

Title (en)  
METHOD AND DEVICE FOR CONTROLLING THE BASS REPRODUCTION OF AUDIO SIGNALS IN ELECTROACOUSTIC TRANSDUCERS

Title (de)  
VERFAHREN UND VORRICHTUNG ZUR STEUERUNG DER BASSWIEDERGABE VON AUDIOSIGNALEN IN ELEKTROAKUSTISCHEN WANDLERN

Title (fr)  
PROCEDE ET DISPOSITIF DE COMMANDE DE LA RESTITUTION DES BASSES DE SIGNAUX AUDIO DANS DES TRANSDUCTEURS ELECTROACOUSTIQUES

Publication  
**EP 1428411 B2 20111130 (DE)**

Application  
**EP 01980187 A 20010921**

Priority  
DE 0103653 W 20010921

Abstract (en)  
[origin: WO03028405A1] The aim of the invention is to control the bass reproduction of audio signals (AS) in electroacoustic transducers (EAW) based on the psychoacoustic principle denoted by the term "virtual pitch" or "residual hearing (hearing of missing fundamental)", in such a way that the perception of the virtual bass reproduction of the audio signals (AS) is improved in relation to prior art. To this end, the reproduction of the low-pitched frequencies or basses released in the electroacoustic transducer (EAW) is controlled by the amplification of the harmonic waves already contained in the audio signal (AS), in the form of a simulation, in such a way that the listener experiences or perceives an improved bass reproduction. The control or simulation can thus be carried out in both a digital manner (claim 1), by means of a programme module (PGM) in a digital signal processor (DSP) of an electronic appliance for outputting and/or reproducing audio signals (AS) using the electroacoustic transducer (EAW), and in an analog manner (claim 9), by means of a hardware circuit between a digital-analog transducer (DAW) and a final amplifier (EVS) of the electronic appliance (FG) for outputting and/or reproducing audio signals (AS) using the electroacoustic transducer (EAW).

IPC 8 full level  
**H04R 3/04** (2006.01)

CPC (source: EP US)  
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Citation (opposition)  
Opponent :

- WO 0014998 A1 20000316 - KONINKL PHILIPS ELECTRONICS NV [NL]
- DE 19928420 A1 20001228 - MICRONAS GMBH [DE]
- US 4182930 A 19800108 - BLACKMER DAVID E [US]

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