

Title (en)
Water resistant hearing aid

Title (de)
Wasserresistentes Hörgerät

Title (fr)
Appareil auditif résistant à l'eau

Publication
EP 2091269 B2 20141105 (DE)

Application
EP 09150491 A 20090114

Priority
• DE 102008009284 A 20080215
• US 2894608 P 20080215

Abstract (en)
[origin: EP2091269A2] The device (100) has an electric acoustics converter (110) receiving an acoustics wave and converting into an electric signal. Another electro acoustics converter (130) converts the signal into the wave. Electronic circuits (120, 140) and an electric energy source (150) i.e. battery, are sealed against fluid by plating and sealing. The electric acoustics converters e.g. flexural resonator, are designed from a material, which changes deformation into electric and/or magnetic field and/or electric current and/or electric voltage, and is insensitive against the fluid. The electro acoustics converters are selected from piezoelectric converters such as flexural resonator and thick oscillator.

IPC 8 full level
H04R 25/00 (2006.01); **H04R 15/00** (2006.01); **H04R 17/00** (2006.01); **H04R 17/02** (2006.01)

CPC (source: EP US)
H04R 25/60 (2013.01 - EP US); **H04R 15/00** (2013.01 - EP US); **H04R 17/005** (2013.01 - EP US); **H04R 17/025** (2013.01 - EP US); **H04R 25/604** (2013.01 - EP US); **H04R 25/609** (2019.04 - EP US); **H04R 25/65** (2013.01 - EP US); **H04R 2217/01** (2013.01 - EP US)

Citation (opposition)
Opponent :
• US 7123733 B1 20061017 - BOROWSKY HANS-DIETER [DE], et al
• US 5772575 A 19980630 - LESINSKI S GEORGE [US], et al
• US 4729366 A 19880308 - SCHAEFER DONALD W [US]
• X. ZHANG ET AL.: "Ferroelectrets with improved thermal stability made from fused fluorocarbon layers", JOURNAL OF APPLIED PHYSICS, vol. 101, 2007

Cited by
EP3214849A4

Designated contracting state (EPC)
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 SE SI SK TR

DOCDB simple family (publication)
EP 2091269 A2 20090819; **EP 2091269 A3 20110126**; **EP 2091269 B1 20110907**; **EP 2091269 B2 20141105**; AT E524025 T1 20110915; DE 102008009284 A1 20090827; DE 102008009284 B4 20091022; DK 2091269 T3 20111212; DK 2091269 T4 20150216; US 2009208045 A1 20090820; US 8144907 B2 20120327

DOCDB simple family (application)
EP 09150491 A 20090114; AT 09150491 T 20090114; DE 102008009284 A 20080215; DK 09150491 T 20090114; US 32262309 A 20090205