IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TENNESSEE
WESTERN DIVISION

KARL STORZ ENDOSCOPY-AMERICA, INC.,	)	
Plaintiff,	)	
vs.	)	No. 2:07-02702-JPM-cgc
SMITH & NEPHEW, INC.	)	
Defendant.	)	

CLAIM CONSTRUCTION ORDER

Before the Court is the Parties' request for claim construction pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996). Defendant Smith & Nephew, Inc. ("S&N") filed its Opening Claim Construction Brief (Docket Entry ("D.E.") 83) on October 15, 2009. Plaintiff Karl Storz Endoscopy-America, Inc. ("KSEA") also filed its Opening Claim Construction Brief on October 15, 2009. (D.E. 84.) The Parties filed their Responsive Claim Construction Briefs on November 16, 2009. (D.E. 85, 86.) On December 3 and 4, 2009, the Court held a technical briefing and a Markman hearing. (D.E. 92, 93.) During the hearing, the Parties agreed on the construction of several disputed claim terms, and the Court ordered the Parties to submit a joint statement with regard to those terms. The Parties filed a Joint

Submission of Agreed upon Claim Constructions on January 28, 2010. (D.E. 99.) The Parties also submitted their respective Supplemental Claim Construction Briefs on January 28, 2010. (D.E. 98, 100.) For the following reasons, the Court construes the disputed claim terms as follows.

I. Background

KSEA initiated this infringement action on November 2, 2007. (See generally Compl. (D.E. 1).) The Patents-in-Suit relate to a system by which surgical equipment may be centrally monitored and controlled during an endoscopic surgical procedure. The Parties disagree as to the meaning of numerous claim terms in the three patents, and S&N challenges several claims as indefinite. The Court will consider each disputed claim term in turn.

II. Standard of Review

There are two steps to an infringement analysis. "The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing." Markman, 52 F.3d at 976 (citations omitted). The first step, claim construction, is a matter of law. Id.

In construing claims, a court should first consider the intrinsic evidence of record, consisting of the language of the patent claims, the patent specification, and the prosecution

history. Insituform Techs., Inc. v. Cat Contracting, Inc., 99 F.3d 1098, 1105 (Fed. Cir. 1996); Markman, 52 F.3d at 979. However, "the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to 'particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention.'" Interactive Gift Express, Inc. v. Compuserve, Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001)(quoting 35 U.S.C. § 112, para. 2); see also Phillips v. AWH Corp., 415 F.3d 1303, 1314 (Fed. Cir. 2005) ("The claims themselves provide substantial guidance as to the meaning of particular claim terms."). "[A] construing court does not accord the specification, prosecution history, and other relevant evidence the same weight as the claims themselves, but consults these sources to give the necessary context to the claim language." Eastman Kodak Co. v. Goodyear Tire & Rubber Co., 114 F.3d 1547, 1552 (Fed. Cir. 1997), overruled on other grounds by Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448 (Fed. Cir. 1998). Thus, a court should construe claim terms as having the meaning ascribed to them by one of ordinary skill in the art unless the patent specification or prosecution history indicates a contrary meaning. Phillips, 415 F.3d at 1313; see also N. Telecom Ltd. v. Samsung Elecs. Co., Ltd., 215 F.3d 1281, 1287 (Fed. Cir. 2000).

In determining the meaning to be given to claim terms, the Court must read the terms in the context of the specification because it is the patent specification which, by statute, must contain a "full, clear, concise, and exact" description of the invention. 35 U.S.C. § 112, para. 1; Phillips, 415 F.3d at 1311. Thus, claim terms must be construed so as to be consistent with the specification. Phillips, 415 F.3d at 1316 ("The 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." (quoting Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998))). The specification may use a claim term in a way that differs from its ordinary meaning; in such instances, the patentee is deemed to have acted as his own lexicographer, and the ordinary meaning of the language must be rejected. Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1204 (Fed. Cir. 2002). "[T]he written description in such a case must clearly redefine a claim term 'so as to put a reasonable competitor or one reasonably skilled in the art on notice that the patentee intended to so redefine that claim term.'" Elekta Instrument S.A. v. O.U.R. Scientific Int'l, Inc., 214 F.3d 1302, 1307 (Fed. Cir. 2000) (quoting Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357 (Fed. Cir. 1999)).

Although claims must be read in view of their specification, the Federal Circuit has repeatedly cautioned against limiting the scope of a claim to the preferred embodiment or specific examples disclosed in the specification. See Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1303 (Fed. Cir. 1997); Intervet Am., Inc. v. Kee-Vet Labs., Inc., 887 F.2d 1050, 1053 (Fed. Cir. 1989) ("[L]imitations appearing in the specification will not be read into claims, and . . . interpreting what is *meant* by a word *in* a claim is not to be confused with adding an extraneous limitation appearing in the specification, which is improper." (citation and internal quotation marks omitted)). Similarly, a court should not read the specification to expand the scope of the claims. Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co., 285 F.3d 1046, 1052 (Fed. Cir. 2002) (citing, *inter alia*, McClain v. Ortmayer, 141 U.S. 419, 424 (1891) ("The claim is the measure of [that patentee's] right to relief, and while the specification may be referred to to limit the claim, it can never be made available to expand it.")).

Beyond the specification, the Court may also look to the patent's prosecution history if it is a part of the record in the case. Markman, 52 F.3d at 980. "This 'undisputed public record' of proceedings in the Patent and Trademark Office is of primary significance in understanding the claims." Id.; see

also Phillips, 415 F.3d at 1317 ("Like the specification, the prosecution history provides evidence of how the [Patent & Trademark Office] and inventor understood the patent."). Again, however, the prosecution history "cannot enlarge, diminish, or vary the limitations in the claims." Markman, 52 F.3d at 980 (citation omitted).

In addition to the intrinsic record, the Court may also consider extrinsic evidence such as dictionaries, encyclopedias, treatises, and inventor and expert testimony to assist it in understanding the technology at issue or in determining the meaning or scope of terms in a claim. Phillips, 415 F.3d at 1317-18; see also Aqua-Aerobic Sys., Inc. v. Aerators, Inc., 211 F.3d 1241, 1244-45 (Fed. Cir. 2000); Hoechst Celanese Corp. v. BP Chems. Ltd., 78 F.3d 1575, 1579 (Fed. Cir. 1996). Although such evidence is generally considered less reliable than the intrinsic record, the Court is free to consider it and may do so at any stage of its inquiry. Phillips, 415 F.3d at 1318-19; see also Free Motion Fitness, Inc., v. Cybex Int'l, Inc., 423 F.3d 1343, 1348-49 (Fed. Cir. 2005).

III. Analysis

A. The '688 Patent

1. Background

On August 4, 1998, the Patent and Trademark Office ("PTO") issued U.S. Patent No. 5,788,688 (the "'688 Patent") to

inventors James D. Bauer and Donald W. Laux, who assigned the patent to Bauer Laboratories. '688 Pat. at 1. The '688 Patent is entitled "Surgeon's Command and Control." Id. A major feature of the system is that it allows a surgeon to directly monitor and control the settings on surgical equipment, without the surgeon having to rely on other members of the surgical team to read and manipulate those settings, which was a weakness of the prior art. See generally id. at cols.1-2.

2. '688 Disputed Claim Terms

a. "Surgeon's operating station"

Claim 1 of the '688 Patent discloses a "surgeon's operating station at which a surgical procedure is performed with a plurality of self-contained independently and simultaneously operable pieces of surgical equipment." '688 Pat. col.19 ll.41-43. Claim 10 also discloses a "surgeon's operating station at which a surgical procedure is performed." Id. at col.20 ll.47-48. The Parties treat these terms as having the same meaning. The Court will construe the terms accordingly.

The critical difference between the Parties' proposed constructions is the location of the "surgeon's operating station" within the operating environment. KSEA argues that it is "one or more locations within an operating environment at which a member of the surgeon's team controls surgical equipment." (Joint Sub. for Technical Demonstration Hr'g &

Claim Construction Hr'g (D.E. 90) Ex. A, Joint Submission Regarding Proposed Constructions ("Proposed Constructions Chart") 1.) S&N argues that it is the "place within the sterile area of the operating environment where the surgeon and the surgical instruments are located during a surgical procedure." (Id.)

The Court rejects KSEA's proposed construction. KSEA essentially argues that the "surgeon's operating station" is any part of the operating environment at which any member of the surgical team controls surgical equipment. This proposed construction ignores the language the applicant used. Although a surgical team may be comprised of surgeons and other individuals, the claim uses the word "surgeon" to modify "operating station," and KSEA has not demonstrated why "surgeon" would be understood by one skilled in the art to also include a nurse or surgical technician.

Further, Claim 1 expressly states that the control heads, which are used to control the surgical equipment, are "located at a non-sterile area *remote from the surgeon's operating station*." '688 Pat. col.19 ll.43-44 (emphasis added). This language forecloses the possibility that the "surgeon's operating station" is *any* place from which a member of the surgical team controls the surgical equipment.

The Court also rejects KSEA's argument that Claim 1 expressly defines the "surgeon's operating station" as an "endoscopic operating environment." This aspect of Claim 1 is difficult to construe, but the Court declines to read it as saying that an "endoscopic operating environment" is a "surgeon's operating station." Cf. Edward Lifesciences LLC v. Cook Inc., 582 F.3d 1322, 1330 (Fed. Cir. 2009) (noting that different words should typically be given different meanings). The best reading of this language is that an "endoscopic operation environment" includes both the "surgeon's operation station" and the surgical equipment and control heads located away from the "surgeon's operating environment." See '688 Pat. col.19 ll.39-48.

The Court also rejects KSEA's argument based on the claim's teaching that a surgical procedure is performed at the "surgeon's operating station" "with" surgical equipment. See '688 Pat. col.19 ll.40-41. This does not mean that the surgical equipment is necessarily located at the "surgeon's operating station." In context, the claim teaches that the surgical procedure is performed "with" surgical equipment in the sense that the surgical equipment drives the surgical instruments that are located at the "surgeon's operating station" and used on the patient. See id. at col.19 ll.42-48.

S&N's proposed construction comports with the claims' language. Claims 1 and 10 disclose that the surgical procedure is performed at the "surgeon's operating station," '688 Pat. col.19 ll.40-41; id. at col.20 ll.48-49, and that the surgical instruments are located at the "surgeon's operating station," id. at col.19 ll.47-48; id. at col.20 ll.55-56. The natural reading of the patent is that the surgeon would be located where the surgical procedure is performed with surgical instruments.

The specification strongly supports the conclusion that the surgeon uses the surgical instruments to perform the surgical procedure within the sterile area.[1] See '688 Pat. at 1 (showing the surgeon operating on the patient within the sterile area); id. at 2 (same); id. at col.1 ll.9-13 (describing how the system provides direct control from within the "sterile operating environment"); id. at col.4 ll.40-44 (describing how "sterile control located at the surgeon's operating station allow[s] the surgeon and assistant to make equipment adjustments without breaking sterile procedure").

KSEA contends that the "surgeon's operating station" cannot be located in the sterile area because the heads-up display ("HUD") is described as being located at the "surgical operating station," id. at col.4 ll.31-32, and is depicted as outside the

[1] Although the claims note where objects are not located in the sterile area, at least some of the time, the Court finds that in view of the whole patent this does not exclude objects from being within the sterile field where they are not expressly so designated.

sterile area in the diagrams, id. at 1-2. KSEA over-reads the significance of the HUD's placement outside the sterile area in the diagram. The diagram shows that the HUD is "at" the "surgeon's operating station" in the sense that the surgeon may easily observe the HUD from his position within the sterile field. See id. at 1-2; id. at col.4 ll.56-59 (describing how the surgeon may monitor the surgical equipment by viewing the HUD monitor).

KSEA also argues that construing the "surgeon's operating station" as being located within the sterile field ignores the specification's teaching that members of the surgical team, in addition to just the surgeon, may use the control panel located at the "surgeon's operation station." This argument fails because members of the surgical team who are properly scrubbed may clearly use the control panel without breaching the sterile nature of that field.

The Court construes "surgeon's operating station" as the "place within the sterile area of the operating environment where the surgeon and the surgical instruments are located during a surgical procedure."

b. "Surgical control head"

Claims 1 and 10 disclose that each piece of surgical equipment has a "surgical control head." '688 Pat. col.19 ll.42-43; id. at col.20 ll.51-53. The Parties dispute what a

"surgical control head" monitors and controls. KSEA contends that a "surgical control head" controls and displays the parameters of a "piece of surgical equipment," while S&N asserts that a "surgical control head" controls and displays the parameters of "a particular surgical instrument located at the surgeon's operating station." (Joint Submission of Agreed Upon Claim Constructions (D.E. 99) Ex. A ("Agreed-Upon Constructions Chart") 2.)

The claim language supports S&N's proposed construction with regard to the control feature. Claim 1 describes how the "surgical control head" receives "manually entered" commands that influence an "associated device," which "driv[es] an associated surgical instrument located at the surgeons [sic] operating station." '688 Pat. col.19 ll.42-49. KSEA's expert offered mere conclusory assertions in support of KSEA's proposed construction. (See KSEA Opening Claim Construction Br. Ex. G (Gunday Decl.) 6-7.) KSEA's argument is essentially that pieces of surgical equipment have "surgical control heads" as components. This is correct, but it does not establish that the "surgical control heads" control the surgical equipment as opposed to the surgical instruments.

The Court construes a "surgical control head" as controlling and displaying the parameters of "a particular surgical instrument located at the surgeon's operating station."

c. "Surgical instrument"

Following the Markman hearing, the Parties agreed that a "surgical instrument" as disclosed in Claims 1 and 10 should be construed as an "instrument for performing a surgical procedure on a patient." (Agreed-Upon Constructions Chart 2). The Court adopts this construction.

d. "Operatively positioned at the surgeon's operating station"

Claims 1 and 10 teach that the "surgeon's control panel" is "operatively positioned at the surgeon's operating station." '688 Pat. col.19 ll.51-52; id. at col.20 ll.66-67. KSEA asserts that "operatively positioned at the surgeon's operating station" should be construed as "operable from the surgeon's operating station." (Proposed Constructions Chart 2.) S&N contends that the term should be construed as "positioned at the surgeon's operating station within reach and view of the surgeon to allow control and monitoring of the pieces of surgical equipment." (Id.)

The Court adopts S&N's proposed construction. The '688 Patent teaches that a primary advantage of the surgeon's command and control system is that it allows a surgeon to directly monitor and control the operation of surgical equipment, an improvement over the prior art, which required a surgeon to indirectly monitor and control surgical equipment through verbal

interaction with surgical staff members. See '688 Pat. col.2 ll.29-50. S&N's proposed construction recognizes this improvement over the prior art, while KSEA's proposed construction does not indicate that the surgeon may directly use the control panel. "The 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 (citation omitted).

S&N's proposed construction does not read "operatively" out of the claim as KSEA contends. The proposed construction explains that "operatively positioned" means positioned so that the surgeon may directly operate it.

The Court construes "operatively positioned at the surgeon's operating station" as "positioned at the surgeon's operating station within reach and view of the surgeon to allow control and monitoring of the pieces of surgical equipment."

e. "Plurality of communication interface circuits"

Claim 1 discloses the following:

> A plurality of communication interface circuits, one for each of said plurality of self-contained pieces of surgical equipment, each for transmitting data representing status of the associated surgical control head and for receiving remote commands for driving the associated self-contained surgical instrument.

’688 Pat. col.19 ll.57-62. Claim 10 makes a similar disclosure See id. at col.21 ll.17-20. As discussed at the Markman hearing, the Court construes this term as “two or more circuits, each of which enables communication between a single piece of surgical equipment and the central controller.”[2] (See Hr’g Tr. 31, 84-85.)

f. “Central controller operatively connected”

Claim 1 discloses the following:

> A central controller operatively connected to each said communication interface circuit and said surgeon’s control panel, said central controller transmitting to said plurality of self-contained pieces of surgical equipment commands entered manually on the surgeon’s control panel and transmitting to said surgeon’s control panel status of the surgical control heads for display on said display means.

’688 Pat. col.19 l.63-col.20 l.3. Claim 10 makes a similar disclosure. See id. at col.21 ll.4-12. The Parties shifted the focus of their dispute with regard to this term following the Markman hearing.[3] They agree that a “central controller” is a “computer,” but they contest two other aspects of the term. (See Agreed-Upon Constructions Chart 2-3.) First, whether “a central controller” means one or one or more computers, and second, whether such computer(s) are “operatively connected” or

[2] The word “between” in this construction has its ordinary meaning. (See Hr’g Tr. 85.)

[3] The Court notes that the Parties have abandoned their dispute with regard to the rest of this term. (See Agreed-Upon Constructions Chart 2.)

merely "connected" to the communication interface circuits and the surgeon's control panel. (Id.)

The Court adopts KSEA's proposed construction with regard to the number of computers. KSEA correctly states that in open-ended claims containing the transitional phrase "comprising," the general rule is that the singular pronouns "a" and "an" mean "one or more." See Baldwin Graphic Sys., Inc. v. Seibert, Inc., 512 F.3d 1338, 1342-43 (Fed. Cir. 2008) (citations omitted). This rule suggests that Claims 1 and 10 disclose one or more "central controllers," which the Parties agree are "computers." S&N has provided no argument in support of its bare assertion in the Agreed-Upon Constructions Chart that the general rule does not apply here.

The Court also finds that the "central controllers" are "operatively connected" to the communication interface circuits and the surgeon's control panel, as the patent clearly expresses. See Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1119 (Fed. Cir. 2004) ("While not an absolute rule, all claim terms are presumed to have meaning in a claim." (citing Pickholtz v. Rainbow Techs., Inc., 284 F.3d 1365, 1373 (Fed. Cir. 2002))); (see also Hr'g Tr. 88 (counsel for S&N conceding that "[w]e don't think it really matters between connected or operatively connected.")).

The Court construes the "central controller operatively connected" term as disclosing one or more "central controllers," which are construed as "computers." The Court also construes this term as teaching that the "central controllers" are "operatively connected to the communication interface circuits and the surgeon's control panel."

g. "Can be simultaneously operated"

Claims 1 and 10 disclose that "each of the plurality of self-contained pieces of surgical equipment can be simultaneously operated with the operation thereof controlled and monitored from the surgeon's operating station." '688 Pat. col.20 ll.7-10; id. at col.21 ll.16-19.

KSEA argues that "can be simultaneously operated" should be construed as "are operable at the same time." (Proposed Constructions Chart 3.) S&N proposes instead "all of the surgical equipment can be controlled and monitored at the same time from the surgeon's control panel." (Id.)

The claims' language suggests that S&N's proposed construction is correct. The word "operation" is key in this regard. The claims teach both that the surgical equipment may be "simultaneously operated," '688 Pat. col.20 l.8, and that the surgical equipments' "operation [is] controlled and monitored from the surgeon's operating station," '688 Pat. col.20 ll.9-10. The latter use of operation indicates that operation relates to

the control and monitoring of the surgical equipment, rather than merely meaning "turned on" or "connected" as KSEA contends.

The Court construes "can be simultaneously operated" as meaning that "all of the surgical equipment can be controlled and monitored at the same time from the surgeon's control panel."

h. "Video frame store card"

Claim 3 discloses a "video frame store card." '688 Pat. col.20 ll.17-18. Following the Markman hearing the Parties agreed to the following construction: "the computer includes a card that has hardware and/or software for capturing and storing frames of a video for display." (Agreed-Upon Constructions Chart 3.) The Court adopts this construction.

i. Means-Plus-Function Claims

The '688 Patent includes several means-plus-function claim terms that the Court must construe. Means-plus-function claiming is governed by statute:

> An element for a claim for a combination may be expressed as a means . . . for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112 ¶ 6. Means-plus-function claiming entails a "tradeoff . . . , enabling patentees to claim a list of

structures identified in the patent's written description using general, functional terminology, without the burden of listing those structures within the text of the claim itself." S3 Inc. v. NVIDIA Corp., 259 F.3d 1364, 1377 (Fed. Cir. 2001).

Construing means-plus-function claims is a two-step process. AllVoice Computing PLC v. Nuance Commc'ns, Inc., 504 F.3d 1236, 1240 (Fed. Cir. 2007). "First, the court must determine the claimed function. Second, the court must identify the corresponding structure in the written description of the patent that performs the function." Id. (quoting Applied Med. Res. Corp. v. U.S. Surgical Corp., 448 F.3d 1324, 1332 (Fed. Cir. 2006)) (internal quotation marks omitted).

The Parties dispute the meaning of four means-plus-function claim terms in the '688 Patent. The Court will address each in turn.[4]

(i). "Display means"

Claim 1 discloses a "display means for displaying data relating to status of each of the plurality of self-contained pieces of surgical equipment." '688 Pat. col.19 ll.52-55. Claim 10 discloses a "display means for displaying data relating to the output to each of the surgical instruments." Id. at col.21 ll.1-3. The Parties have respectively treated Claims 1

[4] The Court has omitted the Parties' explicit references to structural equivalents in the Parties' proposed constructions of the means-plus-function terms. KSEA's entitlement to structural equivalents with regard to those terms is undisputed. (See Hr'g Tr. 132.)

and 10 as disclosing equivalent functions and structures, despite the slight difference in claim language. The Court adopts this framework for analyzing the claim terms.

KSEA argues that the disclosed function is "displaying data relating to status of each of the plurality of self-contained pieces of surgical equipment." (Proposed Constructions Chart 5.) S&N contends that the disclosed function is "providing visual information about the settings and operation of each of the pieces of surgical equipment." (Id.) The Court finds that KSEA's description of the disclosed function is appropriate because there is no need to replace "displaying data" with "providing visual information" or to replace "status" and "output to" with "setting and operation." See U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed. Cir. 1997) (noting that claim construction "is not an obligatory exercise in redundancy.").

KSEA asserts that the corresponding structure is "a panel display, which can include a liquid crystal display." (Proposed Constructions Chart 5.) S&N contends that the corresponding structure is "red indicator displays, seven segment 0.5 inch red high intensity displays, LCD displays with backlighting capability control, bar group display (ten segment, high density display units), high intensity – discreet red LEDs." (Id.)

The Court adopts KSEA's proposed construction because it recognizes the explicitly-disclosed panel display. See '688 Pat. col.8 ll.49-53 (referring to Figs. 4 & 5). S&N's proposed construction ignores this disclosure in favor of what appear to be details of the disclosed panel display.[5]

The Court construes "display means" as a "panel display for displaying data relating to status of each of the plurality of self-contained pieces of surgical equipment."

(ii). "Input means"

Claims 1 and 10 disclose "input means for receiving commands entered manually." '688 Pat. col.19 ll.54-55; id. at col.21 ll.2-3. The Parties agree that the recited function is "receiving commands entered manually," a construction the Court adopts.[6] At the Markman hearing, the Parties essentially agreed that the corresponding structure is a "switch matrix." (See Hr'g Tr. 107-109.) The substance of the dispute is now whether the "switch matrix" is "associated with a number of physically

[5] The Court declines to consider whether these details are necessary to perform the recited function because the Parties have not addressed the issue.

[6] KSEA has consistently argued that this is the recited function. S&N initially argued that the recited function is "allow[ing] commands for adjusting the operation of the pieces of surgical equipment to be entered at the surgeon's control panel." (See Def.'s Opening Claim Construction Br. at 18.) S&N subsequently contended that "[i]t is undisputed that the claimed function is receiving commands entered manually." (See Def.'s Supp. Claim Construction Br. at 4 (citing Hr'g Tr. 102).) The Court sees no reason to depart from the Parties' undisputed position on the recited function.

manipulable switches, keys or buttons," as S&N contends. (Proposed Constructions Chart 5.)

S&N's proposed construction identifies the structure necessary to perform the recited function. The specification discloses that "keys" are "hit" to enable the "switch matrix" to receive commands, indicating that some means of physical manipulation is necessary to perform the recited function. See id. at col.8 ll.54.55. Plaintiff's expert conceded this point. (See Gunday Dep. (D.E. 91) 86:6-87:15.)

KSEA argues that construing the "switch matrix" as S&N contends is erroneous under Callicrate v. Wadsworth Manufacturing, Inc., 427 F.3d 1361, 1369 (Fed. Cir. 2005), because that case explained that "the description of the preferred embodiments is not a sufficient reason for limiting [means plus function] claims." (Pl.'s Responsive Claim Construction Br. at 11 (alteration in original).) The Court rejects this argument. This quotation does not appear in the Callicrate opinion. See generally Callicrate, 427 F.3d 1361. Moreover, the quotation is inconsistent with the construction of means-plus-function claims, which turns on identifying the structures disclosed in the specification.

KSEA's argument that the explicitly-disclosed "keys" are mere optional components similarly fails. The specification does not indicate that the "keys" are optional or suggest

another way by which the operator could reasonably enter commands on the "switch matrix." The Court also rejects KSEA's argument that there is a material distinction for purposes of this term between the "keys" receiving a command and being used to enter a command. In either case, the operator touches the "key" to produce the desired result with the "switch matrix."

The Court also rejects KSEA's argument that there is a material distinction for purposes of this term between keys "receiving" a command and having a command "entered" on them. In either case, the operator touches a key to produce the desired result with the "switch matrix."

The Court construes "input means" as disclosing a "switch matrix associated with a number of physically manipulable switches, keys or buttons for receiving manually entered commands, which performs the function of receiving commands entered manually."

(iii). "Means for transmitting"

Claim 4 discloses a "means for transmitting to said frame store card status for the plurality of self-contained surgical devices for display on the video display monitor." '688 Pat. col.20 ll.22-25. Claim 13 discloses a "means for transmitting to said frame store card status for the self-contained surgical devices for display on the video display monitor." Id. at col.21 ll.32-34. The Parties have respectively treated these

terms as having the same construction in Claims 4 and 13 despite the slightly different language between the claims. The Court adopts this framework.

The Parties essentially agree that the recited function is "transmitting the status for the plurality of self-contained surgical devices for display on the video display monitor." (See Proposed Constructions Chart 7.) The Court adopts this construction of the claimed function.

KSEA identifies as the corresponding structure a "processor."[7] (Id.) S&N contends that the corresponding structure is a "cable that plugs into the video passthrough feature on a Super VGA video card." (Id.) Neither Party's proposal accurately reflects the disclosed structure. The specification identifies two methods of transmitting the status information. Figure 3 discloses a "PC," meaning a personal computer, connected to the frame store card both directly and through a VGA card. See '688 Pat. at 4. The specification similarly teaches that "[t]he frame store card 90, which also plugs into a PC expansion slot, has a cable that plugs into the video passthrough feature connector on the video card 86." '688 Pat. col.7 ll.60-63. The '688 Patent thus discloses two structures for performing the recited function: a video frame

[7] KSEA's proposed construction asserts that the disclosed structure is a "circuit or processor." (See Proposed Constructions Chart 7.) The Court disregards this contention because KSEA failed to develop an argument as to "circuit."

store card directly plugged into the PC, and a cable that connects the PC and the video frame store card through the Super VGA card.

S&N's proposed construction is incorrect because it only accounts for one of the disclosed structures. KSEA's proposed construction is incorrect because it does not accurately reflect the structure necessary to perform the claimed transmission function. A processor in the form of a personal computer may well perform part of the recited function, but the processor cannot transmit anything to the frame store card if the two devices are not connected.

The Court declines to adopt either proposed construction of the corresponding structure. The Parties may submit supplemental briefing on the issue within twenty-one (21) days of the entry of this Order.

(iv). "Means for producing . . . and means for receiving"

Claim 10 discloses that "each self-contained piece of surgical equipment include[s] means for producing a signal indicative of the output to each surgical instrument and means for receiving a variable control signal, the output varying in response to variations of the control signal." '688 Pat. col.20 ll.57-61. The Parties essentially agree that the recited functions are producing signals indicative of each surgical

instrument's output and receiving variable control signals to adjust the surgical instrument's output. (See Proposed Constructions Chart 4-5.) The Court adopts this construction.

The Parties each identify a single structure for performing both of the recited functions. KSEA contends that the corresponding structure is a "processor," while S&N argues that it is a "processor emulation card incorporated into the surgical equipment's circuitry that replaces the equipment's original microprocessor or CPU." (Id.)

The Court adopts S&N's proposed construction of the corresponding structure. The specification teaches that the emulation concept provides the means by which surgical equipment may communicate with and be controlled by the surgeon's command and control system. The references to "processor" cited by KSEA indicate that surgical equipment typically contains a processor. See '688 Pat. col.10 ll.17-36. As the patent teaches, these processors must be replaced with an emulator board to allow the surgical equipment to operate as part of the surgeon's command and control system. See id. at col.10 ll.36-62. The specification does not obviously support KSEA's contention that surgical equipment may be used with the surgeon's command and control system without the use of the emulator board concept, and KSEA has not shown that one of ordinary skill in the art would understand the patent in this manner.

The Court rejects KSEA's argument that the doctrine of claim differentiation requires the Court to adopt KSEA's proposed identification of the associated structure. "The concept of claim differentiation 'normally means that limitations stated in dependent claims are not to be read into the independent claim from which they depend.'" Nazomi Commc'ns, Inc. v. Arm Holdings, PLC, 403 F.3d 1364, 1370 (Fed. Cir. 2005) (quoting Karlin Tech., Inc. v. Surgical Dynamics, Inc., 177 F.3d 968, 971-72 (Fed. Cir. 1999)). Claim 21, which depends from Claim 10, appears to recite the emulator board concept. See '688 Pat. col.22 ll.25-34. However, "[c]laim differentiation is 'not a hard and fast rule and will be overcome by a contrary conclusion dictated by the written description or prosecution history.'" Regents of Univ. of Cal. v. Dakocytomation Cal., Inc., 517 F.3d 1364, 1375 (Fed. Cir. 2008) (quoting Seachange Int'l, Inc. v. C-COR, Inc., 413 F.3d 1361, 1369 (Fed. Cir. 2005)). Such is the case here. To adopt KSEA's position would be to ignore the specification's teaching that the processor emulation concept, and not mere processors alone, performs the recited function.

The Court construes "means for producing . . . and means for receiving" as disclosing a "processor emulation card incorporated into the surgical equipment's circuitry that replaces the equipment's original microprocessor or CPU, which

performs the function of producing signals indicative of each surgical instrument's output and receiving variable control signals to adjust the surgical instrument's output."

B. The '286 Patent

1. Background

On May 28, 2002 the PTO issued U.S. Patent No. 6,397,286 (the "'286 Patent") to inventors David Chatenever, Klaus Irion, Pavel Novak, and Hans-Uwe Hilzinger, who assigned the patent to Storz Endoskop GmbH. '286 Pat. at 1. The '286 Patent is entitled "Arrangement for the Central Monitoring and/or Control of at Least One Apparatus," and "relates to a system for centrally monitoring and controlling at least one unit for endoscopy." Id. This patent seeks to build on the prior art so that "a large number of (different or identical) units can be centrally controlled . . . , with the replacement of failed units or the connection of new units being possible during the ongoing operation without any problems and particularly without interference with the other units." Id. at col.2 ll.3-9.

2. Disputed Claim Terms

a. "Self-configuring bus"

Claim 1 discloses a "self-configuring bus and a bus master and a plurality of interfaces interconnecting the instruments to the self-configuring bus." '286 Pat. col.7 ll.10-12. The Parties agree that a "bus" is a "shared communication medium."

(Agreed-Upon Constructions Chart 2.) KSEA contends that the "self-configuring bus" is a shared communication medium "in which at least two connected devices automatically communicate with each other." (Proposed Constructions Chart 7.) S&N argues that the "self-configuring bus" is a shared communication medium "connecting multiple stations (e.g., instruments) that has functionality for (i) automatically, based on arbitration provisions or assigned priorities, determining which one of the stations will serve as the bus master, and (ii) automatically detecting the connection or disconnection of stations to or from the bus." (Id.)

The Court rejects KSEA's proposed construction. KSEA's argument rests on the premise that the bus is self-configuring because the bus master configures the bus. (See Pl.'s Opening Claim Construction Br. 28.) This premise is incorrect because the applicant chose to use the phrase "self-configuring," which naturally reads as configuring itself. Counsel for KSEA essentially conceded that KSEA's proposed construction contradicts the words of the claim, (see Hr'g Tr. 175), and KSEA has not shown that the Court should disregard the claim's plain text.

S&N's proposed construction accords with both the text and the assumptions underlying the claim. This proposed construction teaches that the bus configures itself both by

selecting a bus master, and by determining at a basic level when an instrument has been plugged in or removed, so that the bus master can then perform its separate configuration function of controlling access to the bus. (See Hr'g Tr. 167-70.)[8]

The Court rejects KSEA's objections to S&N's proposed construction. First, S&N's proposed construction does not require more than one master-capable instrument to be connected to the bus. It simply teaches that the bus is capable of determining, if more than one master-capable instrument is connected, which such instrument will serve as bus master. Second, KSEA's claim differentiation argument fails because Claims 3 and 11 explicitly contain limitations not present in Claim 1: that the bus is a two-wire line, '286 Pat. col.7 l.24, and that the bus master is selected from a defined set of instruments, id. at col.7 ll.49-57. Third, S&N's proposed construction does not, as KSEA contends, suggest that stations are not connected to the bus through the disclosed interface. Fourth, that Dr. Zegura is unaware of other systems where a bus automatically detects the connection or disconnection of stations does not overcome the textual evidence suggesting that Claim 1 discloses such a system.

[8] The Court finds that Dr. Ellen Zegura's experience is sufficient with regard to the electrical engineering concepts underlying the relevant aspects of Claim 1.

The Court construes "self-configuring bus" as a "shared communication medium connecting multiple stations (e.g., instruments) that has functionality for (i) automatically, based on arbitration provisions or assigned priorities, determining which one of the stations will serve as the bus master, and (ii) automatically detecting the connection or disconnection of stations to or from the bus."

b. "Bus master"

Claim 1 discloses a "bus master." '286 Pat. col.7 l.10. The Court construes "bus master" as a "device that is responsible for controlling access to the bus." (See Hr'g Tr. 177-78.)

c. "Bus master configuring the bus automatically"

Claim 1 discloses that a "bus master configuring the bus automatically whenever a said instrument is either newly connected or is disconnected from said bus." '286 Pat. col.7 ll.17-19. KSEA argues that this term should be construed as "the bus master identifying and communicating with connected devices." (Proposed Constructions Chart 8.) S&N contends that it should be construed as "the bus master, without manual user intervention, is able to (i) control access to the bus by newly connected stations, and (ii) cease controlling stations disconnected from the bus, without interruption of the operation of the system in either situation." (Id.)

KSEA's proposed construction fails to acknowledge the bus master's expressly-disclosed configuration role and the notion that a bus master controls access to the bus, instead of merely identifying and communicating with stations on the bus. S&N's proposed construction accurately reflects the claim's text and the teaching of the specification.

The Court construes the "bus master configuring the bus automatically" term as "the bus master, without manual user intervention,[9] is able to (i) control access to the bus by newly connected stations, and (ii) cease controlling stations disconnected from the bus, without interruption of the operation of the system in either situation."

d. "Self configuring to each said instrument to be controlled"

Claim 8 discloses a "remote controller . . . self configuring to each said instrument to be controlled." '286 Pat. col.7 ll.39-42. The Parties reached agreement on "self configuring to each said instrument to be controlled" at the Markman hearing. (See Hr'g Tr. 181-83.) The Court adopts this construction: "the remote controller is automatically able to

[9] The Court does not define "without manual user intervention" to exclude, for instance, the possibility that a person connected a device to the bus.

control the operations of each surgical instrument to be controlled."[10]

e. S&N's Indefiniteness Challenges

S&N contends that several claim terms in the '286 Patent are indefinite. "To comport with § 112's definiteness requirement, the boundaries of the claim . . . must be discernable to a skilled artisan based on the language of the claim, the specification, and the prosecution history, as well as her knowledge of the relevant field of art." Power-One, Inc. v. Artesyn Techs., Inc., 599 F.3d 1343, 1350 (Fed. Cir. 2010) (citing Halliburton Energy Servs., Inc. v. M-I LLC, 514 F.3d 1244, 1249-51 (Fed. Cir. 2008)). "When a claim is 'not amenable to construction or [is] insolubly ambiguous' it is indefinite." Id. (citing Datamize LLC v. Plumtree Software, Inc., 417 F.3d 1342, 1347 (Fed. Cir. 2005)). The moving party must show that the claim is indefinite by "clear and convincing evidence." See Halliburton Energy Servs., 514 F.3d at 1256.

The Court will address S&N's indefiniteness challenges to the extent S&N made developed arguments in support of those challenges. The Court declines to consider S&N's conclusory assertions of indefiniteness with regard to the terms not discussed below.

[10] As the Court explained at the hearing, "automatically" in this context means "without any other activity," making it unnecessary to state as much in the term's construction. (See Hr'g Tr. 182.)

(i). "Remote controller"

Claim 8 discloses a "remote controller connected to the bus said remote controller having controls for more than one instrument and for self configuring to each said instrument to be controlled." '286 Pat. col.7 ll.39-42. Claim 8 depends from Claim 7, which discloses that "one of the instruments connected to the bus is a remote controller for at least one instrument." Id. at col.7 ll.36-38. S&N contends that Claim 8 is indefinite because one skilled in the art would not know whether the remote controller of Claim 8 is the same as that of Claim 7 or is a different remote controller. The Court rejects S&N's indefiniteness challenge because S&N has not clearly and convincingly shown how this defined set of options renders the claim "insolubly ambiguous," as opposed to simply broad. See Union Pac. Res. Co. v. Chesapeake Energy Corp., 236 F.3d 684, 692 (Fed. Cir. 2001) ("Breadth is not to be equated with indefiniteness.") (citation and grammatical marks omitted).

(ii). "Combinations thereof"

Claim 11 depends from Claim 1 and discloses that the "bus master is selected from one of a group of instruments consisting of: a video signal processor instrument, a master computer, a remote controller unit, a network module, and combinations thereof." '286 Pat. col.7 ll.49-57. S&N contends that the patent as a whole teaches that only one unit may serve as bus

master, and S&N reads Claim 11 as suggesting by contrast that multiple units may simultaneously serve as the bus master. S&N's argument reflects a misreading of the claim. Claim 11's plain language teaches that the bus master is selected either from one unit among the listed group, or from a group drawn from combinations of the listed units. The Court rejects S&N's indefiniteness argument as to Claim 11.

(iii). Claim 39

Claim 39 discloses, in total, a "[s]ystem according to [C]laim 1, characterized in that software to individually configure an instrument connected to the self-configuring bus." '286 Pat. col.10 ll.5-7. S&N argues that this term is indefinite "because it does not indicate where the recited software is stored or on which device it is executed." (Proposed Constructions Chart 9.) The Court finds otherwise. Claim 39 is a sentence fragment that may be ambiguous in isolation, but it is clear from the claim's context that the disclosed software is stored in and executed on the bus master computer. (See Hr'g Tr. 187-88.)

C. '539 Patent

1. Background

U.S. Patent No. 6,824,539 (the "'539 Patent") was issued on November 30, 2004 to inventor Pavel Novak, who assigned the patent to Storz Endoskop Produktions GmbH. '539 Pat. at 1. The

’539 Patent is entitled “Touchscreen Controlling Medical Equipment from Multiple Manufacturers.” Id. The invention recognizes and builds on the contributions of the ’688 and ’286 Patents. In particular, the ’539 Patent is able to recognize surgical devices made by various manufacturers, display a replica of those devices’ controls on a touch screen, and allow the devices to be controlled using the touch screen. Id. at col.2 ll.15-31.

2. Disputed Terms

a. “Protocol”

Claims 1, 13, 18, 23, and 27 of the ’539 Patent disclose a “protocol” in various contexts. The claim language teaches that different “protocols” are associated with different devices. See, e.g., ’539 Pat. col.10 ll.2-7 (describing a “controller” with a “controller command protocol,” a “first remotely controllable surgical device” with a “first command protocol,” and a “second remotely controllable surgical device” with a “second command protocol”); id. at col.10 ll.9-13 (describing an “interface” for “converting the controller command protocol to the first and second command protocols”).

KSEA argues that “protocol” should be construed as a “set of rules governing the communication and/or transfer of data.” (Proposed Constructions Chart 9.) S&N contends that it should be construed as a “set of rules governing the exchange of

information between electronic devices; the touchscreen controller uses a protocol that is different from the protocols used by the first and second remotely controllable surgical devices." (Id.)

The Court adopts KSEA's proposed construction. S&N has not established why it is necessary at this time to restate the claims' teaching that the touchscreen controller's "protocol" is different than the remotely controllable surgical devices' "protocols." Claim construction "is not an obligatory exercise in redundancy." U.S. Surgical Corp., 103 F.3d at 1568. The Court construes "protocol" as a "set of rules governing the communication and/or transfer of data."

b. "Remotely controllable surgical device"

Claims 1, 13, 18, 23, and 27 disclose a "remotely controllable surgical device." See generally '539 Pat. cols.9-13. The Parties dispute both what a "surgical device" is, and the location from which such devices are controlled. KSEA contends that this term should be construed as "a device for use during a surgical procedure that can be controlled from a remote location." (Proposed Constructions Chart 9.) S&N urges the Court to construe the term as "a device for operating on a patient that can be controlled from a sterile field of an operating room using a touchscreen." (Id.)

The Court rejects S&N's proposed construction as to both disputed aspects of this term. With regard to "surgical devices," KSEA's expert explained that there are devices, such as image capture devices, that are commonly used in endoscopic surgery but that are not understood as directly operating on the patient. (See KSEA Opening Claim Construction Br. Ex. G (Gunday Decl.) 101.) S&N has not disputed that one skilled in the art would read "surgical devices" in this manner, and S&N is incorrect to read aspects of the preferred embodiment as limiting the claim language. Courts may not "import limitations into the claims from the specification . . . unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest execution or restriction." Trading Techs. Int'l, Inc. v. eSpeed, Inc., 595 F.3d 1340, 1352 (Fed. Cir. 2010) (citations and internal quotation marks omitted).

With regard to the location from which the "surgical devices" are controlled, S&N's proposed construction again reads limitations from the specification into the claims. The claims teach that the surgical devices are controllable using the touchscreen. See, e.g., '539 Pat. col.10 ll.4-5; id. at col.11 ll.4-10. The specification describes the touchscreen as being located in the sterile field, but neither the specification nor the claims "manifest[ly]" require that the touchscreen be

located there. Trading Techs. Int'l, 595 F.3d at 1352; see also Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 905 (Fed. Cir. 2004) (explaining that courts must be particularly cautious about importing limitations from the specification where the "written description of the invention is narrow, but the claim language is" broad).

The Court construes a "remotely controllable surgical device" as a "device for use during a surgical procedure that can be controlled from a remote location."

c. "Interface"

Claims 1, 13, 18, 23, and 27 disclose an "interface," which is followed by varying limitations relating to the remotely controllable surgical devices, the conversion of command protocols, and the transformation of inputs into commands. See generally '539 Pat. cols.9-13.

KSEA proposes the following construction:

> [The interface is] connected between the touchscreen controller and the first remotely controllable surgical device, for converting the controller command protocol to the first and second command protocols, and for transforming inputs received by the touchscreen into commands for controlling the first and second remotely controllable surgical devices.

(Proposed Constructions Chart 10.)[11] S&N offers as follows:

[11] KSEA's opening brief proposes this construction as to Claims 1, 13, and 18, but its responsive brief additionally proposes this construction as to Claims 23 and 27.

> [The interface] converts the protocols used by the touchscreen controller into the protocols used by the remotely controlled devices and transforms inputs on the touchscreen into control commands for the devices, to allow remote control of the devices, even if the system was not originally designed to control those devices.

(Id.)

Following the Markman hearing, the Parties agreed that "interface" should be defined as a "device that enables communication." (Agreed-Upon Constructions Chart 3.) The Court adopts this construction of "interface."

Neither proposed construction appears to be appropriate, however, with regard to the claim language following "interface." KSEA's proposed construction essentially quotes Claims 1, 13, and 18. This is redundant as to those claims, and potentially inaccurate as to Claims 23, and 27. S&N contends that the "interface" allows remote control of devices even if the system was not originally designed to control those devices. This argument is based on language from the prosecution history and the specification suggesting that the system can accommodate surgical devices that were not originally designed to work with the system. S&N misreads this language to suggest instead that it is the system that was not originally designed to control those devices. S&N's reading is inconsistent with both the language itself and the premise underlying the system. Even the

system's programmed ability to update its knowledge of new devices implies that the system was "originally designed" to be able to control such devices.

The Court construes "interface" as a "device that enables communication," and declines to further construe this aspect of Claims 1, 13, 18, 23, and 27 on the present record. The Parties may submit supplemental briefing on further construction of the terms within twenty-one (21) days of the entry of this Order.

d. "Image, replicating a control interface"

Claims 1 and 13 disclose an "image, replicating a control interface particular to the first and second remotely controllable surgical devices, for display on the touchscreen to receive inputs and to display a status of the first and second remotely controllable surgical devices." '539 Pat. col.10 ll.18-21; id. at col.11 ll.11-14. Claim 23 recites a method for "providing an image replicating the control interface of the first and second remotely controllable surgical devices for display on the touchscreen and for receiving input commands." '539 Pat. col.12 ll.17-20.

The Parties respectively propose a single construction for all three claims. The Court adopts this framework because of the similarity of the claims' language. KSEA proposes construing this term as a "replica of the control panel/faceplate," while S&N proposes an "exact replica of each

device's control panel that allows the touchscreen to receive and display the exact same input and status as the devices' actual control panels." (Proposed Constructions Chart 10.)

The Court adopts KSEA's proposed construction because it accurately describes the disclosure. The ordinary meaning of replica does not necessarily require exactness, see Webster's New International Dictionary 1925 (3d ed. 1986), and S&N has cited no authority for the proposition that one skilled in the art would understand "replica" to require exactness.

Further, S&N's argument based on the '539 Patent's prosecution history is incorrect. "The doctrine of prosecution disclaimer attaches where an applicant, whether by amendment or by argument, 'unequivocally disavowed a certain meaning to obtain [the] patent.'" Schindler Elevator Corp. v. Otis Elevator Corp., 593 F.3d 1275, 1285 (Fed. Cir. 2010) (quoting ZMI Corp. v. Cardiac Resuscitator Corp., 844 F.2d 1576, 1580 (Fed. Cir. 1988)). "An argument made to an examiner constitutes a disclaimer only if it is clear and unmistakable[;] an ambiguous disclaimer will not suffice." Id. (quoting Purdue Pharma L.P. v. Endo Pharms., Inc., 438 F.3d 1123, 1126 (Fed. Cir. 2006); Computer Docking Station Corp. v. Dell, Inc., 519 F.3d 1366, 1375 (Fed. Cir. 2008)).

In the prosecution history to which S&N points, the applicant stated that the "touchscreen 24 is *capable* of

displaying exact replicas 26 and 28 of device control interfaces supplied by various manufacturers." (See Def.'s Opening Claim Construction Br. Ex. G, May 26, 2004 Resp. to Official Action 11 (emphasis added).) This language indicates that the touchscreen may display exact replicas, not that it only displays exact replicas. S&N has failed to show that the patentee "clear[ly] and unmistakabl[y]" disavowed a touchscreen that displays inexact replicas. Schindler Elevator Corp., 593 F.3d at 1285.

The Court construes the "image, replicating a control interface" term as a "replica of the control panel/faceplates."

IV. Conclusion

In accordance with the foregoing, the Court construes the disputed terms as follows:

A. The '688 Patent

1. "Surgeon's operating station" in Claims 1 and 10 is construed as the "place within the sterile area of the operating environment where the surgeon and the surgical instruments are located during a surgical procedure."
2. "Surgical control head" in Claims 1 and 10 is construed as controlling and displaying the parameters of "a particular surgical instrument located at the surgeon's operating station."

3. “Surgical instrument” in Claims 1 and 10 is construed as an “instrument for performing a surgical procedure on a patient.”
4. “Operatively positioned at the surgeon’s operating station” in Claims 1 and 10 is construed as “positioned at the surgeon’s operating station within reach and view of the surgeon to allow control and monitoring of the pieces of surgical equipment.”
5. “Plurality of communication interface circuits” in Claims 1 and 10 is construed as “two or more circuits, each of which enables communication between a single piece of surgical equipment and the central controller.”
6. The “central controller operatively connected” term in Claims 1 and 10 is construed as disclosing one or more “central controllers,” which are construed as “computers,” and as teaching that the “central controllers” are “operatively connected to the communication interface circuits and the surgeon’s control panel.”
7. “Can be simultaneously operated” in Claims 1 and 10 is construed as “all of the surgical equipment can be controlled and monitored at the same time from the surgeon’s control panel.”

8. “Video frame store card” in Claim 3 is construed as “the computer includes a card that has hardware and/or software for capturing and storing frames of a video for display.”
9. “Display means” in Claims 1 and 10 is construed as a “panel display for displaying data relating to status of each of the plurality of self-contained pieces of surgical equipment.”
10. “Input means” in Claims 1 and 10 is construed as disclosing a “switch matrix associated with a number of physically manipulable switches, keys or buttons for receiving manually entered commands, which performs the function of receiving commands entered manually.”
11. The disclosed function in the “means for transmitting” term in Claims 4 and 13 is construed as “transmitting the status for the plurality of self-contained surgical devices for display on the video display monitor.” The Court declines to adopt either proposed construction of the corresponding structure. The Parties may submit supplemental briefing on the issue within twenty-one (21) days of the entry of this Order.
12. “Means for producing . . . and means for receiving” in Claim 10 is construed as a “processor emulation card incorporated into the surgical equipment’s circuitry that replaces the equipment’s original microprocessor or CPU,

which performs the function of producing signals indicative of each surgical instrument's output and receiving variable control signals to adjust the surgical instrument's output."

B. The '286 Patent

13. "Self-configuring bus" in Claim 1 is construed as a "shared communication medium connecting multiple stations (e.g., instruments) that has functionality for (i) automatically, based on arbitration provisions or assigned priorities, determining which one of the stations will serve as the bus master, and (ii) automatically detecting the connection or disconnection of stations to or from the bus."
14. "Bus master" in Claim 1 is construed as a "device that is responsible for controlling access to the bus."
15. "Bus master configuring the bus automatically" in Claim 1 is construed as "the bus master, without manual user intervention, is able to (i) control access to the bus by newly connected stations, and (ii) cease controlling stations disconnected from the bus, without interruption of the operation of the system in either situation."
16. "Self configuring to each said instrument to be controlled" in Claim 8 is construed as "the remote controller is automatically able to control the operations of each surgical instrument to be controlled."

17. “Remote controller” in Claim 8 is not indefinite.

18. “Combinations thereof” in Claim 11 is not indefinite.

19. Claim 39 is not indefinite.

C. The ’539 Patent

20. “Protocol” in Claims 1, 13, 18, 23, and 27 is construed as a “set of rules governing the communication and/or transfer of data.”

21. “Remotely controllable surgical device” in Claims 1, 13, 18, 23, and 27 is construed as a “device for use during a surgical procedure that can be controlled from a remote location.”

22. “Interface” in Claims 1, 13, 18, 23, and 27 is construed as a “device that enables communication.” The Court declines to further construe this aspect of Claims 1, 13, 18, 23, and 27 on the present record. The Parties may submit supplemental briefing on the issue within twenty-one (21) days of the entry of this Order.

23. “Image, replicating a control interface” in Claims 1 and 13 is construed as a “replica of the control panel/faceplates.”

IT IS SO ORDERED this 18th day of August, 2010.

/s/ Jon P. McCalla
JON P. McCALLA
CHIEF U.S. DISTRICT JUDGE