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**Datasheet for the decision
of 2 July 2012**

Case Number: T 1957/08 - 3.2.02

Application Number: 96944266.4

Publication Number: 957764

IPC: A61B 5/12, G01H 15/00

Language of the proceedings: EN

Title of invention:
System and method for measuring acoustic reflectance

Applicant:
University of Washington

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 108
EPC R. 99(2), 101(1), 137(3)

Keyword:
"Admissibility of appeal: no"

Decisions cited:
T 0003/90

Catchword:
-



Case Number: T 1957/08 - 3.2.02

D E C I S I O N
of the Technical Board of Appeal 3.2.02
of 2 July 2012

Appellant:
(Applicant)

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Representative:

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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 2 May 2008
refusing European patent application
No. 96944266.4 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: E. Dufrasne
Members: C. Körber
P. Weber

Summary of Facts and Submissions

- I. On 2 May 2008 the Examining Division posted its decision to refuse European patent application No. 96944266.4. The applicant's main request and auxiliary requests II to IV were not admitted under Rule 137(3) EPC. Auxiliary request I was not allowed for lack of novelty under Article 54(3) EPC 1973 of the subject-matter of claim 5 vis-à-vis document D3 and for lack of inventive step under Article 56 EPC of the subject-matter of claim 5 in view of D1 and general knowledge.
- II. An appeal was lodged against this decision by the applicant by notice received on 9 July 2008, with the appeal fee being paid on the same day. The statement setting out the grounds of appeal was received on 11 September 2008.
- III. By communication of 31 January 2012, the Board summoned to oral proceedings to be held on 4 May 2012 and forwarded its provisional opinion to the appellant. Inter alia, the Board raised objections regarding the admissibility of the appeal.
- IV. With letter of 24 February 2012 the appellant indicated that it would not attend the oral proceedings.
- V. With notice of 2 May 2012 the appellant was informed that the oral proceedings were cancelled.
- VI. The appellant requested that the impugned decision be set aside and that a patent be granted on the basis of the set of claims filed with the appeal as main request or one of the 1st to 4th auxiliary requests.

VII. Independent claim 5 of the **main request** reads as follows:

"5. A method for the measurement of a reflectance of the ear the method comprising:

- positioning a probe assembly (50) in the ear;
- generating an electrical input signal to an acoustic source (24) within said probe assembly (50) to produce an acoustic stimulus (26) in response to said electrical input signal (18);
- receiving a detected measurement electrical signal (34) when said probe assembly (50) is positioned in the ear;
- varying static pressure in the ear in a controlled fashion;
- calculating a transfer function of the ear as a function of said static pressure;
- estimating an ear canal area; and
- receiving said transfer function and said ear canal area estimate and calculating therefrom the reflectance of the ear as a function of said static pressure."

Claim 1 of the main request corresponds to claim 5 in terms of apparatus features. Claims 2 to 4 and 6 to 8 are dependent claims.

Independent claim 1 of the **1st auxiliary request** reads as follows:

"1. A system for the measurement of a reflectance of the ear, the system comprising:

- multiple acoustic calibration waveguides (60), each having known acoustic transfer characteristics,

predetermined dimensions and first and second ends, with the first end (62) being open, and being terminated by an acoustic termination having known acoustic transfer characteristics to define a calibration waveguide model;

- a probe assembly (50) positionable in the ear and in the first open end (62) of the calibration waveguides (60);
- an acoustic source (24) within said probe assembly to produce an acoustic stimulus (26) in response to an electrical input signal (18);
- an acoustic energy detector (30) within said probe assembly (50) to detect acoustic energy signals (32) and convert said detected acoustic energy signals (32) to detected electrical signals (34);
- a stimulus signal generator (12) coupled to said acoustic source (24) to generate said electrical input signal (18) when said probe assembly (50) is positioned in the ear and when said probe assembly (50) is positioned in the first end (62) of the acoustic calibration waveguides (60);
- a pump (68) coupled to said probe assembly (50) to control static pressure in the ear;
- a signal processor (12) receiving a detected measurement electrical signal (38) when said probe assembly (50) is positioned in the ear, and a set of detected calibration electrical signals (38) when said probe assembly (50) is positioned in the calibration waveguides (60), wherein in at least one of the plurality of acoustic calibration waveguides the detected calibration electrical signal comprises an incident signal that is separable from a first reflected signal, said signal processor (12) being adapted to calculating a transfer function of the ear

based on a weighted average of the set of detected calibration electrical signals, the detected measurement electrical signal, and the calibration waveguide model as a function of said static pressure;

- a storage area (15) containing an estimate of an ear canal area; and
- a computer processor (12) receiving said transfer function and said ear canal estimate from said storage area, said computer processor (12) being adapted for calculating the reflectance of the ear as a function of said static pressure."

Claim 5 of the 1st auxiliary request corresponds to claim 1 in terms of method features. Claims 2 to 4 and 6 to 10 are dependent claims.

Independent claim 1 of the **2nd auxiliary request** reads as follows:

"1. A system for the measurement of a reflectance of the ear, the system comprising:

- at least three acoustic calibration waveguides (60), each having known acoustic transfer characteristics, predetermined dimensions and first and second ends, with the first end (62) being open, and being terminated by an acoustic termination having known acoustic transfer characteristics to define a calibration waveguide model;
- a probe assembly (50) positionable in the ear and in the first open end (62) of the at least three calibration waveguides (60);
- an acoustic source (24) within said probe assembly to produce an acoustic stimulus (26) in response to an electrical input signal (18);

- an acoustic energy detector (30) within said probe assembly (50) to detect acoustic energy signals (32) and convert said detected acoustic energy signals (32) to detected electrical signals (34);
- a stimulus signal generator (12) coupled to said acoustic source (24) to generate said electrical input signal (18) when said probe assembly (50) is positioned in the ear and when said probe assembly (50) is positioned in the first end (62) of the at least three acoustic calibration waveguides (60);
- a pump (68) coupled to said probe assembly (50) to control static pressure in the ear;
- a signal processor (12) receiving a detected measurement electrical signal (38) when said probe assembly (50) is positioned in the ear, and receiving detected calibration electrical signals (38) when said probe assembly (50) is positioned in the calibration waveguides (60), said signal processor (12) being adapted to determining measurement system parameters using an overdetermined set of matrix equations containing matrix elements that are functions of
 - o the set of detected calibration electrical signals when the probe assembly is positioned in each of the acoustic calibrations waveguides,
 - o a prediction model of a predicted linear response for each of the acoustic calibration waveguides based on the calibration waveguide model for each of the acoustic calibration waveguides, and
 - o a weighted average of functions of the set of detected calibration electrical signals from the acoustic calibration waveguides;
- and the signal processor being adapted to calculating a transfer function of the ear based on the detected measurement electrical signal and the measurement

system parameters as a function of said static pressure;

- a storage area (15) containing an estimate of an ear canal area; and
- a computer processor (12) receiving said transfer function and said ear canal estimate from said storage area, said computer processor (12) being adapted for calculating the reflectance of the ear as a function of said static pressure."

Claim 5 of the 2nd auxiliary request corresponds to claim 1 in terms of method features. Claims 2 to 4 and 6 to 10 are dependent claims.

Claim 1 of the **3rd auxiliary request** corresponds to claim 5 of the 1st auxiliary request. Claims 2 to 6 are dependent claims.

Claim 1 of the **4th auxiliary request** corresponds to claim 5 of the 2nd auxiliary request. Claims 2 to 6 are dependent claims.

VIII. The following documents are referred to in this decision:

D1: D.H. Keefe et al.: "Method to measure acoustic impedance and reflection coefficient", Journal of the Acoustical Society of America; Vol. 91(1), January 1992, pages 470-485

D2: US-A-4 289 143

D3: WO-A-95/33405

D4: D.H. Keefe and E. Levi: "Maturation of the middle and external ears: acoustic power-based responses and reflectance tympanometry", Ear and Hearing, Volume 17(5), October 1996, pages 361-373.

IX. The appellant's arguments are summarised as follows:

The subject-matter of claims 1 and 5 of the main request was novel in view of documents D2 and D3 and not obvious to the skilled person when starting from D2. The subject-matter of claims 1 and 5 of the 1st and 2nd auxiliary requests was novel and inventive in view of D3. The same applied to claim 1 of the 3rd and 4th auxiliary requests which corresponded to claim 5 of the first and second auxiliary requests, respectively.

Reasons for the Decision

1. According to the established case law of the Boards of Appeal (T 3/90, OJ EPO 1992, 737, and "Case Law of the Boards of Appeal of the EPO", 6th ed. (2010), VI.C.2.2) the appellant's statement in its letter of 24 February 2012 that it would not be represented at the oral proceedings is to be treated as equivalent to a withdrawal of the request for oral proceedings. Therefore, the Board cancelled the oral proceedings and decided to continue the proceedings in writing and to issue a decision based on the written proceedings.
2. In the statement of grounds of appeal, the appellant does not challenge the Examining Division's decision not to admit its main request and auxiliary requests II to IV under Rule 137(3) EPC (point 1 of the Reasons of

the impugned decision). Moreover, none of the independent claims of the sets of claims filed with the appeal as main request or 1st to 4th auxiliary request correspond to those comprised in the sets of claims not admitted in the first instance proceedings.

Accordingly, it must be concluded that the appellant does not challenge this part of the decision either directly or indirectly.

The Board sees no reason to overrule this part of the decision either.

It follows that the appeal is only about auxiliary request I which was admitted into the first instance proceedings, but was not allowed for two reasons, namely lack of novelty under Article 54(3) EPC 1973 of the subject-matter of claim 5 vis-à-vis document D3 (point 2.1 of the Reasons of the impugned decision) and lack of inventive step under Article 56 EPC of the subject-matter of claim 5 in view of D1 and general knowledge (point 2.2 of the Reasons).

Article 108, third sentence, EPC provides that "[w]ithin four months of notification of the decision, a statement setting out the grounds of appeal shall be filed in accordance with the Implementing Regulations". Pursuant to Rule 99(2) EPC, "[i]n the statement of grounds of appeal the appellant shall indicate the reasons for setting aside the decision impugned, or the extent to which it is to be amended, and the facts and evidence on which the appeal is based".

According to the established case law of the Boards of Appeal, the grounds of appeal should specify the legal or factual reasons on which the case for setting aside the decision is based. If the appellant submits that the decision under appeal is incorrect, the statement setting out the grounds of appeal must enable the Board to understand immediately why the decision is alleged to be incorrect and on what facts the appellant bases its arguments, without first having to make investigations of its own ("Case Law of the Boards of Appeal of the EPO", 6th ed. (2010), VII.E.7.6.1).

In the present case, the admissibility of the appeal therefore depends on whether the appellant's letter of 11 September 2008, together with the five sets of claims filed with the notice of appeal of 9 July 2008, can be regarded as a valid statement of grounds of appeal.

Accordingly, it would have to be apparent from the arguments presented in the statement of grounds and/or from the newly filed amended claims that the reasons for refusal based on lack of novelty vis-à-vis D3 (Article 54(3) EPC 1973) and lack of inventive step starting from D1 (Article 56 EPC) are addressed, or that at least the amended claims clearly overcome them, thus depriving this part of the decision of its basis by amendment. The Board is of the opinion that these requirements are not met in the present case for the following reasons.

2.1 Main request

2.1.1 Whilst the statement of grounds of appeal deals with the issue of inventive step starting from D2 or D3, it is entirely silent with respect to document D1, which was regarded as closest prior art in the impugned decision (point 2.2 of the Reasons). The statement is further devoid of any explanation why D1 should possibly not be regarded as closest prior art. Accordingly, the Board is not able to understand immediately why this part of the decision, i.e. lack of inventive step starting from D1, is contested or even alleged to be incorrect.

Claim 5 of the present main request corresponds to claim 62 as originally filed. Claim 5 of the refused auxiliary request I comprised the additional steps of **providing a plurality of acoustic calibration waveguides, each having known acoustic transfer characteristics, predetermined dimensions and first and second ends, the first end being open, and receiving and processing** detected **calibration** electrical signals to determine measurement system parameters when said probe assembly **is positioned in the plurality [of] acoustic calibration waveguides**. Accordingly, the subject-matter of claim 5 of the present main request is broader than that of claim 5 of the refused auxiliary request I.

Therefore, the above-mentioned reasons of the impugned decision for refusing the former auxiliary request I a fortiori apply to the present main request. However, as mentioned above, the objection of lack of inventive step of the subject-matter of claim 5 in view of D1 and

general knowledge raised in point 2.2 of the Reasons of the impugned decision has not been dealt with in the statement of grounds of appeal. Also, it cannot be seen how a thus amended, i.e. broadened, claim would clearly overcome this objection, thus depriving this part of the decision of its basis by amendment.

- 2.1.2 In point 1.1 of the statement of grounds of appeal it is stated that calculating the reflectance of the ear as a function of the static pressure of the ear based on an estimate of the cross-sectional ear-canal area and the storage of this estimate in the system represents a "distinguishing feature" over document D3, rendering claim 5 novel in view of D3.

In the impugned decision (point 2.1 of the Reasons), however, it is said that document D3 "discloses a method for calculating the reflectance of the ear as a function of the static pressure (cf in D3, page 24, lines 3-17; page 7, lines 26-35) from a calculated transfer function (ear-canal impedance Z) and an estimate of the ear canal area (cf page 27, lines 26-35), the transfer function of the ear being calculated using a plurality of calibration waveguides (cf page 25, line 35 to page 26, line 14)". The Board sees no reason to disagree with this detailed and well-reasoned analysis of the teaching of D3. The appellant's above-mentioned brief assertion in point 1.1, on the other hand, again does not enable the Board to understand immediately why this part of the decision, i.e. lack of novelty vis-à-vis D3, in particular with respect to the above-mentioned "distinguishing feature", is alleged to be incorrect.

Also, the broadened wording of the claim is clearly unsuited to overcome this objection.

2.1.3 Additionally, as indicated in the statement of grounds of appeal, claim 5 of the present main request corresponds to claim 5 introduced into the first instance proceedings with letter of 18 April 2005. In point 3 of its communication of 13 July 2006, the Examining Division had raised an objection of lack of novelty under Article 54 EPC vis-à-vis D4 against that claim (this is also mentioned in point X of the impugned decision). This objection was also not addressed in the statement setting out the grounds of appeal. No reasoning has been presented by the appellant in this respect either.

2.2 Auxiliary requests

The above-mentioned lack of reasoning regarding obviousness starting from D1 as closest prior art and lack of novelty vis-à-vis D4 also applies to the 1st to 4th auxiliary requests. The only document discussed in the statement of grounds of appeal with respect to all of these requests is D3. However, D3 was only cited as novelty-destroying under Article 54(3) EPC 1973 in the impugned decision, but not with respect to inventive step. With regard to obviousness starting from the pre-published document D1, the part of the statement dealing with these requests is again entirely silent. The issue of novelty vis-à-vis D4 is also not addressed at all.

The Board is also not able to see how the amended claims of these requests would overcome the objection

raised in point 2.2 of the Reasons of the impugned decision, thus depriving this part of the decision of its basis by amendment.

On the contrary, as mentioned in the Board's communication, the independent claims of these requests are the result of an extensive rewording of originally filed claims 47 and 65. As indicated by the appellant itself, the claims comprise numerous additional features taken from various - not necessarily related - parts of the description. Such a patchwork of features would require an extensive re-examination of the case from scratch, which is not the purpose of appeal proceedings. Furthermore, it is not even clear whether the subject-matter now claimed was covered by the search report.

- 2.3 From the above it follows that the statement of grounds of appeal fails to specify the legal or factual reasons on which the case for setting aside the decision is based and does not enable the Board to understand immediately why the impugned decision is incorrect with respect to any of the requests dealt with therein. Under these circumstances, the appeal is to be rejected as inadmissible pursuant to Rule 101(1) EPC.

Order

For these reasons it is decided that:

The appeal is rejected as inadmissible.

The Registrar:

The Chairman:

D. Hampe

E. Dufrasne