

Title (en)  
HEADPHONE APPARATUS

Publication  
**EP 0448110 A3 19921202 (EN)**

Application  
**EP 91104475 A 19910321**

Priority  
JP 7381490 A 19900323

Abstract (en)  
[origin: EP0448110A2] An inner-ear type headphone apparatus includes a diaphragm (2), a driving portion (3), a case (1), a duct (19), and a sound-absorbing portion (20). The driving portion (3) drives the diaphragm (2). A diaphragm backside space (15a) is formed between the diaphragm (2) and the driving portion (3). The driving portion (3) is attached to the case (1). The duct (19) conducts the diaphragm backside space (15a) to the external space outside the case (1). The sound-absorbing portion (20) communicates with the duct (19). The sound-absorbing portion (20) absorbs sound of high frequency range emitted to the external space outside the case (1) through the duct (19). The amount of unpleasant high frequency range sound leaking outside is reduced. <IMAGE>

IPC 1-7  
**H04R 1/10**; **G10K 11/16**

IPC 8 full level  
**H04R 1/10** (2006.01); **H04R 1/22** (2006.01)

CPC (source: EP KR)  
**H04R 1/1016** (2013.01 - EP); **H04R 9/18** (2013.01 - KR); **H04R 1/2811** (2013.01 - EP)

Citation (search report)  
• [X] GB 2187361 A 19870903 - SONY CORP  
• [A] WO 8200543 A1 19820218 - MOTOROLA INC [US]  
• [Y] PATENT ABSTRACTS OF JAPAN vol. 10, no. 69 (E-389)(2126) 18 March 1986 & JP-A-60 218 998 ( MATSUSHITA DENKI SANGYO K.K. ) 1 November 1985  
• [Y] L.E. Kinsler et A.R. Frey, Fundamentals of Acoustics, 1962, Wiley & Sons, New York, chapter 8, Resonators and Filters, pag.186-216  
• [A] PATENT ABSTRACTS OF JAPAN vol. 14, no. 51 (E-881)30 January 1990  
• [A] PATENT ABSTRACTS OF JAPAN vol. 3, no. 74 (E-119)26 June 1979 & JP-A-54 051 817 ( SONY K.K. ) 24 April 1979

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