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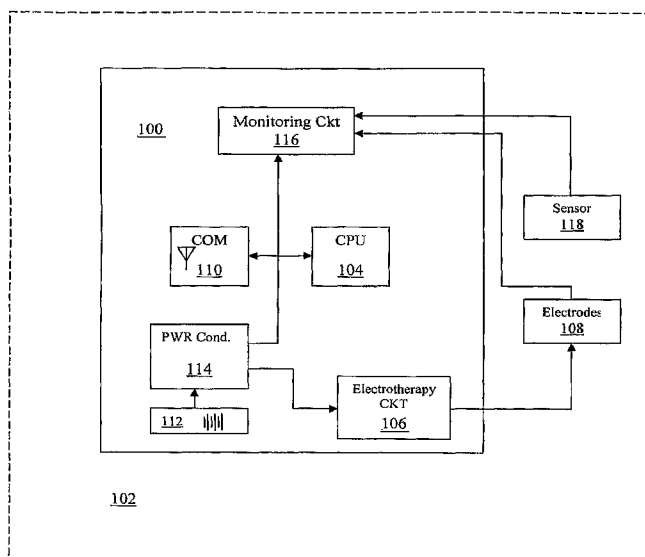
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[Continued on next page]

(54) **Title:** APPLICATIONS OF HEART RATE VARIABILITY ANALYSIS IN BAROREFLEX ACTIVATION THERAPY AFFECTING AUTONOMIC NERVOUS SYSTEM RESPONSE



(57) **Abstract:** A method of operating a baroreflex therapy system (102) includes providing an implantable baroreflex activation device (100), providing a sensing arrangement (116, 118), and providing a controller (104) in operable communication with the baroreflex activation device and the sensing arrangement (116, 118). The sensing arrangement (116, 118) is used to measure cardiac electrical activity of a patient to generate cardiac electrical activity data. The cardiac electrical activity data is communicated to the controller (104), wherein the controlled 104) performs heart rate variability analysis based on the cardiac electrical activity data. An indication of results of the heart rate variability analysis are provided, upon which a determination may be made to adjust a baroreflex therapy to be delivered by the implantable baroreflex activation device (100).

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— *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

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A CLASSIFICATION OF SUBJECT MATTER		
IPC A61N 1/00(2006 01)		
USPC 607/2		
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 607/2		
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) EAST (US PG PUB, US PAT, USOCR, EPO, JPO, DERWENT), baroreflex		
C DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 2003/0040774 A1 (Terry, JR et al) 27 February 2003 (27 02 2003), section 0001-0054	1-12 and 14-23
A	US 6073048 A (Kieval et al) 6 June 2000 (6 6 2000)	1-12, 14-23
A	US 6622041 B2 (Terry, Jr et al) 16 September 2003 (16 9 2003)	1-12, 14-23
<input type="checkbox"/> Further documents are listed in the continuation of Box C <input type="checkbox"/> See patent family annex		
* Special categories of cited documents		"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
"A" document defining the general state of the art which is not considered to be of particular relevance		"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
"E" earlier application or patent published on or after the international filing date		"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
"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)		"&" document member of the same patent family
"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		
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Name and mailing address of the ISA/US Mail Stop PCT, Attn ISA/US Commissioner for Patents P O Box 1450 Alexandria, Virginia 22313-1450 Facsimile No (571) 273-3201	Authorized officer <i>Carl H Layton</i> Telephone No 571-272-4949	

Box No. 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 13 and 24**
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6 4(a)

Box No. 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

- 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 additional fees, this Authority did not invite payment of any additional fees
- 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 and, where applicable, the payment of a protest fee
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation
- No protest accompanied the payment of additional search fees