

Title (en)  
Vehicle-mounted speaker apparatus

Title (de)  
Fahrzeugmontierter Lautsprecher

Title (fr)  
Haut-parleur monté dans un véhicule

Publication  
**EP 1657956 A3 20100714 (EN)**

Application  
**EP 05024714 A 20051111**

Priority  
JP 2004331049 A 20041115

Abstract (en)  
[origin: EP1657956A2] An assembly in which a tying band (42) is fixed to a network coil (41) is formed by placing the tying band (42) adjacent to the outer circumferential surface of the network coil (41) parallel with the longitudinal direction of the network coil (41) and heat-shrinking a heat-shrinkable tube (43) in which the tying band (42) and the network coil (41) are inserted, and the tying band (42) of the assembly is tied to a proper portion the speaker frame (33). The network coil (including both its ends) can be fixed to the speaker frame firmly. The heat-shrinkable tube (43) which surrounds the network coil prevents the network coil (41) from waterdrop.

IPC 8 full level  
**H04R 3/14** (2006.01); **H04R 9/02** (2006.01)

CPC (source: EP)  
**H04R 9/02** (2013.01); **H04R 3/14** (2013.01); **H04R 2201/34** (2013.01); **H04R 2400/11** (2013.01); **H04R 2499/13** (2013.01)

Citation (search report)

- [A] US 5625699 A 19970429 - YAMADA TERUHO [JP]
- [A] JP S5820098 A 19830205 - MITSUBISHI ELECTRIC CORP
- [A] JP H08223674 A 19960830 - MATSUSHITA ELECTRIC IND CO LTD

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA HR MK YU

DOCDB simple family (publication)  
**EP 1657956 A2 20060517**; **EP 1657956 A3 20100714**; **EP 1657956 B1 20110914**; JP 2006140957 A 20060601

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**EP 05024714 A 20051111**; JP 2004331049 A 20041115