

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

HILL-ROM SERVICES, INC., *et al.*,)
Plaintiffs/Counter-Defendants,)
)
vs.) 1:11-cv-1120-JMS-DKL
)
STRYKER CORP., *et al.*,)
Defendants/Counter-Plaintiffs.)

ORDER

Hill-Rom Services, Inc., Hill-Rom Company, Inc., and Hill-Rom Manufacturing, Inc. (collectively, “Hill-Rom”) have filed this patent-infringement action against Stryker Corporation, doing business as Stryker Medical, and Stryker Sales Corporation (collectively, “Stryker”). Before the Court can consider the question of infringement, the Court must determine the scope and meaning of the asserted patent claims. The Court will now do so with respect to three of the patents-in-suit: U.S. Patent Nos. 5,699,038 (“’038”); 6,147,592 (“’592”); and 7,538,659 (“’659”), which the parties refer to as the data transfer patents or the Ulrich patents.¹

**I.
BACKGROUND**

The patents-in-suit represent attempts to improve the efficiency and effectiveness of hospital personnel in monitoring the status of hospital beds by allowing personnel to continuously monitor the bed status from a remote location.² [Dkt. 1-10 at 10, columns 1-2.] “With conven-

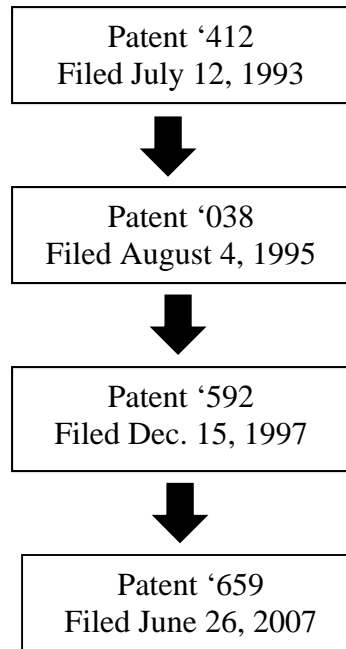
¹ Hill-Rom’s suit asserts that Stryker has infringed on nine of its patents; however, only three of these patents are at issue on claim construction because the Court granted a partial stay regarding the six patents-in-suit currently undergoing reexamination before the United States Patent and Trade Office. [Dkt. 146.]

² The specification of each patent at issue is essentially the same, and the parties agreed to cite to the specification from the ‘038 Patent during claim construction. [Dkt. 125 at 7 n.2.] The Court will do the same, except where noted.

tional hospital beds, the status of the bed is revealed at either headboard or footboard consoles or in a console located on the wall inside of a patient room. Therefore, monitoring the bed status requires attendance of personnel within the room to locally view and interpret the various bed consoles.” [Dkt. 1-10 at 10, column 2.]

In the preferred embodiment of the patents at issue, the bed status system connects a bed-monitoring interface board to a remote location, such as a master station or a nursing unit station, so that medical personnel do not have to physically view the bed to determine information about the bed and the patient therein. [Dkt. 1-10 at 10, column 2.] “The system provides instantaneous retrieval of unique identification information about the bed and provides status information related to the position of the bed, the configuration of the mattress surface, the status of the safety systems on the bed as well as the current state of various patient care systems integrated with the bed.” [Dkt. 1-10 at 10, column 2.] The remote processing station is “electrically coupled via a datalink to the interface board” and can indicate the status of the patient bed to personnel at the remote location, thereby “eliminating the need for constant personnel attendance at the bed.” [Dkt. 1-10 at 2 (“Abstract”).]

The patents-in-suit derive from an application Hill-Rom filed on July 12, 1993, which resulted in parent Patent No. 5,561,412 (“412”), not at issue in this suit. The “child” patents at issue in this suit represent continuations of ‘412, and the relevant part of the family tree is as follows:



Hill-Rom contends that its data transfer products were the only such products on the market until 2007. At that time, Stryker released the iBed Awareness, which also remotely transfers bed data. [*Id.*; dkt. 1 at 10.] Hill-Rom filed this patent infringement action against Stryker in the Western District of Wisconsin in April 2011, alleging that Stryker's products violated nine of Hill-Rom's patents. [Dkt. 1.] In relevant part, Hill-Rom alleges that various Stryker products directly infringe on the patents at issue, including claims 1, 19, and 26 of the '038 Patent; claims 1 and 14 of the '592 Patent; and claim 8 of the '659 Patent. [Dkt. 1 at 10-13.] Stryker counter-claimed, alleging non-infringement and invalidity of the patents-in-suit. [Dkt. 29.] After a motion by Stryker, [dkt. 19], this action was transferred to this Court pursuant to 28 U.S.C. § 1404(a) in August 2011, [dkt. 51].

Stryker filed for reexamination on six of the nine patents-in-suit on July 20, 2012, [dkt. 116 at 4], those requests were granted, [dkt. 133], and the Court ultimately issued a stay on the six patents undergoing reexamination, [dkt. 146]. Claim construction is now ripe on the remaining three patents following briefing and a *Markman* hearing.

II. CLAIM CONSTRUCTION STANDARDS³

A. Purpose of System

A patent holder has the right to exclude others in the United States from using, selling, or attempting to sell the patented invention. 35 U.S.C. § 154(a)(1). A patent has two chief parts:

First, it contains a specification describing the invention “in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same.” Second, a patent includes one or more “claims,” which “particularly poin[t] out and distinctly clai[m] the subject matter which the applicant regards as his invention.” . . . The claim defines the scope of a patent grant.

Markman v. Westview Instruments, 517 U.S. 370, 373-374 (1996) (quoting 35 U.S.C. § 112, but all other quotations, citations, and alterations omitted).

Patents serve an important public notice function whereby the public learns which innovations are the subjects of the claimed invention and which are in the public domain. *PSC Computer Prods., Inc. v. Foxconn Int’l, Inc.*, 355 F.3d 1353, 1361 (Fed. Cir. 2004). “[T]he point [is] that the public is entitled to notice of what the inventor has claimed and the Patent and Trademark Office has agreed should be the subject of a patent’s limited right to exclude.” *Univ. of Rochester v. G.D. Searle & Co., Inc.*, 358 F.3d 916, 922 n.5 (Fed. Cir. 2004). “[T]he role of the claims is to give public notice of the subject matter that is protected, [while] the role of the specification is to teach both what the invention is (written description) and how to make and use it (enablement).” *Id.*

Before the Court can consider the question of infringement, the Court must “determine[] the scope and meaning of the asserted patent claims.” *Innovention Toys, LLC v. MGA Entm’t*,

³ Federal Circuit precedent (to the extent not inconsistent with Supreme Court precedent) controls issues “intimately involved in the substance of enforcement of the patent right.” *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1362-63 (Fed. Cir. 2004). If the issue is not unique to patent law, the law of the regional circuit applies (here, the Seventh Circuit). *Id.*

Inc., 637 F.3d 1314, 1318 (Fed. Cir. 2011). 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*). Because it is well-established that the patentee is required to “‘define precisely what his invention is’ . . . it is ‘unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.’” *Id.* (quoting *White v. Dunbar*, 119 U.S. 47, 52 (1886)).

B. Interpretive Cannons

Claim construction presents a question of law, *Lava Trading, Inc. v. Sonic Trading Mgmt., LLC*, 445 F.3d 1348, 1352 (Fed. Cir. 2006), in which the Court seeks to “elaborat[e] the normally terse claim language: in order to understand and explain, but not to change, the scope of the claims,” *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1580 (Fed. Cir. 1991). “It is axiomatic that the claim construction process entails more than viewing the claim language in isolation. Claim language must always be read in view of the written description.” *Retractable Technologies, Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011). “The claims cannot enlarge what is patented beyond what the inventor has described as the invention.” *Abbott Laboratories v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009); *see also Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1144-45 (Fed. Cir. 2005) (holding that the patentee “is not entitled to a claim construction divorced from the context of the written description and prosecution history”).

When the Court undertakes claim construction, it does so through the eyes of a “person of ordinary skill in the field of the invention.” *Multiform Desiccants, Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998). “[T]he person of ordinary skill in the art is deemed to read the

claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313.

Two categories of evidence exist with respect to the meaning of claim language: evidence intrinsic to the patent—“the patent itself, including the claims, the specification and, if in evidence, the prosecution history”—and evidence extrinsic to the patent, such as expert testimony. *Vitronics Corp. v. Conceptoronic*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Extrinsic evidence is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317.

When interpreting the claim language, “there is no magic formula or catechism.” *Id.* at 1324. Several interpretative canons can, however, guide the Court’s analysis.

First, a “heavy presumption” exists that “claim terms carry their full ordinary and customary meaning,” a presumption rebuttable with proof that “the patentee expressly relinquished claim scope.” *Epistar Corp. v. ITC*, 566 F.3d 1321, 1334 (Fed. Cir. 2009) (citation omitted). As “his or her own lexicographer,” the patentee may narrow the scope of the claim by “us[ing] terms in a manner contrary to or inconsistent with one or more of their ordinary meanings.” *Hormone Research Found. v. Genentech, Inc.*, 904 F.2d 1558, 1563 (Fed. Cir. 1990) (citation omitted). If terms have ordinary and customary meanings, courts may decline to provide any further construction of them. *See O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (“[A] district court is not obligated to construe terms with ordinary meanings, lest trial courts be inundated with requests to parse the meaning of every word in the asserted claims.”) (footnote collecting cases omitted). Alternatively, courts may simply announce those ordinary meanings. *Phillips*, 415 F.3d at 1314 (“In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even

to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”) (citation omitted).

Second, the relationship between dependent and independent claims is important. A dependent claim “both refers to an earlier claim and further limits that referent.” *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1357 (Fed. Cir. 2007) (citation omitted). A presumption exists that “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Phillips*, 415 F.3d at 1315 (citation omitted).

Third, although “a single claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent, the patentee’s mere use of a term with an antecedent does not require that both terms have the same meaning.” *Microprocessor Enhancement Corp. v. Tex. Instruments Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008) (quotation omitted).

Fourth, “if an apparatus claim recites a general structure (*e.g.*, a noun) without limiting that structure to a specific subset of structures (*e.g.*, with an adjective), we will generally construe the claim to cover all known types of that structure that are supported by the patent disclosure.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (citations omitted).

Fifth, “the use of different terms [in claims] implies that they have different meanings, but that implication is overcome where...the evidence indicates that the patentee used the two terms interchangeably.” *Baran v. Medical Device Techs., Inc.*, 616 F.3d 1309, 1316 (Fed. Cir. 2010) (citations omitted).

Sixth, the language in the patent specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics Corp.*, 90 F.3d at 1582. Because the claim language, not the specification, describes the scope of the patented invention, the specification may not, however, alter the scope of the claim: The Court must not import limitations in the specification not found in the claim language. *Phillips*, 415 F.3d at 1323. That “distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim can be a difficult one to apply in practice.” *Id.* (citation omitted). To successfully navigate it, “the court’s focus [must] remain[] on understanding how a person of ordinary skill in the art would understand the claim terms” in light of how they are used in the specification. *Id.*; *see also Retractable Technologies*, 653 F.3d at 1305 (“In reviewing the intrinsic record to construe the claims, we strive to capture the scope of the actual invention, rather than strictly limit the scope of claims to disclosed embodiments or allow the claim language to become divorced from what the specification conveys is the invention.”).

A separate set of relevant canons involves using patent-prosecution history to help understand the true scope of the claim. “When multiple patents derive from the same initial application, the prosecution history regarding a claim limitation in any patent that has issued applies with equal force to subsequently issued patents that contain the same claim limitation.” *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 980 (Fed. Cir. 1999); *see also Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1314 (Fed. Cir. 2007) (“In this case, the specifications of the prior ‘562 patent, which is the parent of three of the patents in issue, and all the presently litigated patents, have the same content. Thus, the prosecution history of the claims of application number 07/973,973, which led to the ‘562 patent, are relevant in construing the claims of the ‘432, the

‘243, the ‘861, and the ‘444 patents.”) Moreover, statements made to the Patent Office during the prosecution of a particular patent can help inform not only the interpretation of that patent and any related later patents, but also the interpretation of previously granted related patents. *See Microsoft Corp. v. Multi-Tech Sys.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (“[E]ven though the ‘649 patent had already issued, we think that it is not unsound to apply the same interpretation to that patent. We take the patentee at its word and will not construe the scope of the ‘649 patent’s claims more broadly than the patentee itself clearly envisioned.”) (citation omitted). However, that maxim “does not apply when the claim term in the descendant patent uses different language.” *Ventana Med. Sys. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1182 (Fed. Cir. 2006) (citations omitted). In any event, the Court should attempt to glean from the prosecution history, and from the specification if necessary, “the problem the inventor was attempting to solve,” to construe the terms accordingly. *CVI/Beta Ventures v. Tura LP*, 112 F.3d 1146, 1160 (Fed. Cir. 1997) (citation omitted).

As the Court applies these principles to choose among possible constructions, the Court must bear in mind that “[t]he construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Phillips*, 415 F.3d at 1316.

III. CONSTRUCTION OF THE CLAIM TERMS AT ISSUE

The parties present five claim terms from patents ‘038, ‘592, and ‘659 for construction—1) “datalink”; 2) “interface board including processor”; 3) “message”; 4) “bed condition message”; and 5) “message validation information.” For each of the disputed claim terms, the Court will first present a table containing the competing interpretations that the parties have offered and the Court’s construction, reached in light of the foregoing interpretative standards that the Feder-

al Circuit has promulgated. The Court will then address specific arguments that the parties have raised.

A. Whether to Construe Claim Terms At Issue

Before construing the claim terms at issue, the Court must address a dispute between the parties regarding the necessity of claim construction. Hill-Rom and Stryker present very different approaches to claim construction. Hill-Rom asserts that the claims of the patents at issue are “straightforward and easily understood as written.” [Dkt. 125 at 11.] Accordingly, Hill-Rom implores the Court to apply the “plain and ordinary meaning” of each claim term and simply repeats the words of the claim term at issue for its proposed definition. [*Id.* at 12.] Hill-Rom’s proposed constructions essentially ask the Court not to construe the claim terms at issue, which Hill-Rom more pointedly requests in its response to Stryker’s *Markman* brief. [See dkt. 132 at 8-10 (section titled “It is Entirely Appropriate for This Court to Decline to Construe the At-Issue Claim Terms.”).]

Stryker proposes definitions for each disputed claim term and argues that it would be error for the Court to decline to construe the claim terms at issue because the parties have presented genuine disputes regarding scope of the claims at issue. [Dkt. 124 at 11 (citing *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008)).] Stryker criticizes Hill-Rom’s decision to rely on what it contends to be the “plain and ordinary meaning” of each claim term without expanding on that meaning when read in the context of the specification and prosecution history of various related and unrelated patents. [*Id.* at 10.]

“The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed.

Cir. 2012) (citing *Phillips*, 415 F.3d at 1313)). While the Court can decline to construe claim terms at issue, “[a] determination that a claim term ‘needs no construction’ or has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.” *O2 Micro*, 521 F.3d at 1361. In other words, “[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.” *Id.* at 1362.

The Court concludes that the parties have presented a fundamental dispute regarding the scope of each of the five claim terms at issue. For example, with regard to “datalink,” the parties present a fundamental dispute regarding whether the scope of that claim encompasses wireless data transfer. That dispute cannot be resolved by declining to construe the term or by repeating the term without further elaboration. Therefore, the Court rejects Hill-Rom’s argument that the claim terms at issue do not need construction simply because Hill-Rom believes that the plain and ordinary meaning of the terms would be apparent to someone of ordinary skill in the art.

Moreover, the Court rejects Hill-Rom’s narrow interpretation of the Federal Circuit’s decision in *Thorner*. [Dkt. 132 at 7, 10 (citing 669 F.3d at 1365).] *Thorner* provides that the words of a claim “are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history,” unless one of two exceptions applies. 669 F.3d at 1365. Hill-Rom cites *Thorner* throughout its briefs as support for its constant contention that giving a term its plain and ordinary meaning requires no further elaboration unless an exception is present. But Hill-Rom overlooks *Thorner*’s recognition that the plain and ordinary meaning must be “read in the context of the specification

and prosecution history.”⁴ *Id.* The Federal Circuit ultimately construed the disputed terms at issue in *Thorner* by elaborating on them despite concluding that the plain and ordinary meaning was appropriate. *Id.* at 1368 (holding that the term “‘attached to said pad’ should be given its plain and ordinary meaning which encompasses either internal or external attachment”). Additionally, other courts have rejected Hill-Rom’s position that plain and ordinary meaning means repeating the terms at issue without further construction. *See, e.g., Maytag Corp. v. Electrolux Home Products, Inc.*, 411 F. Supp. 2d 1008, 1037 (N.D. Iowa 2006) (“The court does not agree with Maytag’s assertion that terms to be given their ‘ordinary meanings’ do not require any construction. . . . It has been this court’s experience that parties in patent cases rarely agree on the ‘ordinary meaning of patent terms as understood by a person of skill in the art,’ so that asserting that such a meaning should apply, without further construction, merely begs the question of what that meaning is.”).

For these reasons, the Court concludes that the parties have presented fundamental disputes regarding the scope of each of the five claim terms at issue. While the Court will give those claim terms their “ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history” unless an exception applies, *Thorner*, 669 F.3d at 1365, it is still the Court’s duty to resolve the parties’ fundamental disputes regarding the scope of the claim terms at issue, *O2 Micro*, 521 F.3d at 1362.

⁴ Hill-Rom ignores this language in its summation of *Thorner*, despite the fact that it cited all of the language surrounding these words. [Dkt. 132 at 7.] The Court also rejects Hill-Rom’s characterization of Stryker’s attempt to limit the claim terms necessary for construction as evidence that Stryker “inherently admits that no construction is the default.” [*Id.* at 9-10.]

B. “Datalink”⁵

Term	Hill-Rom’s Proposal	Stryker’s Proposal	Court’s Construction
Datalink	Datalink [Dkt. 125 at 11.]	A cable connected to the bed that carries data [Dkt. 124 at 12.]	<i>A cable connected to the bed that carries data</i>

The parties’ dispute over the construction of “datalink” primarily turns on whether it encompasses wireless connectivity or, instead, requires a physical cable. The Court construes the claim term “datalink” to require a physical cable. At bottom, claims cannot enlarge what is patented beyond what the inventor has described in the invention, *Abbott Labs.*, 566 F.3d at 1288, and the Court agrees with Stryker that Hill-Rom did not describe wireless communication in the Ulrich data transfer patents. *See also Nystrom*, 424 F.3d at 1144-45 (holding that the patentee “is not entitled to a claim construction divorced from the context of the written description and prosecution history”).

First, the specifications of the Ulrich patents convey that a “datalink” is a cable. Hill-Rom identifies the datalink as reference number 39, which is shown in the illustrations as a physical cable between the junction box (37) on the interface board (35) and the wall interface unit (40). [Dkt. 1-10 at 2, 3.] The preferred embodiment provides that the interface board on the bed “is connected through a junction box 37 to a serial cable 39 and plug 39p which, in turn, connects to a wall interface unit 40.” [Dkt. 1-10 at 12, column 6, lines 29-32; *see also* dkt. 1-10 at 16, column 13, lines 7-10 (providing that the outputs “are coupled through junction box 37 to the datalink 39 for communication with the wall interface unit 40”).] Not only do the Ulrich patents describe the datalink as a “cable”, they refer to the “plug” at the end of that cable (reference

⁵ The term “datalink” is used in asserted claims 13, 20, and 26 of the ‘038 Patent, asserted claims 16 and 17 of the ‘592 Patent, and asserted claims 1 and 13 of the ‘659 Patent.

number 39p), which would be unnecessary if the datalink were wireless. [See also dkt. 1-10 at 12 column 6, lines 47-50 (“Additionally, cable 39 plugs into a bed outlet or plug 39p of the interface unit 40, while a second end of the cable 39 is electrically coupled to bed interface board 35 through junction box 37.”).] As this language shows, the terms “datalink”, “cable”, and “serial cable” are equated as reference number 39 throughout the specification, which shows that Hill-Rom intended for those terms to be synonymous and to represent a physical cable connection. [See also dkt. 1-10 at 15, column 12, lines 63-64.] The Court is not persuaded by Hill-Rom’s argument that the term datalink cannot be construed to require a wired connection without violating the principle of claim differentiation, [dkt. 125 at 13-14 (pointing to claims in the ‘659 Patent)], because “claim differentiation is a rule of thumb that does not trump the clear import of the specification[.]” *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1332 (Fed. Cir. 2009).

Second, not only does the language of Hill-Rom’s patent support construing the term datalink to be a wired connection, Hill-Rom’s failure to describe wireless data transfer in the Ulrich patents bolsters that conclusion. The Ulrich patents do not mention radio, WiFi, or infrared communication over the datalink but, instead, consistently describe the datalink as electrical.⁶ [See, e.g., dkt. 1-10 at 2 (“electrically coupled via a datalink”) and 12, column 6, lines 47-50 (“cable 39 is electrically coupled to bed interface board”).] Accordingly, if the term datalink is construed to include wireless communication, then the claim would fail to meet the requirement

⁶ At oral argument, Hill-Rom cited a reference to infrared technology in the “Background of the Invention” section as evidence that infrared technology was known by a person of ordinary skill in the art at the time of the invention. [See dkt. 1-10 at 10, column 1, lines 44-46 (referring to an unrelated patent aimed at “maximizing the efficiency of nurses and other hospital staff . . . [by] continuously monitor[ing] the various locations of these persons” with “infrared transmitters”).] Even if that is true, as Hill-Rom’s expert also asserts, [dkt 125-2 at 22], the known availability of non-wired technology further bolsters the conclusion that Hill-Rom was aware of it but limited its invention to a wired, electric datalink with a plug by repeatedly describing it as such.

of 35 U.S.C. § 112 that the patent teach or enable how to make or use the claimed invention.⁷ And as Stryker points out, if the term is construed to encompass wireless technology, the Ulrich patents would present a practical problem without providing the technological support for it. [Dkt. 124 at 15-16.] Specifically, a hospital bed that wirelessly transmits information to a remote location could be located anywhere in the hospital, not necessarily plugged into the wall in the patient's room. But the Ulrich patents do not contemplate that problem or disclose technological support for locating the beds. This implies, consistent with the specifications, diagrams, and language used by Hill-Rom in the Ulrich patents, that a datalink is a cable coupling the interface board on the bed to the wall.

Third, a Patent Examiner reviewed the '038 Patent during Hill-Rom's prosecution of another patent application (No. 13/336,044) and determined that '038 "does not teach . . . the bed having a wireless receiver." [Dkt. 122-10 at 4.] Although Hill-Rom correctly points out that this is not conclusive evidence or an admission by Hill-Rom, the Court finds the Patent Examiner's conclusion to be useful in determining how one skilled in the art would view the scope of the patent. *See Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1347 (Fed. Cir. 2005) ("Statements about a claim term made by an examiner during prosecution of an application may be evidence of how one of skill in the art understood the term . . .").

⁷ Pursuant to 35 U.S.C. § 112, "the specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains ... to make and use the same...."

For these reasons, the Court concludes that the proper construction of the claim term “datalink” is “a cable connected to the bed that carries data.”⁸

C. “Interface board including processor”⁹

Term	Hill-Rom’s Proposal	Stryker’s Proposal	Court’s Construction
Interface board including processor	Interface board including processor [Dkt. 125 at 14.]	A board that includes the electronics that control the sending of messages to, and the receiving of messages from, a remote location. [Dkt. 124 at 17.]	<i>A board that processes an input signal to create bed condition messages and sends those messages to a remote location via the wall interface unit. It can also receive messages through the wall interface unit.</i>

The parties have two primary disputes over this term: 1) where the processor in the interface board sends messages to (Hill-Rom argues the wall interface unit and Stryker argues a remote location); and 2) whether the interface board can also receive messages (Hill-Rom argues that it is an optional embodiment and Stryker argues that it does receive messages). The Court’s construction of this term is based on reading the specification and claims, which together provide a construction consistent with the description and intention of the invention.

The specification provides that “[d]uring operation of the bed status system, one of two types of messages is sent between the bed interface board and the wall interface unit, i.e., a status message or a bed data message. Status messages are sent back and forth between the bed inter-

⁸ Stryker argues that Hill-Rom made various admissions when prosecuting an unrelated patent that limit the Ulrich patents to wired communication. [Dkt. 124 at 14-15 (citing dkts. 122-8; 122-9 at 3 ¶¶ 3-4).] Hill-Rom argues that Stryker misconstrues these statements, that they are irrelevant because they were made in the context of unrelated patents, and that they are not disclaimers or admissions that the ‘038 Patent did not disclose wireless technology. [Dkts. 125 at 13 n.4; 132 at 20-21.] Because the Court has determined that the Ulrich patents are limited to wired communication without considering the evidence Stryker cites from the unrelated patent, the Court need not address Stryker’s argument further.

⁹ The term “interface board including processor” is used in asserted claims 13, 20, and 26 of the ‘038 Patent.

face board and the wall interface unit to apprise one or the other of the sending devices of the status of the last message that was sent from that device.” [Dkt. 1-10 at 11, column 3, lines 53-59; *see also* column 3, lines 34-37 (“Upon receiving the bed condition input signals, the interface board processor creates 10 byte messages to be serially sent over the datalink between the bed interface board and the wall interface unit.”); column 19, lines 13-14 (discussing “communication between the wall interface unit 40 and the bed interface board 35”); column 18, lines 45-46 (“Each message is sent between the bed interface board 35 and wall interface unit”).] Claim 1 provides, in relevant part, that the interface board includes a processor that is “operable for . . . processing said input signal [carried by said patient bed] to create bed condition messages indicating the status of the monitored condition” and that “a processing station remote from the bed and coupled with said interface board by a datalink . . . receive[s] said bed condition messages over the datalink and process[es] said messages.” [Dkt. 1-10 at 21, column 22, lines 41-50 (claim 1).] Claim 9 identifies “the bed status information system of claim 1 wherein said processing station is operable to send messages to the interface board over said datalink.” [Dkt. 1-10 at 22, column 23, lines 27-29.]

Reading these in conjunction, Hill-Rom’s patents disclose that the bed interface board receives an input signal from the patient bed, processes that signal to create bed condition messages indicating the status of the monitored conditions, and sends those messages to a remote processing station via the wall interface unit. While neither Claim 1 nor Claim 9 expressly acknowledge the wall interface unit, the quoted language throughout the specification repeatedly indicates that the interface board is sending messages through the wall interface unit. Moreover, that construction is consistent with the Court’s construction of “datalink” to require a wired, cable connection from the interface board to the wall interface unit. Keeping in mind the problem

that Hill-Rom was trying to solve with its invention, *CVI/Beta Ventures*, 112 F.3d at 1160—namely, providing bed status information to hospital staff at a remote location—the Court construes the term at issue to disclose communication between the interface board and the remote location via the wall interface unit. Hill-Rom’s argument that bilateral communication is an optional embodiment is unpersuasive because nothing in the specification or claims supports that characterization. [Dkt. 125 at 15.]

For these reasons, the Court concludes that the proper construction of the claim term “interface board including processor” is “a board that processes an input signal to create bed condition messages and sends those messages to a remote location via the wall interface unit. It can also receive messages through the wall interface unit.”

D. “Message”¹⁰

Term	Hill-Rom’s Proposal	Stryker’s Proposal	Court’s Construction
Message	Message [Dkt. 125 at 16.]	A plurality of data fields assembled into a defined structure. A message is distinct from a signal. [Dkt. 124 at 18.]	<i>A plurality of data fields of appropriate length assembled into a defined structure. A message is distinct from an input signal.</i>

Hill-Rom argues that Stryker’s proposed construction of “message” is overly complicated, while Stryker argues that it is necessary to define the term to clearly indicate what it means in the context of the Ulrich patents.

Hill-Rom conceded at oral argument that a message is distinct from an input signal,¹¹ and the text of the patent supports that conclusion. [See, e.g., dkt. 1-10 at 11, column 3, lines 34-37

¹⁰ The term “message” is used in asserted claims 13, 20, and 26 of the ‘038 Patent; asserted claims 16 and 17 of the ‘592 Patent; and asserted claim 13 of the ‘659 Patent.

(“Upon receiving the bed condition input signals, the interface board processor creates 10 byte messages to be serially sent over the datalink between the bed interface board and the wall interface unit.”).] Therefore, the Court will construe the term to include that distinction.

As for the structure of a message, the specification provides that “each bed data message that is sent from the bed to the wall interface unit is of appropriate length and includes a plurality of data fields which indicate the type of message being sent. . . .” [Dkt. 1-10 at 11, column 4, lines 1-4.] Moreover, the preferred embodiment details that

the bed message structure has a message length fixed at ten bytes (80 bits). The message structure and the various fields contained therein are designated and configured as follows:

FIELD	LENGTH	CONTENTS
MSG_TYPE	1 byte	Indicates the type of message sent (e.g. whether it is a STATUS message or a BED_INPUTS or a BED_OUTPUTS message).
SEQUENCE_NUMBER	1 byte	A number incremented by the sending node each time a message is sent. If a sequence number is not recorded by the system, this field may be left uninitialized.
DATA_LENGTH	1 byte	Indicates the number of active bytes used in the data field of the message. The data field, DATA [6] of the message always allocates six bytes of data; however, any number of the six bytes may be implemented within the field for a particular message.
DATA [6]	6 bytes	This field contains the data bytes of the message, e.g. bed inputs, identification
-continued		
FIELD	LENGTH	CONTENTS
CHECKSUM	1 byte	numbers, bed type information. This byte is used for message verification according to the CHECKSUM processing described further hereinbelow.

¹¹ Because the Ulrich patents use the words “input signal” instead of just “signal” as Stryker’s construction proposes, the Court agrees with Hill-Rom that the distinction in the construction should include the words “input signal.”

[Dkt. 1-10 at 16, column 13, lines 39-44, column 14, lines 1-8).] This example of how data fields are organized into specific arrangements to comprise messages supports construing the term to indicate an organized assembly. Stryker acknowledges that messages are not limited to the exact structure described in the preferred embodiment because they can be reordered as long as both the sender and receiver know the correct order. [Dkt. 124 at 19.] Thus, the Court will construe the term to require a “defined structure” instead of the exact structure set forth in the preferred embodiment.

For these reasons, the Court concludes that the proper construction of the claim term “message” is “a plurality of data fields of appropriate length assembled into a defined structure. A message is distinct from an input signal.”

E. “Bed Condition Message”¹²

Term	Hill-Rom’s Proposal	Stryker’s Proposal	Court’s Construction
Bed Condition Message	Bed Condition Message [Dkt. 125 at 16.]	A message (as defined above)—not generated in response to a user request—that contains the status of all conditions that the bed is capable of monitoring and transmitting to a remote location. [Dkt. 124 at 20.]	<i>A message not generated in response to any user request that contains the status of all conditions the bed is capable of monitoring.</i>

The parties have two primary disputes over the construction of the term “bed condition message”: 1) whether it can be generated in response to a user request, and 2) whether it must contain the status of all conditions that the bed is capable of monitoring.

¹² The term “bed condition message” is used in asserted claims 13, 20, and 26 of the ‘038 Patent; asserted claims 16 and 17 of the ‘592 Patent; and asserted claim 13 of the ‘659 Patent.

In support of its proposed construction, Stryker cites representations that Hill-Rom made to the USPTO in response to an Office Action rejecting claims in Patent Application 11/426,709 (“Application ‘709”). [Dkt. 122-13.] The Patent Examiner rejected claims at issue in Application ‘709 as being obvious in light of other patents, including the Ulrich patents. [Dkt. 122-13 at 4 (citing 35 U.S.C. § 103(a)).] In response to that rejection, Hill-Rom represented:

The undersigned is quite familiar with the Ulrich reference because it is assigned to the same assignee as the present application. In Ulrich’s systems, user’s [sic] cannot request specific subsets of the data to be transmitted without transmitting other available data subsets. The data transmissions in Ulrich’s system happen in response to periodic programmed polling by the individual electronic devices of the system, not in response to any user request.

[Dkt. 122-13 at 5.] Application ‘709 ultimately issued as Patent No. 8,121,856 (the “‘856 Patent”).

The parties agree that the ‘856 Patent is not directly related to the patents-in-suit at issue on claim construction. Hill-Rom argues that because the ‘856 Patent is unrelated, the Court cannot rely on representations it made to the USPTO to obtain that patent. [Dkts. 125 at 17-18; 132 at 25-26; 145.] Stryker argues that because Hill-Rom, the holder of the Ulrich patents, made direct statements about the abilities of its previous invention to overcome an obviousness rejection and ultimately obtain the ‘856 Patent, Hill-Rom should be held to those statements in this litigation. [Dkts. 124 at 20-22; 131 at 15-17; 144.]

“It is well established that the doctrine of judicial estoppel acts ‘to protect the integrity of the judicial process . . . by prohibiting parties from deliberately changing positions according to

the exigencies of the moment.”¹³ *Jarrard v. CDI Telecommunications, Inc.*, 408 F.3d 905, 914 (7th Cir. 2005) (quoting *New Hampshire v. Maine*, 532 U.S. 742, 749 (2001)). Judicial estoppel applies just as much when one of the tribunals is an administrative agency as it does when both tribunals are courts. *See Lampi Corp. v. Am. Power Prods., Inc.*, 228 F.3d 1365, 1377 (Fed. Cir. 2000) (“The [judicial estoppel] doctrine also applies to administrative proceedings in which a party obtains a favorable order by making an argument that it seeks to repudiate in a subsequent judicial proceeding.”) (applying Seventh Circuit law). Judicial estoppel is designed to “prevent the perversion of the judicial process.” *Cannon-Stokes v. Potter*, 453 F.3d 446, 448 (7th Cir. 2006) (citation omitted). While no precise or rigid formula guides its application, there are three main factors in deciding whether invocation of the doctrine may be appropriate: 1) a party’s position must be clearly inconsistent with an earlier taken position; 2) the party must have prevailed on the basis of the earlier position, such that judicial acceptance of the inconsistent position would create the perception that one of the tribunals was misled, and 3) the party asserting the inconsistent position would derive an unfair advantage or impose an unfair detriment on the opposing party if not estopped. *Jarrard*, 408 F.3d at 914 (citing *New Hampshire*, 532 U.S. at 750).

With regard to the first factor, the Court concludes that Hill-Rom’s position in this litigation is clearly inconsistent with its previous position. Here, Hill-Rom represents that its inven-

¹³ Because judicial estoppel is not an issue unique to patent law, the law of the regional circuit applies. *Biomedical Patent Mgmt. Corp. v. California Dept. of Health Services*, 505 F.3d 1328, 1341 (Fed. Cir. 2007); *Minn. Mining & Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1302 (Fed. Cir. 2002). To the extent that Hill-Rom relies on *Pfizer, Inc. v. Ranbaxy Laboratories, Ltd.*, 457 F.3d 1284, 1290 (Fed. Cir. 2006), for the proposition that judicial estoppel does not apply to representations in the context of unrelated patents, the Court notes that case arose from patent litigation in the Third Circuit. Moreover, both the Seventh Circuit and the Federal Circuit are bound by, and have applied, United States Supreme Court precedent concerning judicial estoppel, including *New Hampshire v. Maine*, 532 U.S. 742, 749 (2001). This Court will apply the factors detailed by the Supreme Court to determine whether to apply judicial estoppel to Hill-Rom’s representations.

tion is capable of generating a bed condition message in response to a user request that contains the status of less than all of the available conditions being monitored. [Dkts. 125 at 18; 132 at 24-25.] But that position clearly contradicts representations Hill-Rom made to the USPTO to obtain the '856 Patent that the Ulrich patents were not capable of generating specific subsets of data without transmitting other available data sets and that the data transmissions are "not in response to any user request." [Dkt. 122-13 at 5.] Because these positions are clearly inconsistent, the first factor weighs in favor of applying judicial estoppel.

As for the second factor, the Court concludes that Hill-Rom prevailed on the basis of its earlier position such that judicial acceptance of its inconsistent position would create the perception that one of the tribunals was misled. Specifically, Hill-Rom made the previous representations at issue to overcome the Patent Examiner's obviousness rejection of Application '709, [dkt. 122-13 at 4-5], and these representations were successful because Application '709 later issued as the '856 Patent, [dkt. 122-11]. Therefore, the second factor weighs in favor of applying judicial estoppel.

As for the third factor, the Court concludes that allowing Hill-Rom to maintain its inconsistent position in this litigation would give it an unfair advantage. Stryker contends that Hill-Rom's proposed construction captures Stryker's accused product, while a construction based on Hill-Rom's prior representations does not. [Dkt. 144 at 5.] Hill-Rom does not dispute this. Therefore, allowing Hill-Rom to avoid its prior representations and adopt a construction of the term "bed condition message" that does not account for the acknowledged limitations it represented to the USPTO would give Hill-Rom an unfair advantage. Therefore, the third factor weighs in favor of judicial estoppel.

Because all three of the factors weigh in favor of applying judicial estoppel, the Court will construe the term at issue to encompass the recognized limitations of the Ulrich patents as Hill-Rom represented them to the USPTO. Hill-Rom was in the best position to know the capabilities of its previous inventions, and it used these representations to obtain an unrelated patent. Therefore, under the principle of judicial estoppel, it will be bound by them here.

For these reasons, the Court concludes that the proper construction of the claim term “bed condition message” is “a message not generated in response to any user request that contains the status of all conditions the bed is capable of monitoring.”

F. “Message Validation Information”¹⁴

Term	Hill-Rom’s Proposal	Stryker’s Proposal	Court’s Construction
Message Validation Information	Message Validation Information [Dkt. 125 at 19.]	A data field within a message that is used to verify that the received message is exactly the same as the transmitted message. [Dkt. 124 at 23.]	<i>A data field within a message that is used to verify that the message was received exactly the same as it was sent.</i>

The parties primarily dispute whether the “message validation information” can verify whether a received message is exactly the same as the transmitted message.

Hill-Rom opposes Stryker’s construction by citing a report from its expert, Dr. Andrew Singer, concluding that “it is impossible to verify with absolute certainty that a received message is *exactly the same* as a transmitted message.” [Dkt. 125 at 19 (referring to dkt. 125-2 at 23-24) (emphasis in original).] Hill-Rom also cites language from the specification that it contends shows that the validity checking routine will not detect all errors. [Dkt. 1-10 at 18, column 18,

¹⁴ The term “message validation information” is used in asserted claim 17 of the ’592 Patent.

lines 61-64 (“Since such a simple routine will not work when the sent message begins as all zeros, the CHECKSUM byte might be given an offset value to make it other than zero.”).]

To support its construction, Stryker points to claim 17 of the ‘592 Patent, which provides “[t]he patient monitoring system of claim 16 wherein the message includes message validation information.” [Dkt. 124 at 23 (citing dkt. 1-11 at 21, column 24, lines 1-2).] Stryker argues that claim 17 shows that “message validation information” is part of a larger message. [*Id.*] Stryker also cites the ‘592 specification, which provides that “each bed data message that is sent from the bed to the wall interface unit is of appropriate length and includes a plurality of data fields” that include, among other things, “a field for verifying that the message was received by a node *exactly the same* as it was sent by the sending node.” [Dkt. 1-11 at 11, column 3, lines 49-57 (emphasis added).]

The Court agrees with Stryker that claim 17 of the ‘592 Patent, which is the only patent that uses the term at issue, makes it clear that “message validation information” is part of a larger message. And the Court also agrees with Stryker that the specification language discloses that it verifies that the message was received “exactly the same as it was sent.” [Dkt. 1-11 at 11, column 3, lines 49-57.] Hill-Rom relies on its expert to argue that it is impossible to verify if something was received exactly as it was sent, but “[i]f the meaning of the claim limitation is apparent from the intrinsic evidence, it is improper to rely on extrinsic evidence other than that used to ascertain the ordinary meaning of the claim limitation.” *Dow Chem. Co. v. Sumitomo Chem. Co., Ltd.*, 257 F.3d 1364, 1373 (Fed. Cir. 2001). The Court determines that the meaning of the term is apparent from the intrinsic evidence; therefore, the Court cannot rely on extrinsic evidence such as Dr. Singer’s report to interpret this term. Moreover, although Hill-Rom cites the specification of the ‘038 Patent to support its argument that the validity checking routine will not

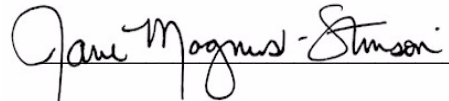
detect all errors, that specification gives a workaround for that problem—*i.e.*, giving it an “offset value to make it other than zero.” [Dkt. 1-10 at 18, column 18, lines 61-64].] Therefore, it does not support Hill-Rom’s impossibility argument.

For these reasons, the Court concludes that the proper construction of the claim term “message validation information” is “a data field within a message that is used to verify that the message was received exactly the same as it was sent.”

**IV.
CONCLUSION**

The definitions set forth above will control the interpretation of the patents-in-suit at issue herein going forward. The Court requests that Magistrate Judge LaRue, at her convenience, assist the parties in the development of a Phase II Uniform Patent Case Management Plan.

01/30/2013



Hon. Jane Magnus-Stinson, Judge
United States District Court
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