

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
6 October 2005 (06.10.2005)

PCT

(10) International Publication Number  
WO 2005/091809 A3

(51) International Patent Classification<sup>7</sup>: H04R 1/02, 9/06

(21) International Application Number:  
PCT/US2005/004629

(22) International Filing Date: 11 February 2005 (11.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10/796,199 10 March 2004 (10.03.2004) US

(71) Applicant (for all designated States except US): ALTEC LANSING TECHNOLOGIES, INC. [US/US]; P.O. Box 277, Route 7 and 209, Milford, PA 18337-0277 (US).

(72) Inventor: HUGHES, Charles; 106 Field Place, Milford, PA 18337 (US).

(74) Agents: KURTZ, Richard, E. et al.; Greenberg Traurig, LLP, 1750 Tysons Blvd., Suite 1200, McLean, VA 22102 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, 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, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

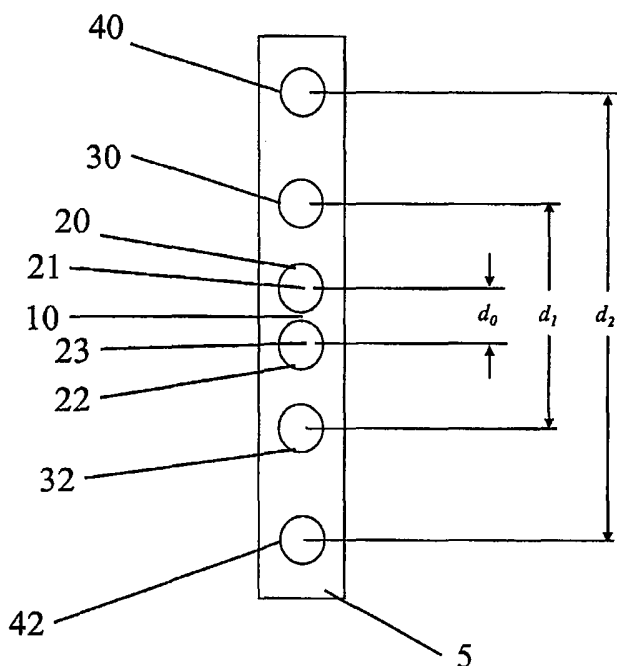
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, 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).

Published:  
— with international search report

(88) Date of publication of the international search report:  
22 December 2005

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: OPTIMUM DRIVER SPACING FOR A LINE ARRAY WITH A MINIMUM NUMBER OF RADIATING ELEMENTS



(57) Abstract: The loudspeaker has a first pair of drivers arranged in a line, a center point along the line, wherein the pair of drivers are substantially centered about the center point with a center to center distance,  $d_0$ , between the drivers in the first pair of drivers, whereby the maximum frequency with out high amplitude side lobes is equal to  $c/2 d_0$ , and at least a subsequent pair of drivers arranged in the line array with the first pair of drivers and substantially centered about the center point, wherein the subsequent pair of drivers are spaced such that the center to center distance between each driver in the subsequent pair,  $d_n$ , is equal to  $4nd_0$ , where  $n = 0$  at the innermost pair of drivers and  $n$  increases by 1 with each pair of drivers sequentially added. Each pair of drivers for  $n > 0$  has a first order low pass filter with a frequency equal to  $2c/d_n$ .

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/04629

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : H04R 001/02,009/06  
 US CL : 381/335,182,387,82,33,2; 181/144

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. : 381/335,182,387,82,33,2; 181/144

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4991687 (OYABA) 12 February 1991, col 2, lines 56-59,	1-2,14-15,17-19
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Y		3-8,9-13,16
Y	US 4653606 (FLANAGAN) 31 March 1987, col 4, 45-56	3,5-7,12-13
Y	US 5359664 (STEUBEN) 25 October 1994, col 6, lines 1-2	4,8,9-13, 16
Y	US 6128395 (DEVRIES) 03 October 2000, col 1, lines 34-37	10

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Date of the actual completion of the international search: 25 August 2005 (25.08.2005)  
 Date of mailing of the international search report: 22 SEP 2005

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: KENNETH A. WIEDER (with signature), Telephone No. 703 305-7608