

10-07-1999

U.S. Department of Commerce
Patent and Trademark Office
PATENT



MRO

10-5-99

101163869

RECORDATION FORM COVER SHEET AMID: 13
PATENTS ONLY

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

Submission Type

☒ **New**

☐ **Resubmission (Non-Recordation)**
Document ID#

☐ **Correction of PTO Error**
Reel # Frame #

☐ **Corrective Document**
Reel # Frame #

Conveyance Type

☐ **Assignment** ☒ **Security Agreement**

☐ **License** ☐ **Change of Name**

☐ **Merger** ☐ **Other**

U.S. Government
(For Use ONLY by U.S. Government Agencies)

☐ **Departmental File** ☐ **Secret File**

Conveying Party(ies)

☐ Mark if additional names of conveying parties attached

Name	Execution Date Month Day Year
Name (line 1) <input type="text" value="MERIT MEDICAL SYSTEMS, INC."/>	8 11 99
Name (line 2) <input type="text"/>	

Second Party

Name	Execution Date Month Day Year
Name (line 1) <input type="text"/>	
Name (line 2) <input type="text"/>	

Receiving Party

☐ Mark if additional names of receiving parties attached

☐ If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)

Name (line 1)

Name (line 2)

Address (line 1)

Address (line 2)

Address (line 3)

City State/Country Zip Code

Domestic Representative Name and Address

Enter for the first Receiving Party only.

Name

Address (line 1)

Address (line 2)

Address (line 3)

Address (line 4)

10/05/1999 DNGUYEN 00000177 5533986

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360.00 DP

FOR OFFICE USE ONLY

Public burden reporting for this collection of information is estimated to average approximately 30 minutes per Cover Sheet to be recorded, including time for reviewing the document and gathering the data needed to complete the Cover Sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington, D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB Information Collection Budget Package 0651-0027, Patent and Trademark Assignment Practice. DO NOT SEND REQUESTS TO RECORD ASSIGNMENT DOCUMENTS TO THIS ADDRESS.

Mail documents to be recorded with required cover sheet(s) information to:
Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

PATENT
REEL: 010281 FRAME: 0579

Correspondent Name and Address

Area Code and Telephone Number

801-530-7346

Name

GLEN F. STRONG

Address (line 1)

Callister Nebeker & McCullough

Address (line 2)

10 East South Temple

Address (line 3)

Suite 900

Address (line 4)

Salt Lake City Utah 84133

Pages

Enter the total number of pages of the attached conveyance document including any attachments.

17

Application Number(s) or Patent Number(s)

☐ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)

Patent Number(s)

5533986	5665076	5647859
5647860	5772639	5599328
5569208	5807321	5693025

If this document is being filed together with a new Patent Application, enter the date the patent application was signed by the first named executing inventor.

Month Day Year

Patent Cooperation Treaty (PCT)

Enter PCT application number
only if a U.S. Application Number
has not been assigned.

PCT		PCT		PCT	
PCT		PCT		PCT	

Number of Properties

Enter the total number of properties involved.

9

Fee Amount

Fee Amount for Properties Listed (37 CFR 3.41): \$

360

Method of Payment:
Deposit Account

Enclosed ☒

Deposit Account ☐

(Enter for payment by deposit account or if additional fees can be charged to the account.)

Deposit Account Number:

#

Authorization to charge additional fees:

Yes ☐

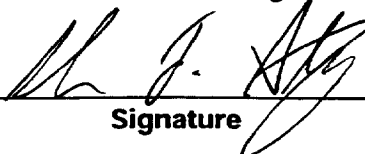
No ☐

Statement and Signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

Glen F. Strong

Name of Person Signing



Signature

9-29-99

Date

**COLLATERAL ASSIGNMENT AND SECURITY AGREEMENT
(Intellectual Property)**

This Assignment and Security Agreement (the "Agreement") is made between Merit Medical Systems, Inc. ("Borrower"), and Zions First National Bank ("Secured Party").

This Agreement is made pursuant to an Amended and Restated Loan Agreement between Secured Party, Borrower, Merit Holdings, Inc., and Sentir Semiconductor, Inc. dated the date hereof, 1999 (the "Loan Agreement").

For good and valuable consideration, receipt of which is hereby acknowledged, Borrower and Secured Party hereby agree as follows:

1. Assignment and Grant of Security Interest.

a. Patents. Borrower hereby grants, assigns, and conveys to Secured Party, for purposes of security, all right, title and interest of Borrower in and to the patent applications and patents listed on the Schedule of Patents hereto and on any supplemental Schedule of Patents hereafter delivered by Borrower to Secured Party, which is incorporated herein by reference, including, without limitation, all proceeds thereof (such as, by way of example, license royalties and proceeds of infringement suits), the right to sue for past, present and future infringements, all rights corresponding thereto throughout the world, and all reissues, divisions, continuations, renewals, extensions, and continuations-in-part thereof (collectively, the "Patents").

b. Trade Secrets. Borrower hereby grants to Secured Party a security interest in all of Borrower's trade secrets and other proprietary information, now existing or created in the future, and all proceeds thereof (collectively, the "Trade Secrets").

c. Intellectual Property. Borrower hereby grants to Secured Party a security interest in all general intangibles of Borrower, presently existing or hereafter created, including general intangibles as defined in the Uniform Commercial Code, trademarks, service marks, business names, and goodwill relating thereto, copyrights (including, without limitation, copyrights for computer programs), whether or not published, unpatented inventions (whether or not patentable), patents, patent applications, license agreements relating to any of the foregoing and all royalties and other income therefrom, books, records, computer tapes, disks and drives, flow diagrams, specification sheets, source codes, object codes, and all other physical manifestations of the foregoing, the right to sue for all past, present and future infringements of the foregoing, any and all claims for damages relating thereto, all rents, profits and issues thereof, and all proceeds thereof (collectively, the "Intellectual Property").

(The Patent, Trade Secrets, and Intellectual Property are collectively referred to herein as the "Collateral".)

Borrower and Secured Party acknowledge their mutual intentions that the assignment and security interests contemplated herein are given as a contemporaneous exchange for new value to

Borrower, regardless of when advances to Borrower are actually made or when the Collateral is acquired.

2. License Back to Borrower for Patents. Unless and until there shall have occurred an event of default under this Agreement, Secured Party hereby grants to Borrower the exclusive, nontransferable right and license under the Patents to make, have made for it, use and sell the inventions disclosed and claimed in the Patents for Borrower's own benefit and account and for none other. Borrower agrees not to sell or assign its interest in, or grant any sublicense under, the license granted to Borrower in this Section, without the prior written consent of Secured Party.

At such time as all of the obligations secured by this Agreement have been paid in full, this Agreement shall terminate and Secured Party shall execute and deliver to Borrower all deeds, assignments, and other instruments as may be necessary or proper to re-vest in Borrower full title to the Patents, subject to any disposition thereof which may have been made by Lender pursuant hereto.

3. Debts Secured. The assignment and security interest granted by this Agreement shall secure all of Borrower's present and future debts, obligations, and liabilities of whatever nature to Secured Party (the "Indebtedness"), including, without limitation, (a) the Promissory Note of Borrower, Merit Holdings, Inc. and Sentir Semiconductor, Inc. in favor of Secured Party dated the date hereof, in the original principal amount of twenty-eight million dollars (\$28,000,000.00), and all renewals, extensions, modifications and replacements thereof (including any which increase the original principal amount), (b) all obligations of Borrower under the Loan Agreement and under any documents executed in connection with the Loan Agreement, (c) all obligations of Borrower under this Agreement, (d) advances of the same kind and quality or relating to this transaction, and (e) transactions in which the documents evidencing the indebtedness refer to this assignment and grant of security interest as providing security therefor.

Borrower and Secured Party expressly acknowledge their mutual intent that the assignment and security interest created by this Agreement secure any and all present and future debts, obligations, and liabilities of Borrower to Secured Party without any limitation whatsoever.

4. Location of Collateral. Borrower represents and warrants that:

a. Borrower's places of business are located at 1600 West Merit Parkway, South Jordan, Utah 84095 and 79 West 4500 South, Salt Lake City, Utah 84123.

b. Borrower's chief executive office is located at 1600 West Merit Parkway, South Jordan, Utah 84095.

Borrower agrees that it will not change any of the above locations or create any new locations for such matters without giving Secured Party at least thirty (30) days prior written notice thereof.

5. Representations and Warranties Concerning Collateral. Borrower represents and warrants that:

a. Borrower is the sole owner of the Collateral.

b. The Collateral is not subject to any license, security interest, lien, prior assignment, or other encumbrance of any nature whatsoever except for nonexclusive licenses granted in the ordinary course of business, current taxes and assessments which are not delinquent, and the assignments and security interests created by this Agreement.

c. All information set forth in the Schedules attached hereto is correct, accurate, and complete.

d. Each of the Patents is valid and enforceable. No claim has been made that the use of any of the Patents violates or may violate the rights of any person or entity. Borrower has used proper statutory notice in connection with all uses of the Patents.

6. Covenants Concerning Collateral. Borrower covenants that:

a. Borrower will keep the Collateral free and clear of any and all security interests, liens, assignments or other encumbrances and licenses, except those for current taxes and assessments which are not delinquent, those arising from this Agreement, and nonexclusive licenses granted in the ordinary course of business.

b. Borrower agrees to execute and deliver any financing statements and other documents (properly endorsed, if necessary) reasonably requested by Secured Party for perfection or enforcement of any security interest or lien, and to give good faith, diligent cooperation to Secured Party, and to perform such other acts reasonably requested by Secured Party for perfection and enforcement of any security interest or lien. Secured Party is authorized to file, record, or otherwise utilize such documents as it deems necessary to perfect and/or enforce any security interest or lien granted hereunder.

c. Borrower shall promptly advise Secured Party of any material change in the composition of the Collateral, any material claim concerning the Collateral, including without limitation, the development of any new Collateral or any modification to the Collateral, any claim of infringement, any claim challenging the validity or enforceability of any Collateral, and any other event which may have a material, adverse effect upon any of the Collateral and/or the rights and remedies of Secured Party concerning the Collateral.

d. Borrower shall promptly apply for a patent for all new inventions which are patentable with the United States Patent and Trademark Office, except to the extent that in the business judgment of Borrower the application for such patent shall not be in the best economic or business interests of Borrower, and shall promptly advise Secured Party of the filing of the

application for such patent. Borrower shall use proper statutory notice in connection with all uses of the Patents.

7. Patent Provisions. So long as any obligations secured by this Agreement are outstanding and unpaid, if Borrower shall obtain any rights to any new patentable inventions, or become entitled to the benefit of any patent application or patent for any reissue, division, continuation, renewal, extension, or continuation-in-part of any Patents or any improvement on any Patent, (i) this Agreement shall automatically apply thereto and (ii) Borrower shall give Secured Party prompt notice thereof in writing (except to the extent that in the business judgment of Borrower the application for such patent shall not be in the best economic or business interests of Borrower).

Borrower hereby authorizes Secured Party to modify this Agreement by amending the Schedule of Patents to include any future patents and patent applications of Borrower.

Borrower shall have the duty, through counsel acceptable to Secured Party, to prosecute diligently any patent applications currently pending or hereafter filed, to make application on unpatented but patentable inventions, and to preserve and maintain all rights in patent applications and patents, including, without limitation, payment of all maintenance fees (except to the extent that in the business judgment of Borrower such actions with respect to such patent shall not be in the best economic or business interests of Borrower). Any expenses incurred in connection with such actions shall be paid by Borrower. Borrower shall not abandon any right to file a patent application, any pending patent application, or any patent without the written consent of Secured Party (except to the extent that in the business judgment of Borrower such abandonment shall be in the best economic or business interests of Borrower).

So long as no event of default has occurred under this Agreement, Borrower shall have the right, with the consent of Secured Party, to bring suit in its own name, and to join Secured Party, if necessary, as a party to such suit so long as Secured Party is satisfied that such joinder will not subject Secured Party to any risk of liability, to enforce the Patents and any licenses thereunder. Borrower shall promptly, upon demand, reimburse and indemnify Secured Party for all damages, costs and expenses, including legal fees, incurred by Secured Party pursuant to this Section 8.

8. Right to Perform for Borrower. Secured Party may, in its sole discretion and without any duty to do so, elect to discharge taxes, tax liens, security interests, or any other encumbrance upon the Collateral, perform any duty or obligation of Borrower, pay filing, recording, insurance and other charges payable by Borrower, or provide insurance as provided herein if Borrower fails to do so. Any such payments advanced by Secured Party shall be repaid by Borrower upon demand, together with interest thereon from the date of the advance until repaid, both before and after judgment, at the default rate provided in the Promissory Note described in Section 4, above.

Borrower hereby authorizes and empowers Secured Party to make, constitute and appoint any officer or agent of Secured Party, as Secured Party may select in its exclusive discretion, as Borrower's true and lawful attorney-in-fact, with the power to endorse Borrower's name on all applications, documents, papers and instruments necessary for Secured Party to use, preserve, or

protect the Collateral, or to grant or issue any exclusive or nonexclusive license under the Collateral to any third person, or necessary for Secured Party to assign, pledge, convey or otherwise transfer title in or dispose of the Collateral to any third person, provided, however, that such power may not be exercised prior to the occurrence of an event of default hereunder. Borrower hereby ratifies all that such attorney shall lawfully do or cause to be done by virtue hereof. This power of attorney shall be irrevocable so long as any obligations secured hereby are outstanding and unpaid.

9. Default. Time is of the essence of this Agreement. The occurrence of any of the following events shall constitute a default under this Agreement:

- a. Any representation or warranty made by or on behalf of Borrower in this Agreement is materially false or materially misleading when made;
- b. Borrower fails in the payment or performance of any obligation, covenant, agreement or liability created by or contemplated by this Agreement or secured by this Agreement and the cure period associated therewith shall have passed; or
- c. An Event of Default (as defined in the Loan Agreement) occurs.

No course of dealing or any delay or failure to assert any default shall constitute a waiver of that default or of any prior or subsequent default.

10. Remedies. Upon the occurrence of any default by Borrower under this Agreement, Secured Party shall have the following rights and remedies, in addition to all other rights and remedies existing at law, in equity, or by statute or provided in the Loan Agreement:

- a. Secured Party shall have all the rights and remedies available under the Uniform Commercial Code;
- b. Secured Party shall have the right to enter upon any premises where the Collateral or records pertaining thereto may be and take possession of the Collateral and records relating thereto;
- c. Upon request of Secured Party, Borrower shall, at the expense of Borrower, assemble the Collateral and records relating thereto at a place designated by Secured Party and tender the Collateral and records to Secured Party;
- d. Borrower's license under the Patents shall terminate upon notice from Secured Party;
- e. Without notice to Borrower, Secured Party may obtain the appointment of a receiver of the business, property and assets of Borrower and Borrower hereby consents to the appointment of Secured Party or such person as Secured Party may designate as such receiver; and
- f. Secured Party may sell, lease or otherwise dispose of any or all of the Collateral and, after deducting the reasonable costs and out-of-pocket expenses incurred by Secured

Party, including, without limitation, (1) reasonable attorneys fees and legal expenses, (2) transportation and storage costs, (3) advertising of sale of the Collateral, (4) sale commissions, (5) sales tax, (6) costs for improving or repairing the Collateral, and (7) costs for preservation and protection of the Collateral, apply the remainder to pay, or to hold as a reserve against, the obligations secured by this Agreement.

Borrower shall be liable for all deficiencies owing on any obligations secured by this Agreement after liquidation of the Collateral.

The rights and remedies herein conferred are cumulative and not exclusive of any other rights and remedies and shall be in addition to every other right, power and remedy herein specifically granted or hereafter existing at law, in equity, or by statute which Secured Party might otherwise have, and any and all such rights and remedies may be exercised from time to time and as often and in such order as Secured Party may deem expedient. No delay or omission in the exercise of any such right, power or remedy or in the pursuance of any remedy shall impair any such right, power or remedy or be construed to be a waiver thereof or of any default or to be an acquiescence therein.

In the event of breach or default under the terms of this Agreement by Borrower, Borrower agrees to pay all reasonable attorneys fees and legal expenses incurred by or on behalf of Secured Party in enforcement of this Agreement, in exercising any remedy arising from such breach or default, or otherwise related to such breach or default. Borrower additionally agrees to pay all reasonable costs and out-of-pocket expenses, including, without limitation, (1) reasonable attorneys fees and legal expenses, (2) transportation and storage costs, (3) advertising of sale of the Collateral, (4) sale commissions, (5) sales tax, (6) costs for improving or repairing the Collateral, and (7) costs for preservation and protection of the Collateral, incurred by Secured Party in obtaining possession of Collateral, storage and preparation for sale, sale or other disposition, and otherwise incurred in foreclosing upon the Collateral. Any and all such costs and out-of-pocket expenses shall be payable by Borrower upon demand, together with interest thereon from the date of the advance until repaid, both before and after judgment, at the default rate provided in the Promissory Note described in Section 4, above.

Regardless of any breach or default, Borrower agrees to pay all expenses, including reasonable attorneys fees and legal expenses, incurred by Secured Party in any bankruptcy proceedings of any type involving Borrower, the Collateral, or this Agreement, including, without limitation, expenses incurred in modifying or lifting the automatic stay, determining adequate protection, use of cash collateral, or relating to any plan of reorganization.

11. Notices. All notices or demands by any party hereto shall be in writing and may be sent by certified mail, return receipt requested. Notices so mailed shall be deemed received when deposited in a United States post office box, postage prepaid, properly addressed to Borrower or Secured Party at the mailing addresses stated in the Loan Agreement or to such other addresses as Borrower or Secured Party may from time to time specify in writing. Any notice so addressed otherwise delivered shall be deemed to be given when actually received by the addressee.

12. Indemnification. Borrower shall indemnify Secured Party for any and all claims and liabilities, and for damages which may be awarded or incurred by Secured Party and for all reasonable attorneys fees, legal expenses, and other out-of-pocket expenses incurred in defending such claims, arising from or related in any manner to the negotiation, execution, or performance by Secured Party of this Agreement, but excluding any claims and liabilities based upon breach or default by Secured Party under this Agreement or upon the gross negligence or willful misconduct of Secured Party. Secured Party shall have sole and complete control of the defense of any such claims, and is hereby given the authority to settle or otherwise compromise any such claims as Secured Party in good faith determines shall be in its best interests.

13. General. This Agreement is made for the sole and exclusive benefit of Borrower and Secured Party and is not intended to benefit any third party. No such third party may claim any right or benefit or seek to enforce any term or provision of this Agreement.

In recognition of Secured Party's right to have all its attorneys fees and expenses incurred in connection with this Agreement secured by the Collateral, notwithstanding payment in full of the obligations secured by the Collateral, Secured Party shall not be required to release, reconvey, or terminate any security interest in the Collateral unless and until Borrower and all guarantors have executed and delivered to Secured Party general releases in form and substance satisfactory to Secured Party.

Secured Party and its officers, directors, employees, representatives, agents, and attorneys, shall not be liable to Borrower or any guarantor for consequential damages arising from or relating to any breach of contract, tort, or other wrong in connection with or relating to this Agreement or the Collateral.

If the incurring of any debt by Borrower or the payment of any money or transfer of property to Secured Party by or on behalf of Borrower or any guarantor should for any reason subsequently be determined to be "voidable" or "avoidable" in whole or in part within the meaning of any state or federal law (collectively "voidable transfers"), including, without limitation, fraudulent conveyances or preferential transfers under the United States Bankruptcy Code or any other federal or state law, and Secured Party is required to repay or restore any voidable transfers or the amount or any portion thereof, or upon the advice of Secured Party's counsel is advised to do so, then, as to any such amount or property repaid or restored, including all reasonable costs, expenses, and attorneys fees of Secured Party related thereto, the liability of Borrower and any guarantor, and each of them, and this Agreement, shall automatically be revived, reinstated and restored and shall exist as though the voidable transfers had never been made.

This Agreement shall be governed by and construed in accordance with the laws of the State of Utah.

Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction only, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability

in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

All references in this Agreement to the singular shall be deemed to include the plural if the context so requires and visa versa. References in the collective or conjunctive shall also include the disjunctive unless the context otherwise clearly requires a different interpretation.

All agreements, representations, warranties and covenants made by Borrower shall survive the execution and delivery of this Agreement, the filing and consummation of any bankruptcy proceedings, and shall continue in effect so long as any obligation to Secured Party contemplated by this Agreement is outstanding and unpaid, notwithstanding any termination of this Agreement. All agreements, representations, warranties and covenants in this Agreement shall bind the party making the same and its heirs and successors, and shall be to the benefit of and be enforceable by each party for whom made and their respective heirs, successors and assigns.

This Agreement, together with the Loan Agreement, and all other documents and agreements identified in, contemplated by, or executed in connection with the Loan Agreement, constitute the entire agreement between Borrower and Secured Party as to the subject matter hereof and may not be altered or amended except by written agreement signed by Borrower and Secured Party. All other prior and contemporaneous understandings between the parties hereto as to the subject matter hereof are rescinded.

Dated: August 11, 1999

Secured Party:

Zions First National Bank

By: Richard P. Jackson
~~Greg O. Nordfelt~~ RICHARD P. JACKSON
Vice President

Borrower:

Merit Medical Systems, Inc.

By: [Signature]
Title: President

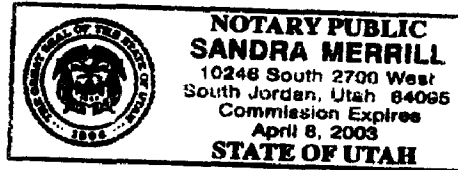
CERTIFICATE OF ACKNOWLEDGMENT

STATE OF UTAH)
 : ss.
COUNTY OF SALT LAKE)

Before me, the undersigned, a Notary Public in and for the county aforesaid, on this 12 day of August, 1999, personally appeared Fred Sanpropos to me known personally, and who, being by me duly sworn, deposes and says that he/she is the President of Merit Medical Systems, Inc., the Borrower in the foregoing Assignment and Security Agreement, and that said instrument was signed and sealed on behalf of said Borrower, and said Notary acknowledged said instrument to be the free act and deed of said Borrower.

Sandra Merrill
Notary Public
Residing at: South Jordan

My Commission Expires:
4/8/2003



SCHEDULE OF PATENTS

Patent Description	Docket No.	Country	Serial No.	Filing Date	Status
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MERIT MEDICAL

**Issued Patents
Foreign & Domestic
July 2, 1999**

<u>File</u>	<u>Country</u>	<u>Title</u>	<u>Product Name</u>	<u>Patent No. Date Issued</u>
.11	U.S.	System and Methods for Monitoring Displaying and Recording Balloon Catheter Inflation Data		5,135,488 Issued 8/4/92
.11a	PCT	System and Methods for Monitoring Displaying and Recording Balloon Catheter Inflation Data		US/90/01331 Filed 3/12/90
.11b	✓EPO	System and Methods for Monitoring Displaying and Recording Balloon Catheter Inflation Data		0467924 Issued 7/19/95
.11b.1	France	System and Methods for Monitoring Displaying and Recording Balloon Catheter Inflation Data		0467924 Issued 7/19/95
.11b.2	✓Germany	System and Methods for Monitoring Displaying and Recording Balloon Catheter Inflation Data		0467924 Issued 7/19/95
.11b.3	UK	System and Methods for Monitoring Displaying and Recording Balloon Catheter Inflation Data		0467924 Issued 7/19/95
.11c	✓Australia	System and Methods for Monitoring Displaying and Recording Balloon Catheter Inflation Data		641918 Issued 2/1/94
.11d	Canada	System and Method for Monitoring, Displaying and Recording Balloon Catheter Inflation Data - Div.		2,055,490 Issued 10/8/96
.11e	Japan	System and Method for Monitoring, Displaying and Recording Balloon Catheter Inflation Data - Div. (Intellisystem)		2604502 3/12/90

<u>File</u>	<u>Country</u>	<u>Title</u>	<u>Product Name</u>	<u>Patent No. Date Issued</u>
.11f	Germany	System and Method for Monitoring, Displaying and Recording Balloon Catheter Inflation Data - Div.		G9090044.8
.11.2	U.S.	System and Method for Monitoring, Displaying and Recording Balloon Catheter Inflation Data - Div.		5,201,753 Issued 4/13/93
.11.2a.1	FPO	Self-Contained, Digitally Controlled, Disposable Syringe Inflation System and method for Monitoring, Displaying and Recording Balloon Catheter Inflation	Monarch	Patent 0574536B Granted 10/14/98 Expires: 3/4/2012
.11.2a.1a	Austria	Self-Contained Digitally Controlled Syringe System	Monarch	E172125 Expires 3/4/2012
.11.2a.1b	Belgium	Self-Contained Digitally Controlled Syringe System	Monarch	Expires 3/4/2012
.11.2a.1c	France	Self-Contained Digitally Controlled Syringe System	Monarch	Expires 3/4/2012
.11.2a.1d	Germany ✓	Self-Contained Digitally Controlled Syringe System	Monarch	DE 69227307T2 Expires 3/4/2012
.11.2a.1e	Italy	Self-Contained Digitally Controlled Syringe System	Monarch	Expires 3/4/2012
.11.2a.2	Canada	Totally Self-Contained, Digitally Controlled Disposable Syringe Inflation System and Method for Monitoring, Displaying and Recording Balloon Catheter Inflation Data	Intellisystem CIP	Patent No. 2101262 Issued 11/25/97 Expires: 3/4/2012
.11.2a.5	Japan	Totally Self-Contained, Digitally Controlled Disposable Syringe Inflation System and Method for Monitoring, Displaying and Recording Balloon Catheter Inflation Data	Intellisystem CIP	Patent No. 2828342 Issued 9/18/98 Expires: 3/4/2012

<u>File</u>	<u>Country</u>	<u>Title</u>	<u>Product Name</u>	<u>Patent No. Date Issued</u>
.11.2.1	U.S.	Detachable and Reusable Digital Control Unit for Monitoring Balloon Catheter Data in a Syringe Inflation System		5,449,345 Issued 9/12/95
.11.2.2	U.S.	Digitally Controlled, Disposable Syringe Inflation System and Method for Monitoring and Displaying Balloon Catheter Inflation Data		5,385,549 Issued 1/31/95
.11.2.3	U.S.	RF Transmission Module for Wirelessly Transmitting Balloon Catheter Data in a Syringe Inflation System		5,453,091 Issued 9/26/95
.11.5	U.S.	System and Method for Monitoring and Recording Balloon Catheter Conditional Interval Data		5,300,027 Issued 4/5/94
.11.5.1	U.S.	System and Method for Monitoring and Recording Balloon Catheter Conditional Interval Data - CIP (Lesion Marking)		5,425,713 Issued 6/20/95
.11.5.2	U.S.	System and Method for Monitoring and Recording Balloon Catheter Conditional Interval Data - CIP (Redundant Switches)		5,431,629 Issued 7/11/95
.11.5.3	U.S.	System and Method for Monitoring and Recording Balloon Catheter Conditional Interval Data - CIP (Transducer Zeroing) - Cert. of Correction		5,458,571 Issued 10/17/95
.12	U.S.	Locking Syringe		5,057,078 Issued 10/15/91
.12b	EPO	Locking Syringe		0463111
.12b.1	Germany	Locking Syringe		P 69007094
.12b.2	Switzerland	Locking Syringe		0463111
.12b.3	Austria	Locking Syringe		0463111
.12b.4	Benclux	Locking Syringe		0463111
.12b.5	Spain	Locking Syringe		2052255
.12b.6	France	Locking Syringe		0463111
.12b.7	UK	Locking Syringe		0463111
.12b.8	Italy	Locking Syringe		0463111

<u>File</u>	<u>Country</u>	<u>Title</u>	<u>Product Name</u>	<u>Patent No.</u> <u>Date Issued</u>
.12b.9	Luxembourg	Locking Syringe		0463111
.12b.10	Netherlands	Locking Syringe		0463111
.12c	Australia	Locking Syringe		641155 Issued 1/17/94
.12d	Canada	Locking Syringe		2,049,067 issued 6/3/98
12 c	Japan	Locking Syringe		2584538 Issued 11/21/96
.12f	Germany	Locking Syringe		G9090047.2
.12.1	U.S.	Locking Syringe		5,047,015 Issued 9/10/91
.12.2	U.S.	Locking Syringe with Thread-Release Lock - CIP		5,209,732 Issued 5/11/93
.20	U.S.	System and Method for Medical Device Interconnection Utilizing Controlled Dispensing of Elongated Interconnecting Member		5,118,907 Issued 6/2/92
.37	U.S.	Self Locking Control Syringe		5,215,536 Issued 6/1/93
.37a	PCT	Self Locking Control Syringe		US92/09862
.40	U.S.	Syringe Apparatus with Attached Pressure Gauge	BASIX	5,163,904 Issued 11/17/92
.45	U.S.	Syringe Apparatus with Attached Pressure Gauge and Timer	BASIX II	5,259,838 Issued 11/9/93
.45.1	U.S.	Syringe Apparatus with Pressure Gauge and Detachable Timer		5,449,344 Issued 9/12/95
.46	U.S.	Transducer Housing with Calibration Port		5,273,047 Issued 12/28/93
.46a	PCT	Transducer Housing with Calibration Port		PCT/US94/02094 Filed 2/28/94
.49	U.S.	System and Method for Packaging Angioplasty Manifold Kits		5,163,554 Issued 11/17/92
.55	U.S.	Coiling/Uncoiling Device		5,309,604 Issued 5/10/94
.56	U.S.	Rotation Tool for Medical Guidewire		5,219,332 Issued 6/15/93

PATENT

REEL: 010281 FRAME: 0594

<u>File</u>	<u>Country</u>	<u>Title</u>	<u>Product Name</u>	<u>Patent No.</u> <u>Date Issued</u>
.56.1	U.S.	Rotation Tool for Medical Guidewire		5,312,338 Issued 5/17/94
.58	U.S.	Universal I.V. Stand Mounting System	Clipper	5,322,253 Issued 6/21/94
.66	U.S.	Flip Chip Transducer		5,581,038 Issued 12/3/96
.72	U.S.	Bubble Free Rotatable Connector		5,456,676 Issued 10/10/95
.73	U.S.	Waste Collection system for Containment and Disposal of Contaminated Fluids		5,483,999 Issued 1/16/96
.76	U.S.	Pressure Syringe with Pulsing Button		5,472,424 Issued 12/5/95
.78	U.S.	Disposable Transducer with Digital Processing and Readout		5,711,302 Issued 1/27/98; cert of corr rec'd 10/14/98
.89	U.S.	Catheter Apparatus with Means for Subcutaneous Delivery of Anesthetizing Agent or Other Fluid Medicament		5,405,334 Issued 4/11/95
.89.1	U.S.	Catheter Apparatus with Means for Subcutaneous Delivery of Anesthetizing Agent or Other Fluid Medicament - CIP		5,533,986 Issued 7/9/96
.89.1.1	U.S.	Catheter Apparatus with Means for Subcutaneous Delivery of Anesthetizing Agent or Other Fluid Medicament		Ser. No. 08/621,017 Pat # 5,665,076 Issued 9/9/97; cert. of correction rec'd 6/26/98
.89.1.2	U.S.	Catheter Apparatus		5,647,859 issued 7/15/97; cert of correction rec'd 7/6/98
.89.1.3	GUY	Catheter Apparatus with Means for Subcutaneous Delivery of Anesthetic Agent or Other Fluid Medicament		Filed 3/22/96 SN 08/622,458 #5,797,886 issued on 8/25/98
.89.1.4	U.S.	Anesthetizing Sheath		5,647,860 Issued 7/15/97; cert of corr. rec'd 9/1/98

<u>File</u>	<u>Country</u>	<u>Title</u>	<u>Product Name</u>	<u>Patent No.</u> <u>Date Issued</u>
.89.3	GUY	Central Venous System Catheter Apparatus with Means for Subcutaneous Delivery of Anesthetic Agent or Other Fluid Medicament		Filed 4/2/97; SN 08/832,043 Issued 10/6/98 Pat. # 5,817,072
.89.4	U.S.	Total Alimentary Nutrition Catheter Apparatus with Means for Subcutaneous Delivery of Anesthetic Agent or Other Fluid Medicament		Filed 4/2/97 SN. 08/832,396 Issued 6/30/98, pat #5,772,639
.101	U.S.	Split Ring Assembly For An Airless Rotatable Connector		5,599,328 Issued 2/4/97
.103	U.S.	System and Method for Managing Delivery of Contrast Media		5,569,208 Issued 10/29/96 Cert of Corr rec'd 9/22/97
<u>.103.1</u>	U.S.	Apparatus and Method for Managing Delivery of Contrast Media - CIP		Filed 11/28/95 SN 08/563,361 Issued 9/15/98 as pat 5,807,321
.124	US	Adapter with Hemostasis Valve and Rotatable Connector		Issued 12/02/97 5,693,025; Cert of correction rec'd 10/6/98
.125	U.S.	Hemostasis Valve with Locking Seal		5,591,137 Issued 1/7/97
.126	U.S.	Method of Manufacturing Split Ring Airless Rotatable Connector		5,616,203 Issued 4/1/97
.127	U.S.	Apparatus for Positioning A Split Ring Over An Enlarged Flange		5,601,540 Issued 2/11/97
.128	U.S.	Method for Positioning a Split Ring Over and Enlarged Flange Rotatable Connector		5,651,170 Issued 7/29/97
.129	U.S.	Wire Pan		5,738,213 Issued 4/14/98
.132	U.S.	Syringe Plunger Tip		5,735,825 Issued 4/7/98
.143	U.S.	Flush Valve with Cable Attachment NO FOREIGN FILING PER CLIENT		Filed: 11/4/96 Ser. No. 08/743,636 5,823,967 Issued 10/20/98

<u>File</u>	<u>Country</u>	<u>Title</u>	<u>Product Name</u>	<u>Patent No.</u> <u>Date Issued</u>
.144	U.S.	Flush Valve with Interlocking Seal NO FOREIGN FILING PER CLIENT 4/18/97		Filed: 11/4/96 SN 08/743,632 Pat #5,820,565 Issued 10/13/98
.153.9	U.S.	Apparatus & Method for Vascular Guide Wire Insertion with Blood Flashback Containment Features		5,295,970 Issued 3/22/94
.153.9b	Canada	Apparatus & Method for Vascular Guide Wire Insertion with Blood Flashback Containment Features		Patent #2,113,952 Issued 8/18/98
.153.9c	Japan	Apparatus & Method for Vascular Guide Wire Insertion with Blood Flashback Containment Features		Patent No. 2540018
.153.9d	Mexico	Apparatus & Method for Vascular Guide Wire Insertion with Blood Flashback Containment Features		Patent No. 185129 granted 6/26/97 rec'd 11/25/97
.153.9f	Australia	Apparatus & Method for Vascular Guide Wire Insertion with Blood Flashback Containment Features		Patent No. 672454 Original rev'd from Becton Dickinson & forwarded to Merit 8/2/97
.153.10.1	U.S.	CIP - Vascular Blood Containment Device		Pat #5,820,596 Issued 10/13/98
.154	U.S.	Guidewire Connection Guide and Method of Use		Issued 11/03/98 as Patent No. 5,830,157

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