Abstract: A system for monitoring sound pressure levels at the ear includes an ambient sound microphone (ASM) for receiving ambient sounds and an ear canal microphone (ECM) for producing audio signals as a function of ambient sound received at the ambient sound microphone and sound signal received from an associated personal audio device. A logic circuit is operatively associated with the ASM and ECM calculates a total SPL_Dose experienced by the ear at a time t. In one exemplary embodiment, the total SPL_Dose is calculated by determining SPL_Dose for periods Δt as measured at the ECM. The logic circuit then may then select an action parameter in response to the Total SPL_Dose.
(88) Date of publication of the international search report:
26 February 2009
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(B) - H04R 29/00 (2008.04)
   USPC - 381/60
   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)
   USPC: 381/60

   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
   USPC: 381/23.1, 56, 60, 312 (keyword limited - see search terms)

   Electronic database consulted during the international search (name of database and, where practicable, search terms used)
   PubMed (USPTO, PGIB, EPAB, JPAB); Google Patents; Google
   Search Terms Used: dual microphone; sound pressure level; ambient noise; ear canal; time; threshold value

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 2005/0232452 A1 (ARMSTRONG et al.) 20 October 2005 (20.10.2005), entire document, especially: para [0012], [0016], [0023], [0030], [0034], [0039]-[0043], [0048], [0051]-[0057]</td>
<td>1, 9, 11, 12</td>
</tr>
</tbody>
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☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
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Date of the actual completion of the international search
19 November 2008 (19.11.2008)

Date of mailing of the international search report
05 DEC 2008

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