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[Continued on next page]

The diagram illustrates a system architecture with the following components and connections:

- 51**: A horizontal line or bus at the top.
- 58**: A rectangular block connected to the line 51.
- 54**: A rectangular block connected to the line 51.
- 92**: A rectangular block connected to the line 51.
- 75**, **80**, **84**, **88**: A vertical stack of four rectangular blocks on the left side.
- 64** and **60**: Two rectangular blocks in the center-right area, connected to each other.
- 62** and **63**: Two small rectangular blocks below block 60.
- 67**, **69**, **70**, **71**, **72**, **73**: A row of six rectangular blocks at the bottom, each containing a number.

Connections include a horizontal line 51 at the top, a vertical line 54, and a horizontal line 60. A vertical line 62 connects block 60 to block 63. A horizontal line 64 connects block 64 to block 60. A vertical line 67 connects block 67 to block 69. A horizontal line 69 connects block 69 to block 70. A vertical line 70 connects block 70 to block 71. A horizontal line 71 connects block 71 to block 72. A vertical line 72 connects block 72 to block 73. A horizontal line 73 connects block 73 to block 74.

(57) Abstract: A navigation system (57) for minimally invasive surgery incorporating means of automatic electronic identification of automatically actuated flexible medical device (51) characteristics, communication of such information to a navigation control system (57) and its use in an automatic actuation system (54) that is used to accurately control navigation of the flexible medical device (51) within a patient's anatomy by the use of a physics-based model of flexible device (51) response to automatically applied actuations in order to efficiently access specified regions targeted for therapy delivery.



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/31279

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61B 5/00; A61M 25/00

US CL : 600/585

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : Please See Continuation Sheet

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WEST: identification, code, catheter, actuate, navigate, navigation, program, software, orientation

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,331,181 B1 (TIERNEY et al) 18 December 2001, see whole document.	1-48
A	US 6,266,551 B1 (OSADCHY et al) 24 July 2001, see whole document.	1-48
A	US 6,436,032 B1 (ETO et al) 20 August 2002, see whole document.	1-48
A	US 6,237,604 B1 (BURNSIDE et al) 29 May 2001, see whole document.	1-48
A, P	US 6,611,793 B1 (BURNSIDE et al) 26 August 2003, see whole document.	1-48

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 1:

600/585, 117, 133, 118, 424, 300, 407, 429,338, 588, 639, 325, 372-377; 128/897, 898; 702/59; 377/15; 604/52, 53; 606/1, 10-12, 32-35, 41, 42, 45-50