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0817950.9 1 October 2008 (01.10.2008) GB(71) Applicants (for all designated States except US): **UNIVERSITY OF SOUTHAMPTON** [GB/GB]; Highfield, Southampton, Hampshire SO17 1BJ (GB). **ELECTRONICS & TELECOMMUNICATIONS RESEARCH INSTITUTE OF KOREA** [KR/KR]; 161 Gaejeong-dong, Yusong-ku, Taejeon (KR).

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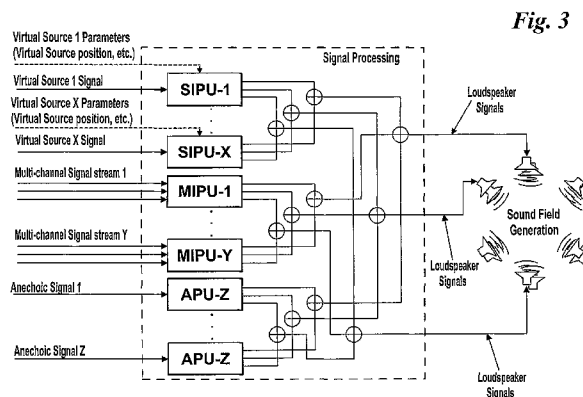


Fig. 3

(57) Abstract: Method and, apparatus for implementing the method, the method comprising determining control signal data for an array of loudspeakers, the control signal data being such as to control the loudspeakers to produce a desired sound field associated with an audio signal, the method comprises determining control signal data for different frequency components of the desired sound field in respect of respective different positions in a listening volume of the loudspeaker array, wherein determination of the control signal data comprises sampling the desired sound field at the surface of a control volume (V).

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2009/051292

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. H04S3/00  
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)  
H04S

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	EPAIN ET AL: "Active control of sound inside a sphere via control of the acoustic pressure at the boundary surface" JOURNAL OF SOUND & VIBRATION, LONDON, GB LNKD- DOI:10.1016/J.JSV.2006.06.066, vol. 299, no. 3, 28 October 2006 (2006-10-28), pages 587-604, XP005735484 ISSN: 0022-460X	1-18
Y	page 588 - page 593; figures 2,3,9,11 page 602 - page 603 ----- -/--	19

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	----- GAUTHIER PHILIPPE-AUBERT ET AL: "Sound-field reproduction in-room using optimal control techniques: Simulations in the frequency domain)" THE JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA, AMERICAN INSTITUTE OF PHYSICS FOR THE ACOUSTICAL SOCIETY OF AMERICA, NEW YORK, NY, US LNKD- DOI:10.1121/1.1850032, vol. 117, no. 2, 1 February 2005 (2005-02-01), pages 662-678, XP012072769 ISSN: 0001-4966	1,16,18
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International application No

PCT/GB2009/051292

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GOVER BRADFORD N ET AL: "Microphone array measurement system for analysis of directional and spatial variations of sound fields" THE JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA, AMERICAN INSTITUTE OF PHYSICS FOR THE ACOUSTICAL SOCIETY OF AMERICA, NEW YORK, NY, US LNKD- DOI:10.1121/1.1508782, vol. 112, no. 5, 1 November 2002 (2002-11-01), pages 1980-1991, XP012003132 ISSN: 0001-4966 the whole document	1-9, 16-19
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