



- (51) **International Patent Classification:**
H04R 1/02 (2006.01) *H04R 1/28* (2006.01)
- (21) **International Application Number:**
PCT/MY2014/000228
- (22) **International Filing Date:**
9 September 2014 (09.09.2014)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
14/023,727 11 September 2013 (11.09.2013) US
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- (81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

- (88) **Date of publication of the international search report:**
15 October 2015

(54) **Title:** SPEAKER WITH GRAINED ZEOLITE MATERIAL IN DEEP-DRAWN FOIL RESONANCE VOLUME

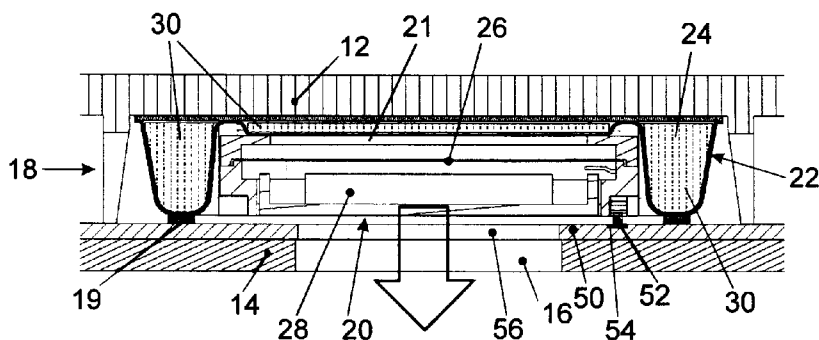


FIG. 2

(57) **Abstract:** An audio system that comprises an electro-acoustic transducer mounted onto a housing that forms a resonance volume which is at least partially filled with sound absorbing material, wherein the housing is realized with a deep-drawn foil at least partially filled with grains of the sound absorbing material.



INTERNATIONAL SEARCH REPORT

International application No
PCT/MY2014/000228

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04R1/02 H04R1/28
ADD.
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 practicable, 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 2010/206658 A1 (SLOTTE THOMAS BENEDICT [FI]) 19 August 2010 (2010-08-19)	1,2,5-15
Y	paragraphs [0002], [0018], [0023], [0027] - [0037], [0065]; figures 3,11A,11B	3,4

X	US 2009/245562 A1 (SAIKI SHUJI [JP] ET AL) 1 October 2009 (2009-10-01)	1,2,5-15
Y	paragraphs [0003], [0009], [0085], [0086]; figures 1B,9, 10,11	3,4

X	EP 2 424 270 A1 (KNOWLES ELECTRONICS ASIA PTE [SG]; NANOSCAPE AG [DE]) 29 February 2012 (2012-02-29)	1,2,5-15
Y	paragraphs [0010], [0017], [0068]; figure 16	3,4

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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	"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
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 18 September 2015	Date of mailing of the international search report 29/09/2015
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Kunze, Holger
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INTERNATIONAL SEARCH REPORT

International application No
PCT/MY2014/000228

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 2010/050537 A1 (MURRAY JIM LEE [US]) 4 March 2010 (2010-03-04) paragraphs [0018], [0026] - [0030]; figures 1,6 -----	3,4
X	US 3 247 926 A (METROS EDWARD H) 26 April 1966 (1966-04-26) column 2, line 23 - column 3, line 38; figures 1,2 -----	16-20
A	EP 1 868 410 A1 (MATSUSHITA ELECTRIC IND CO LTD [JP]) 19 December 2007 (2007-12-19) the whole document -----	16-20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/MY2014/000228

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.:
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:

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 fees, this Authority did not invite payment of 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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-15

An audio system with low resonance frequency despite limited resonance volume.

2. claims: 16-20

A housing for an audio system, designed to achieve desired mechanical and acoustical properties.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/MY2014/000228

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2010206658	A1	19-08-2010	CN 102317549 A
			EP 2396481 A1
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			EP 1868410 A1
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