Title (en)
METHOD FOR SUPPRESSING SURROUNDING NOISE IN A HANDS-FREE DEVICE, AND HANDS-FREE DEVICE

Title (de)
VERFAHREN ZUR UNTERDRÜCKUNG VON UMGEBUNGSGERÄUSCHEN BEI EINER FREISPRECHEINRICHTUNG SOWIE FREISPRECHEINRICHTUNG

Title (fr)
PROCEDE PERMETTANT DE SUPPRIMER LES BRUITS D'ENVIRONNEMENT DANS UN DISPOSITIF MAINS LIBRES, ET DISPOSITIF MAINS LIBRES Y RELATIF

Publication
EP 1451813 B1 20110316 (DE)

Application
EP 02795098 A 20021204

Priority
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• EP 0213742 W 20021204

Abstract (en)
[origin: WO03049082A1] In order to suppress as much surrounding noise as possible in a hands-free device in a motor vehicle for example, two microphones (M1, M2) are arranged at a distance from each other. The output signals (MS1, MS2) of said microphones are added in an adder (AD) and subtracted in a subtracter (SU). The adder's (AD) cumulative signal (S) is Fourier transformed in a first Fourier transformer (F1), and the subtracter's (SU) differential signal (D) is Fourier transformed in a second Fourier transformer (F2). A speech pause detector (P) detects speech pauses from the two Fourier transformed R(f) and D(f) during which a third arithmetic unit (R) calculates the transfer function HT of an adaptable transformation filter (TF) from the spectral power density Srr of the cumulative signal (S) and the spectral power density SDD of the differential signal (D). The transfer function of a spectral subtraction filter (SF), at the inlet of which the cumulative signal's (S) Fourier transformed R(f) is located, is created from the spectral power density Srr of the cumulative signal (S) and the interference power density Snn generated by the adaptable transformation filter (TF). The outlet of the spectral subtraction filter (SF) is connected to the inlet of an inverse Fourier transformer (IF), at the outlet of which an audio signal (A) can be picked up in the time domain that is virtually free of surrounding noise.

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