

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 December 2007 (13.12.2007)

PCT

(10) International Publication Number
WO 2007/141685 A3

(51) International Patent Classification:
H04R 7/18 (2006.01) *H04R 17/00* (2006.01)

(21) International Application Number:
PCT/IB2007/051883

(22) International Filing Date: 16 May 2007 (16.05.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
06115182.5 8 June 2006 (08.06.2006) EP

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, 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, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, MT, 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).

Declarations under Rule 4.17:

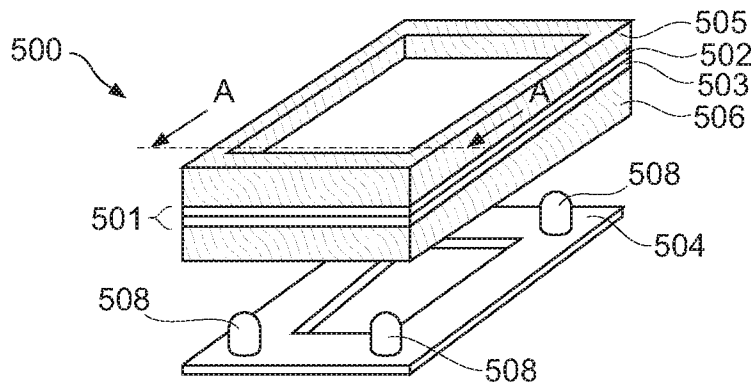
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

- with international search report

(88) Date of publication of the international search report:
14 February 2008

(54) Title: ACOUSTIC DEVICE AND METHOD OF MANUFACTURING SAME



(57) Abstract: An acoustic device (500), comprising an oscillatory membrane (501) which comprises a transducing element (503) and a frame (504) adapted for accommodating the membrane (501) in an accommodation plane, wherein the membrane (501) is accommodated in the frame (504) in such a manner that a translational motion of the membrane (501) in at least one direction of the accommodation plane is made possible.

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INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2007/051883

A. CLASSIFICATION OF SUBJECT MATTER

INV. H04R7/18
ADD. H04R17/00

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)
H04R

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	JP 01 005199 A (NIPPON ELECTRIC CO) 10 January 1989 (1989-01-10) abstract; figures 1,2,4	1-4,6,7, 9,12
X	the whole document	5,8,10, 11
X	----- DE 41 35 408 A1 (MAN NUTZFAHRZEUGE AG [DE]) 29 April 1993 (1993-04-29) figures 8,11,12	1
A	----- JP 11 164396 A (MATSUSHITA ELECTRIC IND CO LTD) 18 June 1999 (1999-06-18) cited in the application abstract	1
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See patent family annex.

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- *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
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Date of the actual completion of the international search

16 November 2007

Date of mailing of the international search report

23/11/2007

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INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2007/051883

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 750 443 A (TAIYO YUDEN KK [JP]) 27 December 1996 (1996-12-27) cited in the application column 2, line 2 - column 3, line 18; figures 9-12 -----	1
A	DE 29 14 608 A1 (SENNHEISER ELECTRONIC) 23 October 1980 (1980-10-23) figures 1a,1b -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2007/051883

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
JP 1005199	A	10-01-1989	NONE	
DE 4135408	A1	29-04-1993	NONE	
JP 11164396	A	18-06-1999	NONE	
EP 0750443	A	27-12-1996	CA 2179212 A1 JP 3362997 B2 JP 9009393 A US 5761324 A	20-12-1996 07-01-2003 10-01-1997 02-06-1998
DE 2914608	A1	23-10-1980	NONE	