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(54) Title: METHOD FOR REDUCING NOISE IN AN INPUT SIGNAL OF A HEARING DEVICE AS WELL AS A HEARING DEVICE

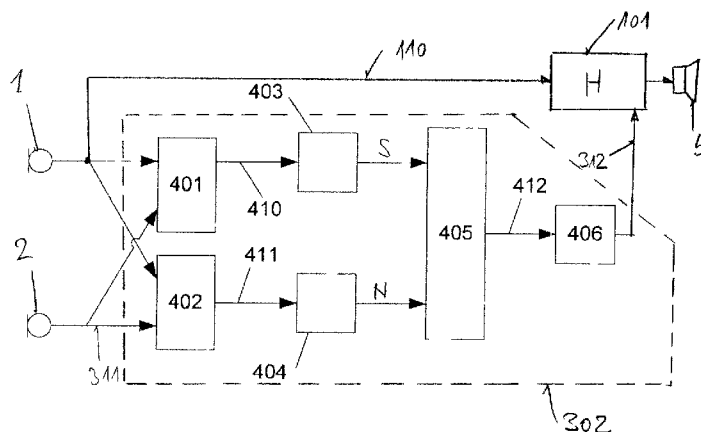


Fig 4

(57) Abstract: A method for reducing noise in an input signal (110) of a hearing device comprising a transfer function (H) as well as a hearing device is disclosed. The method comprises the steps of : - capturing first and second acoustic signals by first and second acoustic-electric converters (1, 2), - providing first and second input signals (110, 311) by the first and the second acoustic-electric converters (1, 2), - deriving an information signal (410) by using the first and the second input signals (110, 311), - deriving an information signal estimate (S) from the information signal (410), - deriving a noise signal (411) by using the first and the second input signals (110, 311), - deriving a noise signal estimate (N) from the noise signal (411), - generating instantaneous coefficients (412, 312) for the transfer function (H) by using the information signal estimate (S) and the noise signal estimate (N), - applying the transfer function (H) to the first input signal (110) or to a processed first input signal (410) generating an output signal (111), and - feeding the output signal (111) to an electro-acoustic converter (5) of the hearing device.

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**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. G10L21/02

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)  
GIOL

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)

EPO-Internal , WPI Data, INSPEC, COMPENDEX

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document with indication where appropriate of the relevant passages                                                                                                                                                                                                                                                                                                                                                                                                                                     | Relevant to claim No |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| A         | <p>MCCOWAN I A ET AL: "Robust speech recognition using near-field superdirective beamforming with post-filtering"</p> <p>ACOUSTICS, SPEECH, AND SIGNAL PROCESSING, 2000. ICASSP 00. PROCEEDING s. 2000 IEEE INTERNATIONAL CONFERENCE ON 5-9 JUNE 2000, PISCATAWAY, NJ, USA, IEEE, vol. 3, 5 June 2000 (2000-06-05), pages 1723-1726, XP010507691</p> <p>ISBN: 978-0-7803-6293-2</p> <p>abstract</p> <p>page 1724, paragraph [2.3 Post-filter]</p> <p>figure 2</p> <p style="text-align: center;">-----<br/>-/--</p> | 1-14                 |

☒ Further documents are listed in the continuation of Box C

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\* Special categories of cited documents

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|                                                                                                                                                                                  |                                                    |
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## C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| A         | <p>MEYER J ET AL: "Multi-channel speech enhancement in a car environment using Wiener filtering and spectral subtraction" ACOUSTICS, SPEECH, AND SIGNAL PROCESSING, 1997. ICASSP-97., 1997 IEEE INTERNATIONAL CONFERENCE ON MUNICH, GERMANY 21-24 APRIL 1997, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC US</p> <p>vol! 2,'21 April 1997 (1997-04-21), pages 1167-1170, XP010226007</p> <p>ISBN: 978-0-8186-7919-3</p> <p>abstract</p> <p>pages 1168-1169, paragraph [3. Algorithm]</p> <p>figure 3</p> <p>-----</p>                    | 1,8                   |
| A         | <p>LEUKIMMIATIS STAMATIS ET AL: "An optimum microphone array post-filter for speech applications" INTERSPEECH INTL. CONF. SPOKEN LANG. PROC, INTERSPEECH ICSLP; INTERSPEECH 2006 AND 9TH INTERNATIONAL CONFERENCE ON SPOKEN LANGUAGE PROCESSING, INTERSPEECH 2006 - ICSLP; INTERSPEECH 2006 AND 9TH INTERNATIONAL CONFERENCE ON SPOKEN LANGUAGE PROCESSING,,</p> <p>vol. 5, 2006, pages 2142-2145, XP002489289</p> <p>abstract</p> <p>pages 2143-2144, par. [3.2. Proposed Generalized Post-Filter]</p> <p>figure 1</p> <p>-----</p> | 1,8                   |