

Title (en)  
Loudspeaker

Title (de)  
Lautsprecher

Title (fr)  
Haut-parleur

Publication  
**EP 0835040 A1 19980408 (EN)**

Application  
**EP 97118656 A 19930331**

Priority  
• EP 93906856 A 19930331  
• JP 2656692 U 19920331  
• JP 8815692 U 19921130

Abstract (en)  
Loudspeaker having a magnetic circuit with a repulsion magnetic field constituted by disposing two magnets (M1,M2) magnetized in the direction of thickness with the same polarities facing each other, and by sandwiching a center plate (P) made of magnetic material between the magnets, and a voice coil (1) which is disposed on the outer side of the center plate (P) in the repulsion magnetic field to drive a vibrating plate by the voice coil. The loudspeaker has a vibrating plate (2) made of some cone paper or a suspension (2) such as a damper disposed on the outer side of the voice coil.  
<IMAGE>

IPC 1-7  
**H04R 9/04**; **H04R 9/02**

IPC 8 full level  
**H04R 9/02** (2006.01); **H04R 9/04** (2006.01)

CPC (source: EP)  
**H04R 9/02** (2013.01); **H04R 9/046** (2013.01); **H04R 9/025** (2013.01)

Citation (search report)  
• [X] US 3201529 A 19650817 - SURH PHILIP C  
• [PX] EP 0531691 A2 19930317 - NOKIA DEUTSCHLAND GMBH [DE]  
• [A] DE 3730305 C1 19890323 - DAIMLER BENZ AG  
• [A] US 3351719 A 19671107 - HERBERT SCHOENGOLD  
• [A] PATENT ABSTRACTS OF JAPAN vol. 008, no. 281 (E - 286) 21 December 1984 (1984-12-21)

Cited by  
CN104038875A; GB2335821A; GB2335821B; US6269168B1; WO03092323A1

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**EP 0587910 A1 19940323**; **EP 0587910 A4 19950118**; DE 69332569 D1 20030123; DE 69332569 T2 20030821; DE 835040 T1 19980903; EP 0835040 A1 19980408; EP 0835040 B1 20021211; JP 2592066 Y2 19990317; JP H0593197 U 19931217; WO 9320666 A1 19931014

DOCDB simple family (application)  
**EP 93906856 A 19930331**; DE 69332569 T 19930331; DE 97118656 T 19930331; EP 97118656 A 19930331; JP 8815692 U 19921130; JP 9300401 W 19930331