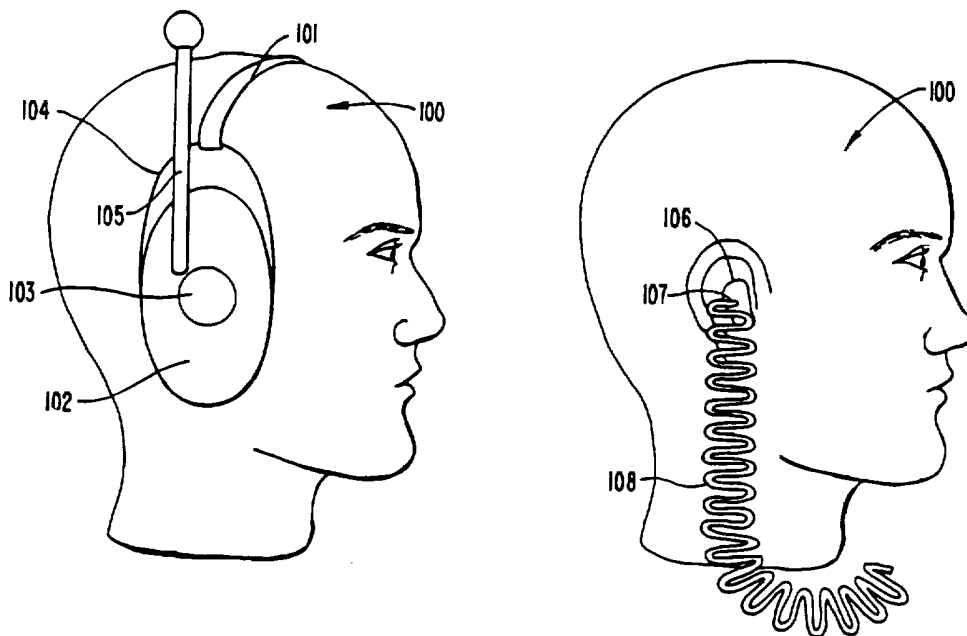




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>5</sup> : H04R 1/10, 1/46, A61F 11/06	A3	(11) International Publication Number: <b>WO 94/05231</b> (43) International Publication Date: 17 March 1994 (17.03.94)
<p>(21) International Application Number: PCT/US93/08154</p> <p>(22) International Filing Date: 30 August 1993 (30.08.93)</p> <p>(30) Priority data: 07/937,097 31 August 1992 (31.08.92) US</p> <p>(71) Applicant: THE GOVERNMENT OF THE UNITED STATES OF AMERICA, as represented by THE SECRETARY OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES [US/US]; Box OTT Bethesda, MD 20892 (US).</p> <p>(72) Inventor: FRANK, John, Robert ; 4101 Rowan Hills Drive, Cincinnati, OH 45227 (US).</p>	<p>(74) Agents: WEBER, Kenneth, A. et al.; Townsend and Townsend Khourie and Crew, Steuart Street Tower 20th Floor, One Market Plaza, San Francisco, CA 94105 (US).</p> <p>(81) Designated States: AU, CA, JP, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 18 August 1994 (18.08.94)</p>	

(54) Title: EAR BASED HEARING PROTECTOR/COMMUNICATION SYSTEM



## (57) Abstract

A combination hearing protector and communication device may be incorporated into a set of earmuffs or earplugs, meeting the needs of workers who must work in hazardous noise environments and who must be able to communicate with each other as well as with persons outside the hazardous noise environment. Each unit of the system has two channels, one to transmit speech and one to receive speech. While each wearer will have an independent transmission channel, all wearers can use the same receiving channel. The system is designed to be incorporated into earmuffs or earplugs in such a way that their noise-reducing characteristics are not diminished. The system incorporated into the earmuff is no more difficult to use than a conventional pair of noise-reducing earmuffs in that nothing additional need be fitted into or onto the ears. Likewise, the system incorporated into the earplugs is as easy to use as custom-molded noise-reducing earplugs which are corded to keep them together.

\* (Referred to in PCT Gazette No. 11/1994, Section II)

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## INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/US 93/08154

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 5 H04R1/10 H04R1/46 A61F11/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 5 H04R A61F H03H H04B G10L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO,A,89 12432 (SENSOR ELECTRONICS) 28 December 1989 see page 1, line 3-5 see page 2, line 23-35 see page 4, line 24 - page 5, line 33 see page 8, line 34 - page 12, line 10 ---	1-11, 13-20
A	US,A,4 052 559 (PAUL ET AL.) 4 October 1977 see column 1, line 10-14 see column 2, line 6-57 see column 3, line 14 - column 9, line 5 ---	1,16
A	US,A,5 072 200 (RANKY) 10 December 1991 see column 1, line 10-12 see column 3, line 19 - column 4, line 29 see column 5, line 4 - column 6, line 15 -----	12

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Patent family members are listed in annex.

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Date of the actual completion of the international search

28 June 1994

Date of mailing of the international search report

08.07.94

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/US 93/08154

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