

Title (en)  
PLANAR ELEMENT FOR THE ACTIVE COMPENSATION OF NOISE IN AN INTERIOR ROOM AND ANTI-NOISE MODULE THEREFOR

Title (de)  
FLÄCHIGES ELEMENT ZUR AKTIVEN KOMPENSATION VON STÖRSCHALL IN EINEM INNENRAUM SOWIE ANTISCHALLMODUL DAZU

Title (fr)  
ÉLÉMENT PLAN POUR LA COMPENSATION ACTIVE DE BRUITS PARASITES DANS UNE PIÈCE AINSI QUE MODULE ANTI-BRUIT ASSOCIÉ

Publication  
**EP 3510590 A1 20190717 (DE)**

Application  
**EP 17737722 A 20170614**

Priority  
• DE 102016007391 A 20160617  
• EP 2017064593 W 20170614

Abstract (en)  
[origin: WO2017216250A1] The invention relates to a planar element (24), which can be designed as a curtain for a window (13), as a partition or dividing wall, or as a ceiling part or wall part, for the active compensation of noise (14') from different directions (17') in an interior room. The planar element is equipped with anti-noise modules (12), each having a microphone and an electronic circuit having a combination of filters for adjusting phase and amplitude and an electronically controllable amplifier and a loudspeaker for active noise cancellation. As a special characteristic, the planar element (24) is equipped over the width thereof with a plurality of anti-noise modules (12) controllable in an analog manner on each of a plurality of different longitudinally extending lines and is to be placed, for example, in front of a window having bounding walls (13). Said anti-noise modules (12) are at most 50 mm thick, at most 150 mm long, and at most 100 mm wide and have a maximum weight of 200 grams per anti-noise module (12) such that said anti-noise modules can be inconspicuously integrated into the planar element (24) and jointly form longitudinally extending chains of anti-noise modules (12), the anti-noise modules of each chain being arranged in succession over electrical supply lines jointly connecting the anti-noise modules in the form of just two electrical cables extending along the longitudinally extending line. The chain, with the supply lines thereof, is connected in parallel by two electrical supply cables or supply rails, which are under low voltage and which extend transversely to the longitudinally extending lines of the chains. The loudspeakers emit a canceling sound (16') with respect to the noise (15'), which canceling sound first passes through the planar element (24) and subsequently largely cancels the noise.

IPC 8 full level  
**G10K 11/178** (2006.01)

CPC (source: EP US)  
**E04B 1/8209** (2013.01 - US); **E04B 9/001** (2013.01 - US); **G10K 11/17821** (2017.12 - EP US); **G10K 11/1783** (2017.12 - EP US); **G10K 11/17853** (2017.12 - US); **G10K 11/17857** (2017.12 - EP US); **G10K 11/1787** (2017.12 - EP US); **G10K 11/17873** (2017.12 - EP US); **G10K 2210/12** (2013.01 - EP US); **G10K 2210/3027** (2013.01 - EP US); **G10K 2210/3215** (2013.01 - EP US); **G10K 2210/3216** (2013.01 - US)

Citation (search report)  
See references of WO 2017216250A1

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

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**DE 102016007391 A1 20171221**; CN 109328379 A 20190212; EP 3510590 A1 20190717; EP 3510590 B1 20200909; JP 2019525223 A 20190905; US 10388266 B2 20190820; US 2019147846 A1 20190516; WO 2017216250 A1 20171221

DOCDB simple family (application)  
**DE 102016007391 A 20160617**; CN 201780037739 A 20170614; EP 17737722 A 20170614; EP 2017064593 W 20170614; JP 2018564742 A 20170614; US 201716310581 A 20170614