(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
1 August 2002 (01.08.2002)

PCT

(10) International Publication Number
WO 02/060215 A3

(51) International Patent Classification[7]: A61B 7/04, H04B 5/00, H04R 1/02, 3/00, A61B 5/04, 5/02, G08B 26/00

(21) International Application Number: PCT/US02/01497

(22) International Filing Date: 17 January 2002 (17.01.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/264,530 26 January 2001 (26.01.2001) US

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(81) Designated States *(national)*: JP, KR, US.

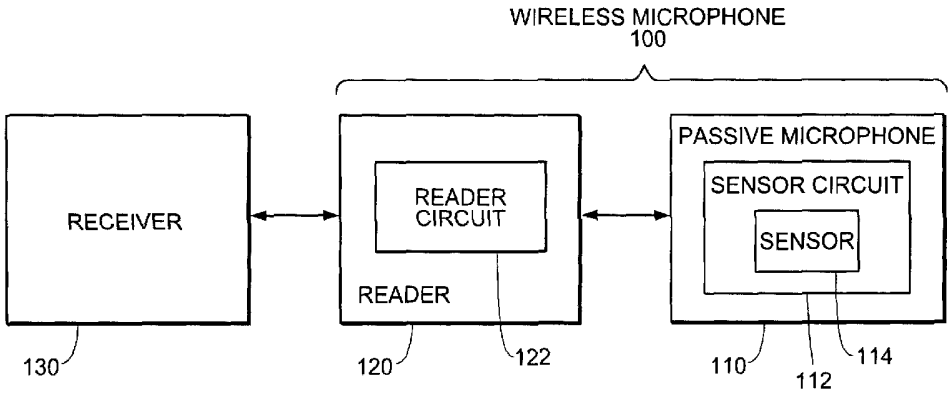
(84) Designated States *(regional)*: European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).

Published:
— *with international search report*

(88) Date of publication of the international search report:
17 April 2003

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: WIRELESS BATTERY-LESS MICROPHONE



(57) Abstract: A passive microphone (110), which is wireless and battery-less, contains a resonant sensor circuit (112) and a reactive sensor (114) sensitive to vibration may be remotely coupled to a receiver circuit (130). The sensor (114) is a passive condenser microphone wherein vibration of the diaphragm alters the condenser capacitance and the resonant frequency of the resonant sensor circuit (112). The passive microphone is directly or indirectly attached to the person and is coupled to a remotely disposed reader (120) carried by the person and then is transmitted to a remote receiver (130). The passive microphone sensor (114) exposed to vibrations alters the resonance frequency of a sensor circuit (112) containing the sensor (114). Wireless coupling of the sensor circuit (112) to a reader circuit (122) changes the impedance of the reader circuit (122) that is detectable upon sequentially exciting the reader circuit (122) over a range of frequencies that includes the resonance frequency.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/01497

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61B 7/04; H04B 5/00; H04R 1/02, 3/00; A61B 5/04, 5/02; G08B 26/00

US CL : 381/67, 79, 91, 95, 111; 600/ 511, 528; 340/505

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. : 381/67, 79, 91, 95, 111; 600/ 511, 528; 340/505

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3,561,430 (FILLER) 09 February 1971 (20.07.1967), column 2, lines 11-14, column, lines 31-45, column 2, lines 51-55	1-7
A	US 4,591,668 (IWATA) 27 May 1986 (27.05.1986), abstract, column2, lines 14-17, column 3, ines 6-17.	1
A, E	US 6,368,283 B1 (XU et al) 09 April 2002 (09.04.2002), column 6, lines 37-47,	1, 5
A	US 5,425,104 A (SHENNIB) 13 June 1995 (13.06.1995), entire document.	1, 6, 7
A	US 6,084,516 A (YASUSHI et al) 04 July 2000 (04.07.2000), entire document.	1-7
A	US 5,109,863 A (SEMMLOW et al) 05 May 1992 (05.05.1992), entire document.	1-7
A	US 5,793,875 A (LEHR et al) 11 August 1998 (11.08.1998), entire document.	1-7
A	US 4,323,999 (YOSHIZAWA et al) 06 April 1982 (06.04.1982), entire document.	1-7
A, E	US 6,415,033 B1 (HALLECK et al) 02 July 2002 (02.07.2002), entire document.	1-7

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Date of the actual completion of the international search	Date of mailing of the international search report
05 September 2002 (05.09.2002)	05 NOV 2002
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Form PCT/ISA/210 (second sheet) (July 1998)