

Title (en)  
FLAT DIAPHRAGM LOUDSPEAKER

Title (de)  
FLACHMEMBRANLAUTSPRECHER

Title (fr)  
HAUT-PARLEUR À MEMBRANE PLATE

Publication  
**EP 2213106 A1 20100804 (DE)**

Application  
**EP 09752105 A 20091021**

Priority

- EP 2009007635 W 20091021
- EP 08075841 A 20081021
- EP 09752105 A 20091021

Abstract (en)  
[origin: EP2180721A1] The system has suspensions (3, 4) for symmetrically suspending a membrane (1) designed as a woofer membrane, where the membrane has a tweeter (5). The membrane has a thickness of more than 10 percentages of a diameter of the membrane, and the tweeter is arranged in an inner side of a magnet system, where 50 percentages of rearward main radiation of sound takes place through the inner side. An area of a corrugation of the membrane is formed through elastic foam material, where the membrane is made from aluminum, aramid fiber or Nomax (RTM: flame resistant meta-aramid material). The magnet system has magnets that are designed as samarium-cobalt magnets, cerium-cobalt magnets, aluminum-nickel-cobalt magnets, ferrite-magnets and neodymium-magnets.

IPC 8 full level  
**H04R 7/02** (2006.01); **H04R 7/20** (2006.01); **H04R 9/02** (2006.01)

CPC (source: EP US)  
**H04R 7/02** (2013.01 - EP US); **H04R 7/20** (2013.01 - EP US); **H04R 9/025** (2013.01 - EP US); **H04R 1/24** (2013.01 - EP US); **H04R 7/10** (2013.01 - EP US); **H04R 2231/003** (2013.01 - EP US); **H04R 2307/204** (2013.01 - EP US); **H04R 2307/207** (2013.01 - EP US)

Citation (search report)  
See references of WO 2010046132A1

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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 SM TR

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**EP 2180721 A1 20100428**; CN 102187688 A 20110914; EP 2213106 A1 20100804; EP 2213106 B1 20120815; RU 2011106827 A 20120827; RU 2523094 C2 20140720; US 2011299716 A1 20111208; US 8891810 B2 20141118; WO 2010046132 A1 20100429

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**EP 08075841 A 20081021**; CN 200980141770 A 20091021; EP 09752105 A 20091021; EP 2009007635 W 20091021; RU 2011106827 A 20091021; US 200913125140 A 20091021