

Title (en)  
Miniaturized loudspeakers

Title (de)  
Miniaturisierter Lautsprecher

Title (fr)  
Haut-parleur miniaturisé

Publication  
**EP 1414267 A3 20040616 (EN)**

Application  
**EP 03450226 A 20031007**

Priority  
AT 16072002 A 20021022

Abstract (en)  
[origin: EP1414267A2] The invention concerns a miniaturized loudspeaker that operates according to the electrodynamic principle, and particularly for incorporation in small devices, such as telephones, mobile phones, hands-free devices for telephones, headphones, or the like, with a membrane (3) and a moving coil (4) fastened to it, a membrane holder (5), a magnet system (2), and optionally a front cover (7) and/or a rear cover, as well as a digital amplifier. <??>The invention is characterized by the fact that the digital amplifier is arranged in the form of an integrated circuit (10) either on the magnet system (2) or on the membrane holder (5), or on the inside of the front cover (7) or the rear cover. <IMAGE>

IPC 1-7  
**H04R 9/00**; **H04R 9/06**

IPC 8 full level  
**H04R 1/02** (2006.01); **H04R 3/00** (2006.01); **H04R 9/06** (2006.01); **H04R 9/02** (2006.01)

CPC (source: EP KR)  
**H04R 9/06** (2013.01 - EP KR); **H04R 9/025** (2013.01 - EP)

Citation (search report)

- [X] US 6243472 B1 20010605 - BILAN FRANK ALBERT [US], et al
- [A] US 3499988 A 19700310 - WATANABE KAZUO, et al
- [A] US 6263084 B1 20010717 - CRESSMAN KARL W F [US], et al

Cited by  
CN104378722A; US9532145B2

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

DOCDB simple family (publication)  
**EP 1414267 A2 20040428**; **EP 1414267 A3 20040616**; JP 2004147320 A 20040520; KR 20040035556 A 20040429

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