

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 February 2006 (23.02.2006)

PCT

(10) International Publication Number
WO 2006/020212 A3

(51) International Patent Classification:
A61B 5/00 (2006.01)

(21) International Application Number:
PCT/US2005/025412

(22) International Filing Date: 19 July 2005 (19.07.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/899,623 27 July 2004 (27.07.2004) US

(71) Applicant (for all designated States except US):
MEDTRONIC MINIMED, INC. [US/US]; 1800
Devonshire Street, Northridge, CA 91325-1219 (US).

(72) Inventors: TALBOT, Cary, D.; 27539 Catala Avenue,
Santa Clarita, CA 91350 (US). MASTROTOTARO,
John, J.; 10642 Lindbrook Drive, Los Angeles, CA
90024 (US). SHAH, Rajiv; 28003 Lobrook, Palos Verdes,
CA 90275 (US). CHERNOFF, Edward; P.O. Box 329,
Frazier Park, CA 93225 (US). MUELLER, John, C., Jr.;
419 Canyon Crest Drive, Simi Valley, CA 93065 (US).
SHAHMIRIAN, Varaz; 19812 Sierra Meadows Lane,
Northridge, CA 91326 (US). PURVIS, Richard, E.; 1478
North Mar Vista Avenue, Pasadena, CA 91104 (US).
MORGAN, Wayne, A.; 17524 Prairie Street, Northridge,
CA 91325 (US). GOTTLIEB, Rebecca, K.; 3646-1/2
Schaefer Street, Culver City, CA 90232 (US).

(74) Agents: KELLER, Caroline, L. et al.; Pillsbury Winthrop
Shaw Pittman LLP, 725 South Figueroa Street, Suite 2800,
Los Angeles, CA 90017-5406 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ,
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

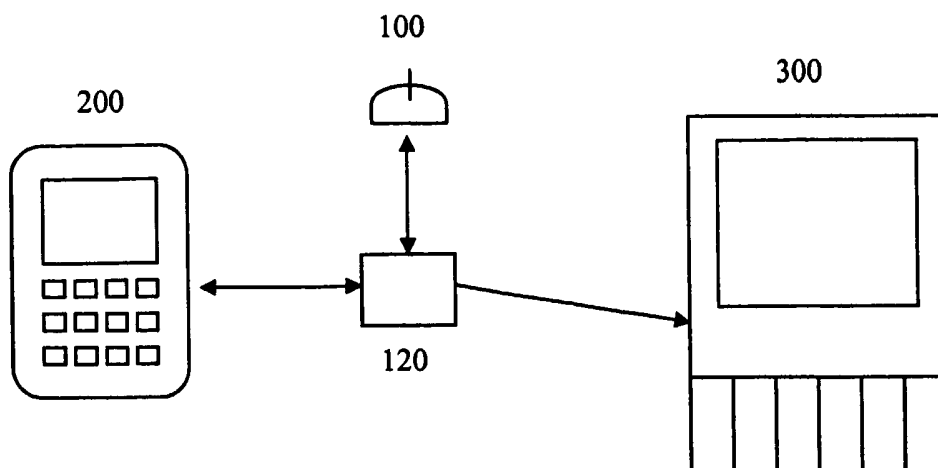
Published:

- 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

(88) Date of publication of the international search report:
4 May 2006

[Continued on next page]

(54) Title: SENSING SYSTEM WITH AUXILIARY DISPLAY



(57) Abstract: A system is provided for sensing blood glucose data of a patient. The system includes a sensor, user interface, and an optional auxiliary device. If the connection between the sensor and user interface is by a wire, the sensor remains powered when the wire is disconnected. The communication between the sensor and the user interface may be wireless. The auxiliary device can be a patient monitor or other display or signal device, which displays information about the blood glucose data collected by the sensor. The sensor is connected to sensor electronics, which include a sensor power supply, a voltage regulator, and optionally a memory and processor.

WO 2006/020212 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2005/025412

A. CLASSIFICATION OF SUBJECT MATTER A61B5/00		
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) A61B		
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 practical, search terms used) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/137997 A1 (MASTROTOTARO JOHN J ET AL) 26 September 2002 (2002-09-26)	1-4,7,9, 27-34
Y	paragraphs '0026!', '0027!', '0030!', '0031!', '0033!; figures 1,2	5,6,8, 10-26
Y	US 6 424 847 B1 (MASTROTOTARO JOHN J ET AL) 23 July 2002 (2002-07-23) column 5, line 27 - column 7, line 16 column 8, lines 1-8 figure 1	5,6,10
Y	WO 00/19887 A (MINIMED INC) 13 April 2000 (2000-04-13)	8,11-26
A	page 5, line 15 - page 13, line 20 figures 1,2,8A	5,6,10
----- -/--		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 "E" earlier document but published on or after the international filing date "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) "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	"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 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "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. "&" document member of the same patent family	
Date of the actual completion of the international search	Date of mailing of the international search report	
6 February 2006	23. 02. 2006	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Dhervé, G	

INTERNATIONAL SEARCH REPORT

 International application No
 PCT/US2005/025412

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 175 752 B1 (SAY JAMES ET AL) 16 January 2001 (2001-01-16) column 2, lines 15-32 column 6, line 55 - column 7, line 6 column 31, lines 41-53 column 36, line 41 - column 45, line 31 column 49, lines 15-37 column 52, line 44 - column 53, line 25 column 54, line 63 - column 55, line 31; figures 1,18a,19 -----	56-105
X	US 5 791 344 A (SCHULMAN ET AL) 11 August 1998 (1998-08-11) column 6, line 28 - column 7, line 14; figure 1 column 13, line 43 - column 14, line 67; figure 8 -----	56-105
X	US 2003/144581 A1 (CONN THOMAS E ET AL) 31 July 2003 (2003-07-31) the whole document -----	56-63
A	US 6 558 320 B1 (CAUSEY, III JAMES D ET AL) 6 May 2003 (2003-05-06) column 5, line 35 - column 7, line 46; figure 4 figure 12 -----	1-105

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/025412

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-34

System for sensing blood glucose concentration of a person comprising a wire coupling the sensor to the user interface.

2. claims: 35-55, 56-63

System for sensing blood glucose concentration of a person comprising a patient monitor.

3. claims: 64-87, 88-99, 100-105

System for sensing blood glucose data of a person comprising a sensor power supply (claims 64, 88, 100) and a memory (claims 64 and 100) in the sensor electronics.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2005/025412

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002137997	A1	26-09-2002	US 6418332 B1 09-07-2002
US 6424847	B1	23-07-2002	AU 3243500 A 14-09-2000 CA 2353486 A1 31-08-2000 EP 1154718 A1 21-11-2001 JP 2002541883 T 10-12-2002 WO 0049941 A1 31-08-2000
WO 0019887	A	13-04-2000	AU 6255699 A 26-04-2000 CA 2345043 A1 13-04-2000 EP 1119285 A1 01-08-2001 JP 2002526137 T 20-08-2002 US 6809653 B1 26-10-2004
US 6175752	B1	16-01-2001	AU 2330799 A 23-11-1999 EP 1075209 A1 14-02-2001 JP 2002513602 T 14-05-2002 WO 9956613 A1 11-11-1999 US 6565509 B1 20-05-2003
US 5791344	A	11-08-1998	US 5497772 A 12-03-1996 US 5660163 A 26-08-1997
US 2003144581	A1	31-07-2003	US 6561978 B1 13-05-2003
US 6558320	B1	06-05-2003	AU 2959601 A 31-07-2001 CA 2394768 A1 26-07-2001 EP 1250087 A1 23-10-2002 JP 2003520091 T 02-07-2003 WO 0152727 A1 26-07-2001