

Title (en)

LOW FREQUENCY ACTIVE ACOUSTIC ABSORBER BY ACOUSTIC VELOCITY CONTROL THROUGH POROUS RESISTIVE LAYERS

Title (de)

NIEDERFREQUENTER AKTIVER SCHALLABSORBER DURCH AKUSTISCHE GESCHWINDIGKEITSSTEUERUNG DURCH PORÖSE RESISTIVE SCHICHTEN

Title (fr)

ABSORBEUR ACOUSTIQUE ACTIF BASSE FRÉQUENCE PAR COMMANDE DE LA VITESSE ACOUSTIQUE À TRAVERS DES COUCHES RÉSISTIVES POREUSES

Publication

EP 3225038 B1 20180905 (EN)

Application

EP 15810768 A 20151123

Priority

- GB 201421213 A 20141128
- IB 2015059029 W 20151123

Abstract (en)

[origin: GB2532796A] A device for wide band low frequency absorption comprises at least one electroacoustic transducer 1, mounted on an acoustic baffle 2, separating a closed rear volume 3 and a front volume 4. The front volume is closed by an acoustic fabric 5 of determined acoustic air-flow resistance. A power amplification electronic 6 with feedback control 7 is configured to obtain a transducer membrane velocity proportional to an input voltage, coming from a microphone 8 located in front of the acoustic fabric on a side opposite from the front volume. The microphone is connected to a preamplifier 9 and a feedforward control 10, with adjustable gain and band-pass filter, taking a first pressure signal coming from the microphone preamplifier and driving the power amplifier input. The feedforward control gain is equal to where A_f is the fabric area, A_s the projected transducer membrane area, R the fabric air-flow resistance and G_1 the preamplifier gain, minimizing the acoustic pressure in the front volume, thus having a specific impedance, defined as pressure/velocity ratio, in front of the acoustic fabric equal to the determined air-flow resistance of the acoustic fabric.

IPC 8 full level

H04R 3/00 (2006.01); **H04R 29/00** (2006.01)

CPC (source: EP GB US)

G10K 11/16 (2013.01 - GB); **G10K 11/1781** (2017.12 - EP US); **G10K 11/17857** (2017.12 - EP US); **G10K 11/17861** (2017.12 - EP US); **G10K 11/17881** (2017.12 - EP US); **H04R 1/2869** (2013.01 - GB); **H04R 3/002** (2013.01 - EP GB US); **G10K 2210/12** (2013.01 - EP); **G10K 2210/3026** (2013.01 - EP); **G10K 2210/3027** (2013.01 - EP); **G10K 2210/3212** (2013.01 - EP); **H04R 29/001** (2013.01 - EP)

Cited by

FR3104860A1; WO2021122394A1

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)

GB 201421213 D0 20150114; **GB 2532796 A 20160601**; EP 3225038 A1 20171004; EP 3225038 B1 20180905; WO 2016083971 A1 20160602

DOCDB simple family (application)

GB 201421213 A 20141128; EP 15810768 A 20151123; IB 2015059029 W 20151123