

# (11) **EP 2 690 888 A3**

(12)

## **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:

19.03.2014 Bulletin 2014/12

(51) Int Cl.: **H04R** 5/02 (2006.01)

H04R 1/02 (2006.01)

(43) Date of publication A2:

29.01.2014 Bulletin 2014/05

(21) Application number: 13178014.0

(22) Date of filing: 25.07.2013

(84) Designated Contracting States:

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated Extension States:

**BA ME** 

(30) Priority: 25.07.2012 JP 2012165155

(71) Applicant: Shima System Co., Ltd.

Ueda-shi,

Nagano 386-1102 (JP)

(72) Inventor: Shima, Yoshiharu Ueda-shi, Nagano 386-1102 (JP)

(74) Representative: Piésold, Alexander James

**Dehns** 

St Bride's House

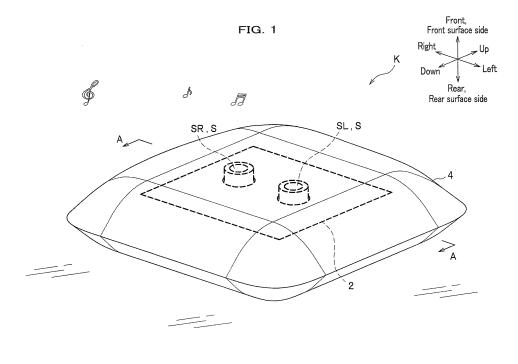
10 Salisbury Square London

EC4Y 8JD (GB)

#### (54) Speaker unit built-in product

(57) A relatively small speaker unit incorporated into a normal size product is capable of outputting sound with extreme fidelity to the original sound. A speaker unit builtin product includes one or more speaker units S, and a baffle plate 2 made of a thin flexible soft rubber, wherein a frame of each of the one or more speaker units S is

fixed directly to the baffle plate 2 so that the front side of each of the one or more speaker units faces in the same direction as the front surface side of the baffle plate 2, and the baffle plate 2 and the one or more speaker units S are both held in a state of being movable back and forth freely in the vibration direction of the diaphragm of each of the one or more speaker units S.





### **EUROPEAN SEARCH REPORT**

Application Number EP 13 17 8014

	DOCUMENTS CONSID	ERED TO B	E RELEV	ANT		
ategory	Citation of document with in of relevant pass		appropriate,		Relevant to claim	t CLASSIFICATION OF THE APPLICATION (IPC)
` `	US 5 682 434 A (BO) 28 October 1997 (19 * column 3, line 51 figures 1,2 *	997-10-28)		23;	1,3,4 2	INV. H04R5/02 H04R1/02
(	DE 10 2006 051613 A GMBH [DE]) 8 May 20	 1 (ELAC EL 108 (2008-0	ECTROACU	JSTIC	1	
١	* paragraphs [0008] figure 1 *	, [0009],	[0011]	<b>;</b>	2-4	
(	US 5 586 195 A (ISH AL) 17 December 199 * column 2, line 60 figures *	96 (1996-12	2-17)		1	
′	EP 1 179 968 A2 (SF 13 February 2002 (2	HIMA SYSTEM	1 CO LTD	[JP])	2	
١	* paragraphs [0186]	- [0199]; 	figure	7B *	1,3,4	
						TECHNICAL FIELDS SEARCHED (IPC)
						H04R
	The present search report has	been drawn up fo	r all claims			
	Place of search	Date o	f completion of the	e search		Examiner
	The Hague	12	February	/ 2014	Fo	obel, Oliver
X : part Y : part docu	ATEGORY OF CITED DOCUMENTS icularly relevant if taken alone icularly relevant if combined with anot iment of the same category	her	E : earlier after th D : docun L : docum	patent docu le filing date nent cited in lent cited for	the application	ıblished on, or on ıs
O:non	nological background -written disclosure mediate document			er of the sar		nily, corresponding

EPO FORM 1503 03.82 (P04C01)

#### ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 13 17 8014

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-02-2014

US 5682434 A 28-10-1997 AU 701453 B2 28-01- AU 6023496 A 30-12- EP 0885546 A1 23-12- JP H11506877 A 15-06- US 5682434 A 28-10- WO 9641496 A1 19-12-  DE 102006051613 A1 08-05-2008 NONE  US 5586195 A 17-12-1996 EP 0614326 A1 07-09- US 5586195 A 17-12-1996 IVS 5586195 A 17-12-
US 5586195 A 17-12-1996 EP 0614326 A1 07-09- US 5586195 A 17-12-1996 US 5586195 A 17-12-19-
US 5586195 A 17-12-
WO 9412001 A1 26-05
EP 1179968 A2 13-02-2002 EP 1179968 A2 13-02- US 2002018576 A1 14-02- US 2004258270 A1 23-12-

© For more details about this annex : see Official Journal of the European Patent Office, No. 12/82