

Title (en)

A HEARING AID WITH SIGNAL ENHANCEMENT

Title (de)

HÖRGERÄT MIT SIGNALERWEITERUNG

Title (fr)

PROTHÈSE AUDITIVE AVEC AMÉLIORATION DE SIGNAL

Publication

EP 3059979 B1 20200304 (EN)

Application

EP 16164585 A 20111230

Priority

- EP 16164585 A 20111230
- EP 11196247 A 20111230

Abstract (en)

[origin: EP2611215A1] A new binaural hearing aid system is provided that compensates for a hearing impaired user's loss of ability to understand speech in noise using a new method comprising the steps of providing at least one microphone audio signal (18, 20) in response to sound, and providing an estimate of one of a target signal and a noise signal (30) based on the at least one audio signal, phase shifting the estimate of one of the target signal (26) and the noise signal (30), and in which the phase shifted estimate of one of the target signal (26) and the noise signal (30) has substantially providing a phase shifted signal representing the at least one microphone audio signal substituted the respective original one of the target signal (26) and the noise signal (30), and transmitting a signal representing the phase shifted signal towards one of the eardrums of a user of the binaural hearing aid system (10), and transmitting a signal representing the at least one microphone audio signal towards the other one of the eardrums of the user.

IPC 8 full level

H04R 25/00 (2006.01)

CPC (source: EP)

H04R 25/552 (2013.01); **H04R 25/407** (2013.01); **H04R 2225/43** (2013.01)

Citation (opposition)

Opponent : Oticon A/S

- WO 2011006496 A1 20110120 - WIDEX AS [DK], et al
- WO 0203749 A2 20020110 - GN RESOUND CORP [US]
- EP 1879426 A2 20080116 - STARKEY LAB INC [US]
- US 2005141731 A1 20050630 - HAMALAINEN MATTI S [FI]
- US 7254199 B1 20070807 - DESLOGE JOSEPH G [US]
- WO 2007125132 A2 20071108 - PHONAK AG [CH], et al
- US 2010135500 A1 20100603 - DERLETH RALPH PETER [CH], et al
- US 6449586 B1 20020910 - HOSHUYAMA OSAMU [JP]
- LU ET AL.: "Binaural masking level differences in actual and simulated bilateral cochlear implant listeners", THE JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA, vol. 127, no. 3, March 2010 (2010-03-01), pages 1479 - 1490, XP012135290
- JOHANSSON ET AL.: "Binaural masking level difference for speech signals in noise", INTERNATIONAL JOURNAL OF AUDIOLOGY, vol. 41, August 2002 (2002-08-01), pages 279 - 284, XP055763026
- ELKO ET AL.: "A simple adaptive first-order differential microphone", PROCEEDINGS OF 1995 WORKSHOP ON APPLICATIONS OF SIGNAL PROCESSING TO AUDIO AND ACOUSTICS, 15 October 1995 (1995-10-15), XP000651966, ISBN: 0-7803-3064-1
- HERBORDT ET AL.: "Analysis Of Blocking Matrices For Generalized Sidelobe Cancellers For Non- Stationary Broadband Signals", 2002 IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS SPEECH AND SIGNAL PROCESSING, 1 May 2002 (2002-05-01), pages 4187 - 4187, XP055763027

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Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 2611215 A1 20130703; EP 2611215 B1 20160420; DK 2611215 T3 20160704; DK 3059979 T3 20200608; EP 3059979 A1 20160824; EP 3059979 B1 20200304

DOCDB simple family (application)

EP 11196247 A 20111230; DK 11196247 T 20111230; DK 16164585 T 20111230; EP 16164585 A 20111230