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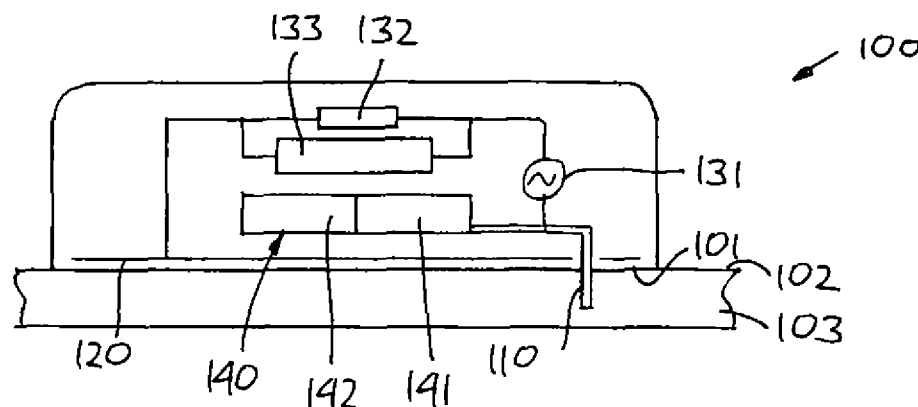
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22 February 2007

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.

(54) Title: SENSOR SYSTEM AND METHOD FOR DETECTING PROBLEMS WITH MOUNTING OF SKIN MOUNTABLE MEDICAL DEVICES



(57) Abstract: The invention relates to skin mountable medical devices adapted to ensure that the device or components thereof are properly in place with respect to the patient's body. In a specific aspect a medical device is provided comprising a mounting surface adapted for application to a skin surface of the subject, a transcutaneous device adapted to be arranged subcutaneously in a subject, and sensor means adapted to detect a property that can be indicative of a problematic condition relating to the interface of the device with the subject. The device further comprises circuitry for processing signals from the sensor means and for indicating that a predetermined condition associated with the interface of the device with the subject has been detected, and wherein the sensor means comprises first and second capacitor means.

WO 2006/067217 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2005/057105

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B5/0424 A61B5/053 A61M5/142

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 A61M G01N

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, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A Y	US 2003/009131 A1 (VAN ANTWERP WILLIAM P ET AL) 9 January 2003 (2003-01-09) paragraph [0040] - paragraph [0042]; figures 1-10 paragraph [0075] - paragraph [0076]	1-5, 8-15 6, 7, 16-22 6, 7, 16-22
X A Y	US 2002/123740 A1 (FLAHERTY J. CHRISTOPHER ET AL) 5 September 2002 (2002-09-05) paragraph [0013] - paragraph [0023]; figures 1-18 paragraph [0055] - paragraph [0066]	1, 8 2-7, 9-15 6, 7, 16-19
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☒ 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

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"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.

"G" document member of the same patent family

Date of the actual completion of the international search

19 October 2006

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	page 6, line 9 - page 18, line 34; figures 1-7 page 26, line 32 - page 27, line 11	6,7
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A	paragraph [0008] - paragraph [0039]; figures 1-3 paragraph [0061] - paragraph [0066]	2,4,6,7, 10-22
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A	US 2003/139656 A1 (KIANI MASSI E ET AL) 24 July 2003 (2003-07-24) paragraph [0030] - paragraph [0037]; figures 1-6 paragraph [0005] - paragraph [0007]	1-18
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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2005/057105

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003/069714 A1 (WIGLEY FREDRICK M [US] ET AL) 10 April 2003 (2003-04-10) paragraph [0006] - paragraph [0028]; figures 1-4	6,7
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A	page 5, last paragraph - page 28, last paragraph; figures 1-18	1-5,8-15
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2005/057105

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-5,8-15

medical device mounted on skin surface, having a transcutaneous device, sensor means detecting a problematic condition relating to the interface of the device with the subject, monitoring the position relative to the skin surface

2. claims: 6,7

medical device mounted on skin surface, having a transcutaneous device, sensor means detecting a problematic condition relating to the interface/contact of the device with the subject, with the sensor monitoring a skin condition at a given location

3. claims: 1,16-18

medical device mounted on skin surface, having a transcutaneous device, sensor means detecting a problematic condition relating to the interface of the device with the subject, comprising image-generating circuitry

4. claims: 19-22

System detecting improper insertion of a transdermal device, by monitoring a property of the transdermal device that changes when the transdermal device is improperly inserted

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2005/057105

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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