

Title (en)

Method and device for converting unipolar acoustic pulses into bipolar pulses

Title (de)

Verfahren and Einrichtung zur Wandlung von unipolaren akustischen Impulsen in bipolare Impulse

Title (fr)

Procédé et dispositif pour la conversion d'impulsions acoustiques unipolaires en impulsions bipolaires

Publication

EP 1347439 A3 20161012 (DE)

Application

EP 03006141 A 20030318

Priority

DE 10211886 A 20020318

Abstract (en)

[origin: EP1347439A2] Process for converting unipolar acoustic impulses or shock waves produced by suitable shock wave sources into bipolar acoustic impulses to produce inverse N-waves comprises reflecting the unipolar impulses/shock waves on a boundary layer medium (2) consisting of a material having a thickness that is greater than the signal length of the acoustic impulse and having an acoustic impedance which is distinctly different to the impedance of the propagation medium (4) and that of the adjoining medium. An Independent claim is also included for a device for carrying out the above process consisting of a therapy head with an electromagnetic shock wave source having a conventional reflector. Preferred Features: The boundary layer medium has a two-layered structure consisting of a thin rubber layer (9) and a thin aluminum layer, each 100 µm thick. An almost gas-filled intermediate chamber (10) is provided, e.g. a thin air layer or a medium with hollow chambers, e.g. fiber-like paper or porous foamed material.

IPC 8 full level

G10K 15/02 (2006.01); **A61B 17/225** (2006.01); **G10K 11/20** (2006.01); **G10K 15/04** (2006.01)

CPC (source: EP US)

G10K 11/205 (2013.01 - EP US); **G10K 15/02** (2013.01 - EP US); **G10K 15/04** (2013.01 - EP US)

Citation (search report)

- [AD] DD 7108 A
- [A] US 3656012 A 19720411 - DIXON NORMAN E
- [A] DE 2502818 A1 19750814 - TECHNICON INSTR
- [A] US 5099457 A 19920324 - GIANNOTTA JEAN-CLAUDE [FR], et al

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 PT RO SE SI SK TR

Designated extension state (EPC)

AL LT LV MK

DOCDB simple family (publication)

EP 1347439 A2 20030924; EP 1347439 A3 20161012; DE 10211886 A1 20031016; DE 10211886 B4 20040715; US 2003220592 A1 20031127

DOCDB simple family (application)

EP 03006141 A 20030318; DE 10211886 A 20020318; US 39233403 A 20030318