

Title (en)

WAVE FIELD SYNTHESIS DEVICE AND METHOD FOR DRIVING AN ARRAY OF LOUDSPEAKERS

Title (de)

WELLENFELDSYNTHESEVORRICHTUNG UND VERFAHREN ZUM TREIBEN EINES ARRAYS VON LAUTSPRECHERN

Title (fr)

DISPOSITIF DE SYNTHESE DE CHAMP ELECTROMAGNETIQUE ET PROCEDE D'ACTIONNEMENT D'UN RESEAU DE HAUT-PARLEURS

Publication

EP 1637012 B1 20070117 (DE)

Application

EP 04739448 A 20040528

Priority

- EP 2004005824 W 20040528
- DE 10328335 A 20030624

Abstract (en)

[origin: WO2004114725A1] The invention relates to a wave field synthesis device for driving an array of loudspeakers with driver signals, whereby the loudspeakers are placed at different defined positions. A driver signal for a loudspeaker is based on an audio signal, which is assigned to a virtual source having a virtual position with regard to the loudspeaker array, and on the defined position of the loudspeaker. Relevant loudspeakers of the loudspeaker array are firstly determined based on the position of the virtual source, a predefined listener position, and on the defined positions of the loudspeakers so that artifacts caused by loudspeaker signals, which move opposite a direction of the virtual source to the predefined listener position, are reduced. A device (24) for feeding the driver signal components for the relevant loudspeakers for the virtual source to the relevant loudspeakers is connected downstream from a device (20) for calculating the driver signal components for the relevant loudspeakers and for a virtual source, whereby no driver signal components for the virtual source are fed to loudspeakers of the loudspeaker array that do not belong to the relevant loudspeakers. Artifacts in an area of the listener space are hereby suppressed due to the generation of a wave field so that only the useful wavefield is heard without artifacts in this area.

IPC 8 full level

H04S 3/00 (2006.01); **H04S 7/00** (2006.01)

CPC (source: EP KR US)

H04S 3/00 (2013.01 - KR); **H04S 3/002** (2013.01 - EP US); **H04S 3/02** (2013.01 - KR); **H04S 7/00** (2013.01 - EP US); **H04S 2420/13** (2013.01 - EP US)

Cited by

CN113613109A; US8462966B2; US11310617B2; US9602944B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2004114725 A1 20041229; AT E352177 T1 20070215; AU 2004250746 A1 20041229; AU 2004250746 B2 20070201; CA 2530626 A1 20041229; CA 2530626 C 20130716; CN 100536609 C 20090902; CN 1826838 A 20060830; DE 10328335 A1 20050120; DE 10328335 B4 20050721; DE 502004002688 D1 20070308; EP 1637012 A1 20060322; EP 1637012 B1 20070117; JP 2007507121 A 20070322; JP 4338733 B2 20091007; KR 100719816 B1 20070518; KR 20060019610 A 20060303; US 2006098830 A1 20060511; US 7684578 B2 20100323

DOCDB simple family (application)

EP 2004005824 W 20040528; AT 04739448 T 20040528; AU 2004250746 A 20040528; CA 2530626 A 20040528; CN 200480017481 A 20040528; DE 10328335 A 20030624; DE 502004002688 T 20040528; EP 04739448 A 20040528; JP 2006515803 A 20040528; KR 20057024630 A 20051222; US 30554605 A 20051216