

Title (en)
Transparent panel-form loudspeaker

Title (de)
Transparenter plattenförmiger Lautsprecher

Title (fr)
Haut-parleur transparent en forme de panneau

Publication
EP 1385354 A1 20040128 (EN)

Application
EP 02016360 A 20020725

Priority
EP 02016360 A 20020725

Abstract (en)
A transparent panel-form loudspeaker (10) consists of a transparent sound radiation panel (40) that can radiate sound with desired pressure level over a specific frequency range when subjected to the flexural vibration induced by a preselected number of transducers (50) located at specific positions on the peripheral edge of the transparent sound radiation panel (40) and a rigid frame (18) carrying a flexible suspension device (30) which supports the periphery of the transparent sound radiation panel (40). The transparent sound radiation panel (40) is made of a kind of transparent materials with the ratio (E/ρ) of elastic modulus to density in the range from 3 to 180 Gpa/(g/cm³) and the ratio (a/h) of length to thickness of the transparent sound radiation panel (40) in the range from 80 to 600. The flexible suspension device (30) supporting the periphery of the transparent sound radiation panel (40) is used to modify the vibrational characteristics of the transparent sound radiation panel (40) for an effective generation of the vibrational normal modes which are beneficial for sound radiation. The transducers (50) are situated at predetermined locations on the peripheral edge of the transparent sound radiation panel (40) so that relatively high radiation efficiency and more uniform spread of sound pressure level spectrum can be produced by the transparent sound radiation panel (40) over a desired operative acoustic frequency range.
<IMAGE>

IPC 1-7
H04R 7/04

IPC 8 full level
H04R 7/04 (2006.01)

CPC (source: EP)
H04R 7/045 (2013.01); **H04R 2499/15** (2013.01)

Citation (search report)
• [YX] EP 1083770 A2 20010314 - HARMAN AUDIO ELECTRONIC SYS [DE]
• [Y] EP 1170977 A1 20020109 - KAM TAI YAN [TW]
• [Y] WO 0002417 A1 20000113 - NEW TRANSDUCERS LTD [GB], et al
• [EL] US 2002118847 A1 20020829 - KAM TAI-YAN [TW]
• [A] WO 0035242 A2 20000615 - NEW TRANSDUCERS LTD [GB], et al
• [A] WO 9937121 A1 19990722 - NEW TRANSDUCERS LTD [GB], et al
• [A] WO 0105189 A2 20010118 - NEW TRANSDUCERS LTD [GB], et al

Cited by
EP1655994A3; DE102015002172A1; CN117135551A; US9749750B2; WO2008136822A3

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

DOCDB simple family (publication)
EP 1385354 A1 20040128

DOCDB simple family (application)
EP 02016360 A 20020725