Improving Modern Functional Patent

[11] Only the claim-term "at least one station" does not involve a means-plus-function analysis. (See Doc. 95-1 at 6.)

[12] Congress amended 35 U.S.C. § 112 in the America Invents Act ("AIA") by, among other things, designating § 112 ¶ 2 as § 112(b) and § 112 ¶ 6 as § 112(f). Pub. L. No. 112-29, § 4(c), 125 Stat. 284, 296 (2011). But the amended version of § 112 applies only to patent applications "filed on or after" September 16, 2012. See 125 Stat. at 297. Because the '508 patent was filed before that date, the court refers to the pre-AIA versions of these § 112 provisions. See Zeroclick, LLC v. Apple Inc., 891 F.3d 1003, 1006 n.2 (Fed. Cir. 2018). The parties agree. (See Doc. 120 at 1 n.1; Doc. 123 at 5 n.2.)

Claiming, 98 Geo. L.J. 1891, 1892 (2010) (emphasis omitted).

To obtain the benefits of functional claiming, however, the patentee incurs a cost of sorts: the "scope of coverage [is restricted] to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof." Williamson, 792 F.3d at 1347; see Verint Sys. Inc. v. Red Box Recorders Ltd., 166 F. Supp. 3d 364, 375 (S.D.N.Y. 2016) ("The ambiguity [provided for in § 112 ¶ 6] comes at the cost of constraining the reach of the claim."). Put another way, a "means-plus-function claim element is not interpreted to cover every means of performing the function. Instead, the courts apply a different rule of claim construction, limiting the scope of these claims by reading in the particular technologies described in the patent specification." Mark A. Lemley, Software Patents and the Return of Functional Claiming, 2013 Wis. L. Rev. 905, 916-17 (2013). For this reason, the Federal Circuit has occasionally described means-plus-function claiming as involving a "quid pro quo." Noah Sys., Inc. v. Intuit Inc., 675 F.3d 1302, 1318 (Fed. Cir. 2012); Med. Instrumentation & Diagnostics Corp. v. Elekta AB, 344 F.3d 1205, 1211 (Fed. Cir. 2003) ("The duty of a patentee to clearly link or associate structure with the claimed function is the quid pro quo for allowing the patentee to express the claim in terms of function under section 112, paragraph 6.").

"The construction of a means-plus-function limitation follows a two-step approach." Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1321 (Fed. Cir. 2003); see Rain Computing, Inc. v. Samsung Elecs. Am., Inc., 989 F.3d 1002, 1007 (Fed. Cir. 2021). The first step requires identifying the function, "staying true to the claim language and the limitations expressly recited by the claims." Omega, 334 F.3d at 1321. The second step is "ascertain[ing] the corresponding structures in the written description that perform those functions." Id.

Here, the parties largely agree on the claimed functions (Doc. 123 at 6 ("the Parties largely agree on the scope of the claimed functionality"); see also Doc. 95-1 (parties proposed construction of dispute claim terms)),[13] but disagree on whether the "structure, if any, disclosed in the specification corresponds to the claimed function[,]" Rain Computing, 989 F.3d at 1007; (see Doc. 123 at 6 ("It is here that the Parties disagree."). In other words, the parties largely agree at step one, but disagree at step two.

"Under this second step, structure disclosed in the specification is 'corresponding structure' only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." Sony Corp.

[13] But see Doc. 123 at 19 (identifying disagreement on function with respect to one claim term – "means responsive to the status of said computer, display, mass memory, and data receiving and transmitting means for controlling their operation").

v. Iancu, 924 F.3d 1235, 1239 (Fed. Cir. 2019) (emphasis added) (citation omitted). Put differently, the "focus of the 'corresponding structure' inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is 'clearly linked or associated with the [recited] function.'" Cypress Lake Software, Inc. v. Samsung Elecs. Am., Inc., 382 F. Supp. 3d 586, 599 (E.D. Tex. 2019) (alteration in original) (quoting Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc., 248 F.3d 1303, 1311 (Fed. Cir. 2001)). As noted, "[t]his duty to link or associate structure to function is the quid pro quo for the convenience of employing § 112, ¶ 6." Saffran v. Johnson & Johnson, 712 F.3d 549, 562 (Fed. Cir. 2013) (citation omitted).

As here, "[i]n cases involving a computer-implemented invention in which the inventor has invoked means-plus-function claiming," the structure disclosed in the specification must be "more than simply a general purposes computer or microprocessor." Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech., 521 F.3d 1328, 1333 (Fed. Cir. 2008). Rather, such inventions "require disclosure of an algorithm." EON Corp. IP Holdings LLC v. AT&T Mobility LLC, 785 F.3d 616, 623 (Fed. Cir. 2015). But importantly, the algorithm need not be actual computer code; "[r]ather, all that is required 'is a step-by-step procedure for accomplishing a given result.'" Chewy, Inc. v. Int'l Bus. Machines Corp., 571 F.

Supp. 3d 133, 159–60 (S.D.N.Y. 2021) (quoting Typhoon Touch Techs., Inc. v. Dell, Inc., 659 F.3d 1376, 1385 (Fed. Cir. 2011)). This can be expressed "in any understandable terms including as a mathematical formula, in prose[] . . . or as a flow chart, or in any other manner that provides sufficient structure." Finisar Corp. v. DirecTV Grp., 523 F.3d 1323, 1340 (Fed. Cir. 2008).

Under § 112 ¶¶ 2 and 6, however, "if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim, a means-plus-function clause is indefinite." Williamson, 792 F.3d at 1352; see EON Corp., 785 F.3d at 621 (means-plus-function claim limitations must "satisfy the definiteness requirement of § 112 ¶ 2"); In re Aoyama, 656 F.3d 1293, 1294, 1297-98 (Fed. Cir. 2011) (finding means-plus-function software patent claim invalid as indefinite for failure to disclose the corresponding algorithm performing that function); Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc., 412 F.3d 1291, 1302-03 (Fed. Cir. 2005) (invalidating claim for indefiniteness for lack of a structure in the specification corresponding to the claimed function). Like claim construction itself, the "determination that a patent claim is invalid for failure to meet the definiteness requirement" of § 112 ¶ 2 is "a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims[.]" All Dental Prodx, LLC

v. Advantage Dental Prod., Inc., 309 F.3d 774, 778 (Fed. Cir. 2002) (alterations and citations omitted); see Atmel Corp. v. Info. Storage Devices, Inc., 198 F.3d 1374, 1379 (Fed. Cir. 1999).

Finally, "[t]he party alleging that the specification fails to disclose sufficient corresponding structure must make that showing by clear and convincing evidence." TecSec, Inc. v. Int'l Bus. Machines Corp., 731 F.3d 1336, 1349 (Fed. Cir. 2013); see Nature Simulation Sys. Inc. v. Autodesk, Inc., 50 F.4th 1358, 1361 (Fed. Cir. 2022) ("United States patents are accompanied by a presumption of validity, 35 U.S.C. § 282, and invalidity must be established by clear and convincing evidence."); Dow Chem. Co. v. Nova Chemicals Corp. (Canada), 809 F.3d 1223, 1227 (Fed. Cir. 2015) (Moore, J., concurring in the denial of rehearing en banc) ("Precedent . . . requires that the burden of proving indefiniteness remains on the party challenging validity and that they must establish it by clear and convincing evidence.").

3. Disputed Claim Terms

The claim construction issues raised by the parties relate to claim 1 of the '508 patent, which states as follows (disputed terms emphasized):

> 1. An automated multimedia system for data processing which comprises:
>
> a computerized installation including a database, means for entering data into said database, and a program means for storing, processing, updating, and retrieving data items in response to coded requests

from stations in communication with said installation;

at least one station including a general purpose computer and a program applicable to said computer for sending said requests to said installation;

means for communicating data back and forth between said installation and said station;

said station further including: a mass memory and means associated therewith for storing and retrieving textual and graphical data;

a video display and means associated therewith for displaying textual and graphical data;

means for entering information into said computer;

means for programming sequences of inquiring messages on said video display in accordance with preset routines and in response to said information;

said sequences including instructions to an operator of said station for operating said station; and

means for selectively and interactively presenting to said operator interrelated textual and graphical data describing a plurality of transaction options, and for selectively retrieving data from said mass memory;

means for storing information, inquiries, and orders for transactions entered by said operator via said means for entering information;

means for transmitting said inquiries and orders to said installation via said means for communicating;

means for receiving data comprising operator-selected information and orders from said installation via said means for communicating; and

means for interactively directing the operation of said computer, video display, data receiving and transmitting means, and mass memory comprising means for holding an operational sequencing list, means for processing said operator-entered information,

> inquiries, and orders according to backward-chaining and forward-chaining sequences, and means responsive to the status of said computer, display, mass memory, and data receiving and transmitting means for controlling their operation;
>
> said means for processing including means for analyzing said operator-entered information and means, responsive to said means for analyzing, for presenting additional inquiries in response to said operator-entered information;
>
> said computerized installation further including: means responsive to items received from said station for immediately transmitting selected data retrieved from said database to said station;
>
> means responsive to an order received from said station for updating data in said database including means for correlating to a particular set of data received from said station;
>
> whereby said system can be used by a plurality of entities, each using one of said stations, to exchange data, and to respond to inquiries and orders instantaneously or over a period of time.

('508 patent at 6:35-67; 7:1-30.) While the parties initially contended that multiple claim terms of the '508 patent should be construed, the court directed the parties to narrow their dispute to the meaning and scope of ten terms or phrases in the '508 patent claims. (See Doc. 112 at 2.) As explained further below, the court concludes that several disputed terms of claim 1 are indefinite. Consequently, the entire claim (that is, claim 1 of the '508 patent) is rendered indefinite, and therefore the court need not construe the remaining terms. See Aristocrat, 521 F.3d at 1331 ("[I]n the absence of structure disclosed in the

specification to perform those functions, the claim limitation would lack specificity, rendering the claim as a whole invalid for indefiniteness under 35 U.S.C. § 112 ¶ 2.").

a. means for selectively and interactively presenting to said operator interrelated textual and graphical data describing a plurality of transaction options, and for selectively retrieving data from said mass memory;

NAPCO's Proposal	Landmark's Proposal
Function: selectively and interactively presenting to said operator interrelated textual and graphical data describing a plurality of transaction options, and for selectively retrieving data from said mass memory. Structure: None disclosed; no algorithm disclosed.	Function: selectively and interactively presenting to said operator interrelated textual and graphical data describing a plurality of transaction options, and selectively retrieving data from said mass memory. Structure: data processor 113, video disk 114, RAM memory 117, video screen 118, touch pad 119, with programming for selectively and interactively presenting to said operator interrelated textual and graphical data describing a plurality of transaction options, and for selectively retrieving data from said mass memory, according to the algorithm below. Specifically, the algorithm according to which the functions of "selectively and interactively presenting said operator interrelated textual and graphical data describing a plurality of transaction

	options," and "selectively retrieving data from said mass memory" are performed includes the following steps: 1. the station reading textual data from memory; 2. the station reading graphical data from memory; 3. the station accepting user input; 4. displaying, after accepting user input, textual data along with mutually-related graphical data describing more than one transaction option; 5. analyzing data provided by the user of the station or data received from a remote location 6. depending on the result of the analysis, retrieving additional data from mass memory.

The parties agree that this is a means-plus-function phrase. (Doc. 95-1 at 14.) They also agree on the claimed function. (Id.) But they disagree on whether the specification discloses an adequate corresponding structure (here, an algorithm) for achieving the claimed function. (Compare Doc. 120 at 10-12 with Doc. 123 at 10-17; see also Doc. 95-1 at 14-17.)

NAPCO argues that this term is indefinite because it discloses no algorithm for achieving the claimed function, and, even assuming

it discloses an algorithm, there is nothing in the specification that "clearly links or associates [that] structure or algorithm to the recited function." (Doc. 123 at 10.) In particular, NAPCO contends that there is no description or teaching of what is meant by "interrelated textual and graphical data" ('508 Patent at 6:60), a phrase it says is "found only in the claims and nowhere else in the specification" (Doc. 123 at 11).

NAPCO acknowledges that the inventor's July 1997 Response to Non-Final Office Action by the PTO provides examples of "interrelated textual and graphical data" (Doc. 123 at 11); in that response, the inventor claimed that data "periodically sent to the terminals" is the claimed "textual data," while the fictitious loan officer stored on videodisc 114 is the "graphical data" and the vehicle for "selectively and interactively presenting to said operator interrelated textual and graphical data." (Doc. 123-4 at 8-9.)[14] NAPCO contends, however, that "even

[14] This exhibit, more specifically, refers to a July 7, 1997 Response to a Non-Final Office Action provided by the inventor, Lawrence Lockwood, to the PTO during the patent prosecution. (Doc. 123-4 at 1.) Such responses are relatively common and are considered part of the patent's prosecution history. See Vitronics, 90 F.3d at 1582 ("Th[e] [prosecution history] contains the complete record of all the proceedings before the Patent and Trademark Office, including any express representations made by the applicant regarding the scope of the claims."); see also Sean Tu, Understanding the Backlog Problems Associated with Requests for Continued Examination Practice, 13 Duke L. & Tech. Rev. 216, 219-20 (2015) (describing the typical patent prosecution process and noting that if the examiner rejects the claims in a non-final Office action, the applicant has a chance to respond by either "amending the claims" or "arguing that the claims are patentable by disclosing information or submitting a declaration showing that the invention is patentable").

accepting this proposal, there is no disclosure whatsoever of how to program either the data processor 113 or the videodisc 114 to selectively and interactively present to an operator interrelated textual and graphical data describing a plurality of transaction options." (Doc. 123 at 11 (emphasis added)(internal quotation marks omitted).) Put differently, NAPCO argues that Landmark's "so-called algorithm" does "not discuss how the data is analyzed or how one would program the generic processor disclosed in the '508 Patent to conduct such an analysis[.]" (Doc. 128 at 12 (emphasis in original).) Or, as NAPCO's retained expert, Hanselman, put it at the claim construction hearing, "[t]here's a lot of what, but there's no how." (Doc. 143 at 95.)

Relying primarily on the declaration of its retained expert, Daniel Burroughs (Doc. 121 ¶¶ 60-66),[15] Landmark in turn contends that the '508 patent – far from being indefinite – in fact recites a detailed six-step algorithm for performing the claimed function (Doc. 120 at 10-12). As support for each step of that algorithm, Burroughs's construction of the algorithm makes scattered references to the specification and multiple figures therein. (See Doc. 121 ¶¶ 60-66.)

[15] Neither party contests that the other's expert is a person skilled in the art and otherwise qualified to testify by knowledge, skill, experience, training, or education pursuant to Rule 702. (Doc. 143 at 87.)

1. the station reading textual data from memory;	5:3-5; 4:10-14; 3:48-53; 4:37-5:58, Figs. 3-4.
2. the station reading graphical data from memory;	4:7-10; 3:54-56
3. the station accepting user input;	3:16-20; 4:12-14; 4:17-22; 4:30-5:59; Figs. 3-5, Fig. 2 at touchpad 119 or a keyboard.
4. displaying, after accepting user input, textual data along with mutually-related graphical data describing more than one transaction option;	5:10-18; 4:10-14
5. analyzing data provided by the user of the station or data received from a remote location;	4:10-14; 4:17-22; 4:61-64; 5:50-58; Fig. 3 at items 130, 131, 132, 133, 134; Fig. 4 at items 142, 146, 147; Fig. 5 at items 162, 167, 168.
6. depending on the result of the analysis, retrieving additional data from mass memory.	4:10-14; 4:17-22; 4:61-64; 5:50-58; Fig. 4 at items 142, 146, 147; Fig. 5 at items 162, 167, 168.

(Doc. 121 ¶ 60.) In its brief, Landmark explains that a person of ordinary skill in the art "reading the specification would be informed with reasonable certainty as to the corresponding algorithmic structure" (Doc. 120 at 18 (quoting Doc. 121 ¶ 99)) such that NAPCO's "position on indefiniteness should be rejected" (Doc. 127 at 13).

Having considered the intrinsic and extrinsic evidence, along with the arguments of the parties, it is clear, as NAPCO contends, that the specification fails to disclose sufficient corresponding structure for this computer-implemented means-plus-function limitation. As explained further below, NAPCO has met its burden

of establishing, by clear and convincing evidence, that (1) the '508 patent specification fails to disclose an algorithm explaining how to perform the claimed function; and (2) even assuming Landmark's proposed algorithm is disclosed in the specification, that algorithm is not clearly linked to the claimed function. See Williamson, 792 F.3d at 1352 ("If the patentee fails to disclose adequate corresponding structure, the claim is indefinite."). This claim term is therefore indefinite.

The central flaw in Landmark's proposed "six-step" algorithm – the one it contends a person skilled in the art would readily recognize from looking to the specification - is revealed at what it calls "Step 5." As for how the system purportedly achieves its claimed result, Burroughs explains for Landmark[16] that "the station analyzes data entered by the user or received from a remote location[.]" (Doc. 120 at 12; see Doc. 121 ¶¶ 60-66.) As support for this proposition, Burroughs points to certain disclosures in the specification that, he says, meet the requirements of § 112 ¶ 6. Those portions of the specification are as follows:

> The fictitious loan officer takes the applicant through a language selection routine 126-129. In this case, the applicant is asked in both English and Spanish in what language the loan transaction is to be conducted.

[16] Although it appears, based on Burroughs's declaration, that it might be the other way around. (See Doc. 121 ¶ 60 ("I have been informed that Landmark A has proposed the following construction . . .").) When pressed on this at the claim construction hearing, Burroughs explained that "this declaration was put together through . . . conversations with Landmark's attorneys and a back-and-forth." (Doc. 143 at 62-63.)

('508 patent at 4:10-14.)

> The applicant is then asked whether a previous quotation has already been prepared for him 130. In the affirmative, he is then requested 131 to enter a pass number or identification number either by entering the number on the touch pad or by running his credit I.D. card through the strip reader 122.

(Id. at 4:17-22.)

> Once all the proper answers have been accepted, they are processed 146 by the terminal data processor 113. This process may involve analyzing certain key answers in order to identify any element or data that would automatically disqualify the applicant. Depending upon the result of that first analysis, more questions 147 may be presented to the applicant in order to refine the data necessary for a thorough assessment of his qualifications.

(Id. at 4:56-64 (emphases added).)[17]

> The applicant's financial profile is received as a batch of information through the DMA unit 159 and then read from the memory 160. The financial profile is then analyzed by the terminal in order to compute 161 a debt ratio or other criterion devised by the financial institution to access the credit worthiness of the applicant. The debt ratio is the ratio of the applicant's current expenses to his current income. Other parameters such as debt to equity ratio or fixed assets to debt may be computed by the terminal data processor 113 and used in determining the qualifications of the applicant.

(Id. at 5:25-35 (emphases added).)[18]

[17] In his summary of the six-step algorithm, Burroughs cites only to the '508 patent at 4:61-64. (Doc. 121 ¶ 60.) Yet when describing Step 5 elsewhere in his declaration, Burroughs also cites to the '508 patent at 4:56-61. (Id. ¶ 65.) Thus, the entirety of the relevant excerpt is cited above, i.e., '508 patent at 4:56-64.

[18] Here again, Burroughs fails to cite to this portion of the specification in his summary chart. (Doc. 121 ¶ 60.) Yet when describing Step 5, he cites to the '508 patent at 5:25-35. (Id. ¶ 65.)

> If the applicant does not qualify for the amount of loan requested, he is first asked whether a lesser amount 167 would be acceptable to him. He is then instructed to enter the lesser amount 168 through the touch pad 119. That new amount is then checked against the determination already made by the terminal. The process is repeated until an acceptable amount is requested by the applicant, or until such time as the applicant declines to proceed with the loan application.

(Id. at 5:50-58.)

Looking to these excerpts of the specification, Burroughs explains (citing to and quoting the patent specification along the way):

> As to Step 5, the '508 Patent teaches analyzing data provided by a user of the station or data received from a remote location. For example, the '508 Patent discloses that "[o]nce all the proper answers have been accepted" from the user, "they are processed 146 by the terminal data processor 113" and "[t]his process may involve analyzing certain key answers in order to identify any element or data that would automatically disqualify the applicant." '508 patent 4:57-61. The '508 Patent also teaches analyzing data received from a remote location, e.g., the "applicant's financial profile" which "is received as a batch of information through the DMA unit 159 and then read from the memory 160." '508 Patent, 5:25-27. The financial profile is then analyzed by the terminal in order to compute 161 a debt ratio or other criterion devised by the financial institution to access the credit worthiness of the applicant," among "[o]ther parameters" "used in determining the qualifications of the applicant." '508 Patent, 5:28-35.

(Doc. 121 ¶ 65 (emphases added).)

Putting aside the requirement that any algorithm disclosed be "clearly linked" to the claimed function, the problem with this putative description of means is that it simply recites more

function; that is, it "merely elaborates on the claimed function and does not provide a person skilled in the art with sufficient details of any specific algorithm." Medversant Techs., L.L.C. v. Morrisey Assocs., Inc., No. CV 09-05031 MMM FFMX, 2011 WL 9527718, at *48 (C.D. Cal. Aug. 5, 2011) (concluding that specification stating the function of "comparing" was performed through "correlating," "auto-updating," and "identifying clerical errors" did not actually "explain the algorithm by which these tasks are to be performed"). Put differently, the "specification merely provides functional language and does not contain any step-by step process" for how the data provided by the station-user is "analyzed" or "processed." Ergo Licensing, LLC v. CareFusion 303, Inc., 673 F.3d 1361, 1365 (Fed. Cir. 2012). As Hanselman explained at the claim construction hearing, "analyzing is a function. Analyzing is not a how. . . . It's just functions all the way down with no ending to the answer of the how am I going to process and analyze these answers." (Doc. 143 at 97-98.) So, too, Hanselman says, for the term "process": "The term 'process' is a generic term. It could mean do it, execute, command, process. It's wide open. Again, I have no sense of the how I am supposed to process and analyze these answers." (Id. at 98.)

In short, the citations to the specification on which Landmark relies explain that the terminal "processes" and "analyzes" data input by the station user; but they contain no explanation of how

that data is "analyzed" or how one would program the "processor" to conduct such processing. See In re Aoyama, 656 F.3d at 1298 (finding no error in the Board of Patent Appeals and Interferences conclusion that the patent specification did not contain a "sufficient disclosure to inform a person of ordinary skill how to program a computer to perform the stated function"). Accordingly, the patent specification fails to disclose a sufficient algorithm – which, again, is simply a step-by-step procedure for how to achieve a goal or solve a problem[19] – for the claimed function, thereby rendering the claim limitation indefinite. See Blackboard, Inc. v. Desire2Learn, Inc., 574 F.3d 1371, 1383 (Fed. Cir. 2009) ("The [claimed structure] is essentially a black box that performs a recited function. But how it does so is left undisclosed."); Medversant, 2011 WL 9527718, at *48 (finding claim term indefinite when the relevant portion of the specification "simply recites the claim function . . . using different words"); Farstone Tech., Inc. v. Apple Inc., No. 813CV1537ODWJEMX, 2015 WL 5898273, at *5 (C.D. Cal. Oct. 8, 2015) ("The specification describes a 'recovery unit' as holding a collection of file backup

[19] See Typhoon, 659 F.3d at 1384 (describing an algorithm as "a step-by-step procedure for solving a problem or accomplishing some end" (quoting In re Freeman, 573 F.2d 1237, 1245 (C.C.P.A. 1978), abrogated on other grounds by In re Bilski, 545 F.3d 943 (Fed. Cir. 2008))); see Kevin Emerson Collins, Patent Law's Functionality Malfunction and the Problem of Overbroad, Functional Software Patents, 90 Wash. U. L. Rev. 1399, 1447 (2013) ("Simply put, the essence of algorithms is what to do to perform a task." (internal quotation marks omitted)).

data and configuration information that reflects data that was in a hardware resource of the processing system at the time the recovery unit was created. These descriptions do not provide ***how*** the recovery unit is actually created by the backup/recover module." (emphasis and boldface in original)), aff'd, 668 F. App'x 366 (Fed. Cir. 2016); Simplification LLC v. Block Fin. Corp., 593 F. Supp. 2d 700, 717 (D. Del. 2009) ("Though Simplification correctly notes that the specification refers to the collection of personal identification and information on tax data providers, the Court finds no description of an algorithm explaining how such information is actually used to perform the function associated with the 'connecting electronically' limitation or, for that matter, any other means-plus-function terms.").[20]

Notably, this conclusion is consistent with an important piece of intrinsic evidence: in 2014, the PTAB, in granting a petition for covered-business-method review, concluded that, "having reviewed the specification, and in particular those excerpts cited by Lockwood," it was "unable . . . to find an

[20] That one skilled in the art could devise a means to perform the claimed function does not rescue this claim term from indefiniteness. "It is well established that proving that a person of ordinary skill *could* devise some method to perform the function is not the proper inquiry as to definiteness — that inquiry goes to enablement." Function Media, L.L.C. v. Google, Inc., 708 F.3d 1310, 1319 (Fed. Cir. 2013). In other words, a patentee "cannot avoid providing specificity as to structure simply because someone of ordinary skill in the art would be able to devise a means to perform the claimed function." Blackboard, 574 F.3d at 1385.

algorithm that can be used to program a general-purpose computer to 'selectively and interactively presenting,' or 'processing,' 'interrelated textual and graphical data.'" Ebay Enter., Inc. Petitioner v. Lawrence B. Lockwood Pat. Owner, No. CBM2014-00025, 2014 WL 2150045, at *11 (P.T.A.B. May 20, 2014).[21] Accordingly,

[21] In the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284 (2011), Congress created the PTAB and tasked it with overseeing three new types of post-issuance review proceedings: inter partes review, post-grant review, and covered-business-method review. See Return Mail, Inc. v. United States Postal Serv., 139 S. Ct. 1853, 1860 (2019). Pertinent here is what was known as "covered-business-method review," a type of adjudicatory proceeding initiated by a petitioner (frequently a defendant in a patent infringement lawsuit) seeking the invalidation of one or more "covered-business-method patents," as those patents are defined by statute. (This procedure, explicitly designated as "transitional" under the AIA, expired in 2020.) See Versata Dev. Grp., Inc. v. SAP Am., Inc., 793 F.3d 1306, 1310 (Fed. Cir. 2015), abrogated on other grounds by Thryv, Inc. v. Click-To-Call Techs., LP, 140 S. Ct. 1367, 1370 (2020). Once a petition was filed, review of the patent's validity would be conducted by a three-member panel of the PTAB. See 35 U.S.C. § 6(c); Return Mail, 139 S. Ct. at 1860. This review proceeded in two stages. First, the PTAB panel would make a preliminary determination of whether to institute the proceeding (either granting or denying the petition), which required deciding whether it was "more likely than not that at least 1 of the claims challenged in the petition is unpatentable" or that "the petition raise[d] a novel or unsettled legal question that is important to other patents or patent applications." 35 U.S.C. § 324(a), (b). During this initial proceeding, the patentee could file a preliminary response but was otherwise unable to submit evidence. See PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC, 815 F.3d 734, 741 (Fed. Cir. 2016). Second, if the petition was granted, the parties would then proceed to the second stage, which involved discovery, the submission of additional information, and the opportunity for an oral hearing. See Return Mail, 139 S. Ct. at 1860; Paul R. Gugliuzza, (In)valid Patents, 92 Notre Dame L. Rev. 271, 284-85 (2016) (describing in more detail the covered-business-method review process). In Ebay, described above, the PTAB made a preliminary determination that claim 1 (among others) of the '508 patent was indefinite. See Ebay, 2014 WL 2150045, at *13. This preliminary determination was never finalized (nor did the PTAB otherwise proceed to the second stage of review), however, because Landmark "settled the matter with eBay" before it could proceed any further. (Doc. 70 at 5.)

the PTAB found, consistent with the court's finding here, "that the structure that corresponds to [this function] is not disclosed as required by 35 U.S.C. § 112 ¶ 6." Id.

Landmark is of course correct that the PTAB's decision is not binding on this court. (Doc. 127 at 12.) It is also correct that the standards the PTAB applied during covered-business-method review were not the same as those the court applies here. (Id.)[22] Nevertheless, the record of this proceeding, including the PTAB's ultimate conclusion, constitutes part of the patent's prosecution history, and so amounts to intrinsic evidence the court can – and indeed, should - consider in construing the patent claims. See Zillow, Inc. v. Trulia, Inc., No. C12-1549JLR, 2013 WL 5530573, at *4 (W.D. Wash. Oct. 7, 2013) (granting stay while covered-business-method review was ongoing and noting that, in the event the litigation continued later, the court could "proceed with the benefit of the PTO's particular expertise and the record of the CBM review," both of which amount to "[a]dditional prosecution history" that "could inform or alter the meaning of claim terms"); Trustees of Columbia Univ. in City of New York v. NortonLifeLock, Inc., No. 3:13CV808, 2019 WL 7040931, at *2 n.3 (E.D. Va. Dec. 20, 2019) ("The prosecution history also includes proceedings before

[22] For instance, the PTAB applied "a preponderance of the evidence" standard in contrast to the "clear and convincing evidence" standard applicable here. Compare TecSec, 731 F.3d at 1349 with Ebay, 2014 WL 2150045, at *1.

the Patent Trial and Appeal Board . . . such as inter partes review."); see also Vitronics, 90 F.3d at 1582 ("[T]he record before the Patent and Trademark Office is often of critical significance in determining the meaning of the claims.").

To be sure, the PTAB's conclusion is far from dispositive; but it is certainly persuasive and offers yet another reason to conclude that the claim term at issue – "means for selectively and interactively presenting to said operator interrelated textual and graphical data describing a plurality of transaction options, and for selectively retrieving data from said mass memory" – fails to disclose an algorithm and therefore is indefinite. Cf. Paul R. Gugliuzza, Patent Law's Deference Paradox, 106 Minn. L. Rev. 1397, 1398 (2022) (explaining that those in the PTO "have significant expertise in both patent law and the technology relevant to any given patent"); Rochelle Dreyfuss, Pathological Patenting: The PTO as Cause or Cure, 104 Mich. L. Rev. 1559, 1576 (2006) ("With its thousands of examiners, many of whom hold advanced degrees in the precise areas where they work, [the Patent Office's] resources outstrip the Federal Circuit's . . . . The PTO also stays abreast of [legal] developments by holding training sessions with outside experts and through notice-and-comment rulemaking." (citations omitted)).

That claim 1 of the '508 patent previously survived an ex parte reexamination by the PTO does not undermine the

persuasiveness of the PTAB's decision, nor does it alter the court's conclusion that claim 1 is indefinite. By way of background, in 2013, an anonymous third party requested ex parte reexamination of the '508 patent, which the PTO granted. (See Doc. 72 at 15; Doc. 72-4.)[23] Later, the PTO confirmed the patentability of claim 1 of the '508 patent - meaning it was satisfied that claim 1 was both novel and non-obvious. (See Doc. 72-4 at 5, 105.)[24] Here, Landmark argues that the PTO's "ability to construe the claims of the '508 Patent and perform an anticipation [i.e., novelty] analysis during reexamination is powerful evidence that Claim 1 of the '508 Patent is, in fact, definite." (Doc. 120 at 2 (internal quotation marks and alterations omitted).) Or, as it says in its response to NAPCO's motion for bond, "the PTO in reexamination could not have done its job if the claims were indefinite." (Doc. 72 at 25-26.)

Doubtless, Landmark is correct that the PTO's reexamination

[23] Ex parte reexamination is the statutory process by which a patent holder or third party asks the PTO to reexamine the validity of an existing patent in light of previously unconsidered prior art. See 35 U.S.C. §§ 301, 302; Alarm.com Inc. v. Hirshfeld, 26 F.4th 1348, 1351 (Fed. Cir. 2022). The PTO considers the petition and grants it if it raises a "substantial new question of patentability." 35 U.S.C. § 303(a). Ex parte reexamination, first established in 1980, exists alongside the three new post-issuance review proceedings (including covered-business-method review) created by the AIA, though its procedures and substantive standards of review differ in meaningful ways. See Return Mail, 139 S. Ct. at 1860.

[24] For a discussion of novelty and non-obviousness and what they entail in this context, see generally Stefan Blum, Ex Parte Reexamination: A Wolf in Sheep's Clothing, 73 Ohio St. L.J. 395 (2012).

analysis, as part of the prosecution history of the '508 patent, is evidence that the court can, and should, consider. See Info-Hold, Inc. v. Applied Media Techs. Corp., 783 F.3d 1262, 1266 (Fed. Cir. 2015). True, too, is Landmark's observation that the PTO cannot affirm a patent's validity without implicitly concluding that the patent is not indefinite: to survive reexamination, the PTO must conclude that the invention is novel (or not "anticipated"), a determination, in turn, that "requires construing the claim" and comparing it to the prior art, an exercise not possible "if [the] claim is indefinite" in the first place. Enzo Biochem, Inc. v. Applera Corp., 599 F.3d 1325, 1332 (Fed. Cir. 2010).

But for other important reasons, the PTO's 2013 reexamination of the '508 patent bears less weight than Landmark suggests. For starters, while assessing a claim's novelty requires some claim construction, "indefiniteness is not one of the grounds that can be considered [directly] in reexamination[.]" Gregory Dolin, Dubious Patent Reform, 56 B.C. L. Rev. 881, 945 n.441 (2015) (hereinafter "Dolin"); see 35 U.S.C. § 301; Optimum Processing Sols., L.L.C. v. Advanced Micro Devices, Inc., No. 1:09-CV-1098-TCB, 2012 WL 13001400, at *6 (N.D. Ga. July 10, 2012) ("[I]n an ex parte reexamination, the issue of indefiniteness may not be considered by the Patent Office."), report and recommendation adopted sub nom. Optimum Processing Sols., L.L.C. v. Intel Corp.,

No. 1:09-CV-1098-TCB, 2012 WL 13001395 (N.D. Ga. Aug. 24, 2012). Instead, "reexamination is limited only to issues covered by sections 102 (novelty) and 103 (obviousness) of the 1952 Patent Act." Dolin, supra, at 899. Thus, a third-party petitioner, even if armed with serious evidence of indefiniteness, "cannot argue that the claims, as issued, are invalid because the patent is not in compliance with . . . [the] definiteness requirements of § 112." Dmitry Karshtedt, Contracting for a Return to the USPTO: Inter Partes Reexaminations as the Exclusive Outlet for Licensee Challenges to Patent Validity, 51 IDEA 309, 325-26 (2011).[25] Accordingly, the PTO's finding of validity during reexamination does not undermine the PTAB's contrary conclusion, especially considering that the PTAB, unlike the PTO Examiner during reexamination, considered the question of indefiniteness head on. See Ebay, 2014 WL 2150045, at *11.

Furthermore, and in contrast to even preliminary covered-business-method review proceedings, "in an ex parte proceeding a third party is not allowed to present its side of the case; only the patent holder is involved in the proceeding." Pac. Bioscience Lab'ys, Inc. v. Pretika Corp., 760 F. Supp. 2d 1061, 1066 n.3 (W.D. Wash. 2011) (citations omitted); see 35 U.S.C. § 305. Accordingly, the PTO, in reexamining the validity of the '508 patent, did not

[25] Landmark agrees. (See Doc. 72 at 26 ("[A]n Examiner cannot technically issue an indefiniteness rejection under § 112[.]").)

benefit from "adequate adversarial participation for both the patent owner and requester," a process which helps "facilitat[e] a reasoned judgment on the issue [of validity] before a neutral factfinder." SynQor, Inc v. Vicor Corp., 988 F.3d 1341, 1350 (Fed. Cir. 2021).

At bottom, "just as an original examination resulting in patent issuance does not foreclose an invalidity attack in district court, so too does a reexamination confirming a claim not preclude a patent challenger from meeting its burden of proving invalidity." Exmark Mfg. Co. Inc. v. Briggs & Stratton Power Prod. Grp., LLC, 879 F.3d 1332, 1341 (Fed. Cir. 2018). So it is here.

Finally, even assuming the scattershot excerpts cited by Burroughs could constitute an algorithm that can be used to program a general-purpose computer to "selectively and interactively present[] . . . interrelated textual and graphical data," the specification does not "clearly link" or "associate" "that structure to the function recited in the claim." Iancu, 924 F.3d at 1239 (citation omitted); see Med. Instrumentation, 344 F.3d at 1211 ("The duty of a patentee to clearly link or associate structure with the claimed function is the quid pro quo for allowing the patentee to express the claim in terms of function under section 112, paragraph 6." (emphasis added) (citation omitted)). For one thing, Burroughs relies on fragmented (and extensive) portions of the specification to patch together a six-

step algorithm. As NAPCO points out, Burroughs "attempts to identify a [clear] step-by-step process in the specification," but in doing so is forced to rely on citations that "span . . . throughout the specification and [across] multiple figures." (Doc. 123 at 12.) Indeed, it is notable that Landmark's proposed algorithm for this disputed claim term relies on well over 100 lines in the specification and 3 figures therein (including nearly all of column 4 and 5 of the specification, which apparently encompasses both step 1 and step 3). (See Doc. 121 ¶ 60.)[26]

In addition, the cited disclosures that purportedly make up the algorithm are also relied upon by Landmark for many of the other distinct claim elements at issue here. Consider, for instance, Landmark's support for both step 5 and for step 6 of the algorithm laid out above, "analyzing data provided by the user of the station or data received from a remote location" and "depending on the result of the analysis, retrieving additional data from mass memory": '508 patent 4:10-14; 4:17-22, 4:61-64; 5:50-58; Fig. 3 at items 130, 131, 132, 133, 134; Fig. 4 at items

[26] Even common sense, which should not be abandoned when construing patent claims, see KSR International Co. v. Teleflex Inc., 550 U.S. 398, 418 (2007), indicates that such a mishmash of information could hardly be said to disclose an algorithm – that is, a step-by-step procedure - for performing the claimed function - much less one "clearly linked" to that function.

142, 146, 147; Fig. 5 at items 162, 167, 168. (Doc. 121 ¶ 60.)[27] Yet virtually these exact same excerpts from the specification, on Landmark's telling, support its putative step 1 ("reading data from mass memory") of another disputed claim term ("means for interactively directing the operation of said computer, video display, data receiving and transmitting means, and mass memory"). (Doc. 121 ¶ 67.)[28]

Consider, too, Landmark's reliance on the '508 patent at 4:61-64, which states: "Depending upon the result of that first analysis, more questions 147 may be presented to the applicant in order to refine the data necessary for a thorough assessment of his qualifications." According to Landmark, this excerpt from the specification supports not only step 5 and step 6 of the disputed claim term here, but also several other distinct algorithms and claim elements, including: Step 3 of the "said means for processing including means for analyzing said-operator information" element (Doc. 122 ¶ 59); Step 1 of the "means for interactively directing the operation of said computer, video display, data receiving and transmitting means, and mass memory" element (Doc. 121 ¶ 67); Step 2 of the "means, responsive to said means for analyzing, for

[27] Step 6 omits the reference to Figure 3 but otherwise is identical. (See Doc. 121 ¶ 60.)

[28] Step 1 of Landmark's proposed algorithm, "reading data from mass memory," omits the reference to Figure 3 and adds a reference to Figure 5(D) at items 163 and 165 but is otherwise identical. (See Doc. 121 ¶ 67.)

presenting additional inquiries in response to said operator-entered information" element (id. ¶ 100); and the entire support for the claim term "forward-chaining" (id. ¶ 82).

The upshot is that, even assuming the proposed six-step algorithm is in some sense "disclosed" in the specification, the fact that Landmark relies on the same parts of the specification over and over again to support other claim elements belies the assertion that the algorithm is "tied" with "sufficient particularity" to the claimed function. Ibormeith, 732 F.3d at 1379.[29]

Landmark's primary response to this is that, under long-standing Federal Circuit precedent, an algorithm "may support more than one claimed function." (Doc. 127 at 10.) This is a correct statement. See Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1305 (Fed. Cir. 1999) ("[A] particular means may perform more than one function."). But here, that rejoinder is largely beside the point: NAPCO is not arguing, nor is the court herein concluding, that identifying the same structure for two or more functions is improper as a matter of law. Rather, the salient point is that Landmark's reliance on the same portion of the specification to support several different claim element algorithms reveals a lack of clear linkage between those algorithms (as disclosed in the

[29] As explained below, this criticism is applicable to Landmark's construction of several other disputed claim terms.

specification) and the function they purportedly achieve. "It is not enough simply to list a certain structure in the specification; that structure must also be clearly linked to a claimed function in order to be a corresponding structure for that function." Med. Instrumentation, 344 F.3d at 1218.

Tellingly, Landmark does little else to resist this conclusion. The best it offers is a suggestion that, in fact, the law does not require that a particular structure be "clearly linked" with the claimed function at all. (See Doc. 127 at 5-8.) In so arguing, however, Landmark runs headlong into decades of Federal Circuit precedent to the contrary. See Rain Computing, 989 F.3d at 1007 ("Next, we must identify the structure in the specification that is clearly linked with this function"); Iancu, 924 F.3d at 1241 ("The '676 patent specification clearly links the function of the 'reproducing means' to the algorithm [disclosed in the specification]." (emphasis added)); Williamson, 792 F.3d at 1352 ("Structure disclosed in the specification qualifies as corresponding structure if the intrinsic evidence clearly links or associates that structure to the function recited in the claim." (internal quotation marks omitted)); Triton Tech of Texas, LLC v. Nintendo of Am., Inc., 753 F.3d 1375, 1378 (Fed. Cir. 2014) ("In exchange for using [means-plus-function] claiming, the patent specification must disclose with sufficient particularity the corresponding structure for performing the claimed function and

clearly link that structure to the function."); Ibormeith, 732 F.3d at 1379 ("The price of using this form of claim, however, is that the claim be tied to a structure defined with sufficient particularity in the specification."); Noah, 675 F.3d at 1318 ("A structure disclosed in the specification qualifies as a corresponding structure if the specification or the prosecution history clearly links or associates that structure to the function recited in the claim." (internal quotation marks omitted)); Med. Instrumentation, 344 F.3d at 1211 ("The requirement that a particular structure be clearly linked with the claimed function in order to qualify as corresponding structure is also supported by the requirement of 35 U.S.C. § 112, ¶ 2 that an invention must be particularly pointed out and distinctly claimed."); Medtronic, 248 F.3d at 1312 (finding the disclosure in the specification insufficient because "there is no clear link or association between the disclosed structures and the function recited in the means-plus-function claim limitation"); B. Braun Med., Inc. v. Abbott Lab'ys, 124 F.3d 1419, 1424 (Fed. Cir. 1997) ("We hold that, pursuant to this provision, structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim. This duty to link or associate structure to function is the quid pro quo for the convenience of employing § 112, ¶ 6."); see also Elise S.

Edlin, Computer Claim Disarray: Untangling the Means-Plus-Function Doctrine to Eliminate Impermissible Functional Claiming in Software Patents, 28 Berkeley Tech. L.J. 417, 426 (2013) ("Disclosure of corresponding structure in the specification that clearly links or associates that structure to the function recited in the claim is viewed by the Federal Circuit as quid pro quo for the convenience of using the means-plus-function claim format." (internal quotation marks omitted)).[30]

In sum, Landmark's putative algorithm does not comport with "a plain, or even tortured, reading of the patent" specification. Unitrac, LLC v. United States, 111 Fed. Cl. 36, 46 (2013). NAPCO has demonstrated, by clear and convincing evidence, that the claim limitation at issue here is indefinite. Accordingly, the claim as a whole – that is, claim 1 of the '508 patent – is invalid for indefiniteness. See Synchronoss Techs., Inc. v. Dropbox, Inc., 987 F.3d 1358, 1368 (Fed. Cir. 2021) ("[W]e hold that the term is indefinite and, thus, the asserted claims of the '696 patent are invalid."); Aristocrat, 521 F.3d at 1331 ("[I]n the absence of structure disclosed in the specification to perform those functions, the claim limitation would lack specificity, rendering the claim as a whole invalid for indefiniteness under 35 U.S.C.

[30] The only support Landmark musters in support of its argument is a district court decision from 2009, see LG Electronics, Inc. v. Hitachi, Ltd., No. CIV.A. 5:07-CV-90, 2009 WL 2170047, at *4 (E.D. Tex. June 4, 2009). (Doc. 127 at 5.)

§ 112 ¶ 2.").

This conclusion is bolstered by a review of several of the other claim terms at issue, which suffer similar problems and to which the court now turns.

b. means for programming sequences of inquiring messages on said video display in accordance with present routines and in response to said information

NAPCO's Proposal	Landmark's Proposal
Function: programming sequences of inquiring messages on said video display in accordance with preset routines and in response to said information. Structure: None disclosed. no algorithm disclosed. No disclosure whatsoever regarding how sequences of inquiring messages would be programmed on said video display.	Function: programming sequences of inquiring messages on said video display in accordance with preset routines and in response to said information. Structure: data processor 113, video disk 114, RAM memory 117, video screen 118, touch pad 119, with software for programming sequences of inquiring messages on said video display in accordance with preset routines and in response to said information according to the algorithm below, and all equivalents thereto. Specifically, the algorithm according to which the function of "programming sequences of inquiring messages" is performed includes the following steps: 1. presenting the user an inquiring message on the video display;

	2. receiving information entered by the user in response to the inquiring message; 3. analyzing information provided by the user to determine whether a condition is satisfied to end the sequence of inquiring messages on the video display; 4. determining whether additional inquiring messages are necessary. 5. if necessary, presenting additional inquiring messages on the video display in response to information entered by a user.

Here, again, the parties agree that this is a means-plus-function phrase; they also agree on the claimed function. (Doc. 95-1 at 12-14.) But, as with the prior claim term, they disagree on whether the specification discloses an adequate corresponding structure for achieving the claimed function. (Compare Doc. 120 at 9-10 with Doc. 123 at 17-19; see also Doc. 95-1 at 12-14.)

For substantially the same reasons the "means for selectively and interactively presenting" claim limitation failed, the claim term at issue here, "means for programming sequences," does too.

First, as with the six-step algorithm purportedly explaining the "means for selectively and interactively presenting" claim limitation discussed above, the five-step algorithm constructed

here introduces more functional language without ever explaining how that function is performed. See Medversant, 2011 WL 9527718, at *48. Consider first step 3, which explains that the station "analyz[es] information provided by the user to determine whether a condition is satisfied[.]" (Doc. 121 ¶ 54.) But, again, the court cannot find – nor has Landmark's expert Burroughs identified – any language in the specification that explains how the station analyzes the information input by the applicant to decide whether, for example, that applicant has entered "any element or data that would automatically disqualify the applicant." ('508 patent at 4:60-61.) In this respect, as NAPCO says, "[t]he proposed algorithm . . . introduces more uncertainty than it cures." (Doc. 128 at 10.) The same problem lurks in step 4 of Landmark's proposed algorithm, "determining whether additional inquiring messages are necessary[.]" (Doc. 121 ¶ 54.) Here, too, the specification provides no explanation of how the system "determines" when "additional inquiring messages are necessary."[31]

Apparently aware of these shortcomings, Landmark tries to bolster its argument by pointing to the prosecution history; specifically, it invokes the statement of the inventor (Lockwood) that the "means for programming sequences" limitation "refers to

[31] At the claim construction hearing, Hanselman agreed: "There's functional language in the claim and then more functional language in the [specification]. So it's functions linking to functions. There is nothing there to use." (Doc. 143 at 113.)

the hardware and software that allows the system to process the data entered by the user in order to determine what kind of information or new inquiry should be displayed on the video screen." (Doc. 120 at 9; Doc. 121 ¶ 56; see Doc. 123-4 at 19.) But this does nothing to rescue Landmark's argument. For one thing, Lockwood's discussion of the claim term in this short excerpt sheds little light on the specification, where the relevant algorithm in this context should be explicated. See Harris Corp. v. Ericsson Inc., 417 F.3d 1241, 1253 (Fed. Cir. 2005) (explaining that a "computer-implemented means-plus-function term is limited to the corresponding structure disclosed in the specification and equivalents thereof, and the corresponding structure is the algorithm" (emphasis added)). For another thing, this excerpt from the prosecution history does not solve Landmark's fundamental problem; it does not explain, for example, how the "hardware and software that allows the system to process data" actually works. See Aristocrat, 521 F.3d at 1337 ("[T]he proper inquiry for purposes of section 112 paragraph 6 analysis is to look at the disclosure of the patent and determine if one of skill in the art would have understood that disclosure to encompass software [to perform the function] and been able to implement such a program, not simply whether one of skill in the art would have been able to write such a software program." (internal quotation marks omitted)).

Second, like the claim limitation above, there is no clear linkage or association between the putative algorithm and the claimed functionality. Burroughs again cites to scattered portions of the specification (and figures therein), and Landmark again offers no explanation for how these disclosures clearly link means to function.

1. presenting the user an inquiring message on the video display;	3:16-20; 4:12-14; 4:17-20; 4:30-5:59; Figs. 3-5.

2. receiving information entered by the user in response to the inquiring message;	3:16-20; 4:12-14; 4:17-22; 4:30-5:59; Figs. 3-5, Fig. 2 at touchpad 119 or a keyboard.
3. analyzing information provided by the user to determine whether a condition is satisfied to end the sequence of inquiring messages on the video display;	4:10-14; 4:17-22; 4:61-64; 5:50-58; Fig. 4 at items 142, 146, 147; Fig. 5 at items 162, 167, 168.
4. determining whether additional inquiring messages are necessary;	4:58-64; 5:50-58; Fig. 4 at items 142, 146, 147; Fig. 5 at items 162, 167, 168; 3:51-53.
5. if necessary, presenting additional inquiring messages on the video display in response to information entered by a user	4:17-5:58.

(Doc. 121 ¶ 54.)

Accordingly, the court finds that this claim limitation fails because the specification does not disclose an algorithm, much

less one clearly linked, for performing the function associated with the "means for programming sequences" limitation.

c. means for processing said operator-entered information, inquiries, and orders according to backward-chaining and forward-chaining sequences

NAPCO's Proposal	**Landmark's Proposal**
Function: processing said operator-entered information, inquiries, and orders according to backward-chaining and forward-chaining sequences.	Function: processing said operator-entered information, inquiries, and orders according to backward-chaining and forward-chaining sequences.
Structure: None provided, no algorithm provided; no information whatsoever regarding backward-chaining or forward-chaining sequences, or how operator-entered information, inquiries, and/or orders are processed.	Structure: a computerized station including the combination of at least modem 115, DMA unit 116, video screen 118, videodisc 114, RAM memory 117, and data processor 113, whose hardware architecture and components are arranged as indicated by the lines and arrows in Figure 2 such that the DMA is placed along a second bus independent of the first bus, so that the DMA may place information directly into memory without traversing the first connection, and the video playback and communication systems may operate concurrently, equipped with software for processing said operator entered information, inquiries, and orders according to backward chaining and forward chaining sequences,

	according to the algorithms disclosed below, and all equivalents thereto. Specifically, the algorithm according to which the function of "processing said operator-entered information, inquiries, and orders according to backward-chaining and forward-chaining sequences" is performed includes the following steps: 1. the station receiving information entered by a user; 2. the station presenting an inquiring message to the user; 3. the station receiving operator-entered information in response to an inquiring message; 4. the station analyzing operator-entered information, and/or inquiries, and/or orders in a goal-driven manner to determine whether a condition is satisfied to end the analysis; 5. the station analyzing operator-entered information, and/or an inquiries, and/or orders in a data-driven manner to refine the data necessary for further analysis.

The parties agree that the "means for processing" term is a means-plus-function term, and they agree on the claimed function:

"processing said operator-entered information, inquiries, and orders according to backward-chaining and forward-chaining sequences." (Compare Doc. 120 at 14-18 with Doc. 123 at 24-26; see also Doc. 95-1 at 29-32.) Once again, though, they disagree whether the specification discloses an adequate corresponding structure for achieving the claimed function. (See id.)[32]

Here, too, NAPCO is correct that the claim term is clearly indefinite. Like the multi-step algorithms purportedly supporting other claim limitations, this one also recites more function without ever describing how the station actually "process[es] said operator-entered information, inquiries, and orders." ('508 patent at 7:7-10.) Landmark contends (at steps 4 and 5) that the relevant function is performed when the station "analy[zes] operated-entered information . . . in a goal driven manner" and "analy[zes] operated-entered information . . . in a data driven manner[.]" (Doc. 121 ¶ 91.) Or, as Landmark puts it in its brief, "[a]t Step 5, the station processes according to forward-chaining sequences by analyzing in a data-driven manner in order to refine the data necessary for further analysis[.]" (Doc. 120 at 17 (emphases added).) But how the station analyzes that data (and then "refine[s] the data" for "further analysis"), or how the

[32] This term includes within it the separate disputed terms "forward-chaining" and "backward-chaining." (See Doc. 95-1 at 27-29.) The court need not construe these phrases individually, however, because the claim term as a whole is indefinite regardless.

station can be programmed to analyze that data, is completely missing from the specification.

Moreover, even assuming this algorithm could be gleaned by looking to the specification, Landmark does not even attempt to argue that it is "clearly linked" to the claimed function. Instead, it again relies only on the testimony of Burroughs, who again cites to the disparate portions of the specification that are used over and over to support different claim elements in different claim terms. (See, e.g., Doc. 121 ¶¶ 54, 60, 91, 100 (all relying on Fig. 5 at items 162, 167, 168 to support different "steps" related to different claim elements).)

1. the station receiving information entered by a user;	3:16-20; 4:12-14; 4:17-22; 4:30-5:59; Figs. 3-5, Fig. 2 at touchpad 119 or a keyboard.
2. the station presenting an inquiring message to the user;	3:16-20; 4:12-14; 4:17-20; 4:30-5:59; Figs. 3-5.
3. the station receiving operator-entered information in response to an inquiring message;	4:12-14; 4:17-22; 4:30-5:59; Figs. 3-5, Fig. 2 at touchpad 119 or a keyboard.
4. the station analyzing operator-entered information,	

and/or inquiries, and/or orders in a goal-driven manner to determine whether a condition is satisfied to end the analysis; 5. the station analyzing operator-entered information, and/or an inquiries, and/or orders in a data-driven manner to refine the data necessary for further analysis.	Fig. 3 at items 130, 131, 132, 133, 134, 135; 4:10-5:58; 6:15-28 5:50-64, Fig. 5 at items 162, 167, 168.

(Doc. 121 ¶ 91.)

Furthermore, and as with the "means for selectively and interactively presenting" claim limitation, the PTAB, too, was unable to find "anything in the specification or prosecution history" of the '508 patent that "clearly links or associates structure disclosed in the specification to the backward- and forward-chaining function." Ebay, 2014 WL 2150045, at *12. As it explained in its opinion, "having reviewed the specification, we are unable, on the present record, to find an algorithm that can be used to program a general-purpose computer to perform the backward- and forward-chaining functions." Id. For the reasons stated above, the court finds the PTAB's analysis persuasive.[33]

Without more, the proposed algorithm does not "clearly link[] or associate[] that structure to the function recited in the

[33] Hanselman explained at the claim construction hearing that, with respect to this claim limitation and Landmark's description of the "algorithm" for performing the function, "[t]here's just no clarity there, and the fact that there's so much attempt to try to shore it up just makes it that much more confusing." (Doc. 143 at 108.)

claim." Braun Medical, 124 F.3d at 1424. Therefore, this claim limitation, along with the rest of the claim, is invalid for indefiniteness.

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It is a fundamental proposition of means-plus-function claiming that, to enjoy the benefits of § 112 ¶ 6, a patentee must clearly disclose in the specification the structure that corresponds to that claimed function, thus limiting the claimed invention to the specific structure so disclosed. As here, where the inventor has invoked functional claiming for a computer-implemented invention, the structure disclosed in the specification must be an algorithm, and that algorithm must be clearly linked to the claimed function. Where the algorithm is not disclosed or clearly linked, the claim is indefinite under § 112 ¶ 2. See Williamson, 792 F.3d at 1352. Here, the patentee clearly and convincingly failed to do both. As a result, the entire claim – claim 1 of the '508 patent – is invalid. See Med. Instrumentation, 344 F.3d at 1211 ("If the specification is not clear as to the structure that the patentee intends to correspond to the claimed function, then the patentee has not paid that price but is rather attempting to claim in functional terms unbounded by any reference to structure in the specification.").

III. CONCLUSION

For the reasons stated,

IT IS THEREFORE ORDERED that Landmark's motion to strike (Doc. 137) is DENIED.

IT IS FURTHER ORDERED that the disputed claim – claim 1 of the '508 patent – is declared invalid for indefiniteness.

/s/ Thomas D. Schroeder
United States District Judge

August 4, 2023