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**Datasheet for the decision
of 2 December 2020**

Case Number: T 0952/16 - 3.5.03

Application Number: 07821154.7

Publication Number: 2082615

IPC: H04R25/00

Language of the proceedings: EN

Title of invention:

Hearing aid having an occlusion reduction unit, and method for occlusion reduction

Patent Proprietor:

Sivantos GmbH

Opponents:

Oticon A/S / GN ReSound A/S

Headword:

Hearing aid with occlusion reduction II/SIVANTOS

Relevant legal provisions:

EPC Art. 123(2), 84

RPBA 2020 Art. 12(8)

Keyword:

Decision in written proceedings: cancellation of oral proceedings following respondent's announcement of non-attendance

Added subject-matter - all requests (yes): unallowable intermediate generalisation

Clarity - auxiliary request 7 (no)

Decisions cited:

T 0003/90



Beschwerdekammern

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Case Number: T 0952/16 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 2 December 2020

Appellants: Oticon A/S / GN ReSound A/S
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Representative: Aera A/S
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Respondent: Sivantos GmbH
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 18 February 2016 rejecting the opposition filed against European patent No. 2082615 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chair K. Bengi-Akyürek
Members: T. Snell
R. Romandini

Summary of Facts and Submissions

- I. This case concerns the appeal of three joint opponents (henceforth, "appellant") against the decision of the opposition division rejecting the opposition. The opponents invoked the grounds for opposition pursuant to Articles 100(a), (b) and (c) EPC.
- II. The appellant requests that the decision under appeal be set aside and that the patent be revoked.
- III. The patent proprietor (henceforth, "respondent") requests that the appeal be dismissed (**main request**), or, alternatively, that the patent be maintained in amended form on the basis of one of **auxiliary requests 1 to 7** submitted with the reply to the statement of grounds of appeal.
- IV. One of the three joint opponents ("Widex A/S") has withdrawn their opposition (cf. their letter dated 14 March 2019) and is therefore no longer a party to these proceedings.
- V. Both parties conditionally requested oral proceedings.
- VI. The board summoned the parties to oral proceedings. In a preliminary opinion under Article 15(1) RPBA 2020, the board raised objections of non-compliance with Articles 123(2) and 56 EPC with respect to claim 1 of the main request.
- VII. With a submission dated 16 November 2020, the respondent indicated that they intended to let the patent lapse by dint of non-payment of renewal fees in all states where the patent was valid. They also stated

that they did not intend to attend the oral proceedings, and withdrew their conditional request for oral proceedings. No comments regarding the substantive issues were submitted.

VIII. Oral proceedings before the board were then cancelled.

IX. Claim 1 as granted (claim 1 of the **main request**) reads as follows:

"A method for reduction of occlusion effects in an acoustic appliance (1) which closes an auditory channel,

wherein an audio signal (S) in a transmission path of the acoustic appliance (1) is processed by a signal processing unit (DSP) in order to compensate for an individual hearing loss and is emitted via an output transducer (R), which is arranged in the auditory channel, as an acoustic signal,

wherein a sound signal (Y) is detected by an auditory channel microphone (M) and is supplied to a variable loop filter (B) which is arranged in a feedback loop of an occlusion reduction unit (10) of the appliance (1),

wherein an output signal (T) from the loop filter (B) is injected into the transmission path of the audio signal (S) via a combiner, and

wherein the audio signal (S) passes through a variable compensation filter (C), which follows the signal processing unit (DSP) in the transmission path before the combiner,

characterized in that the loop filter (B) is controlled with the aid of signals from the signal processing unit (DSP) with the effect of the occlusion reduction unit (10) being entirely eliminated when there is no signal apart from microphone noise, wherein the compensation filter (C) is also controlled with the aid of the signals from the signal processing unit (DSP)."

X. Claim 1 of **auxiliary request 7** reads as follows:

"A method for reduction of occlusion effects in a hearing aid (1) which closes an auditory channel,

wherein an audio signal (S) in a transmission path of the hearing aid (1) is processed by a signal processing unit (DSP) in order to compensate for an individual hearing loss and is emitted via an output transducer (R), which is arranged in the auditory channel, as an acoustic signal,

wherein a sound signal (Y) is detected by an auditory channel microphone (M) and is supplied to a variable loop filter (B) which is arranged in a feedback loop of an occlusion reduction unit (10) of the hearing aid (1),

wherein an output signal (T) from the loop filter (B) is injected into the transmission path of the audio signal (S) via a combiner, and

wherein the audio signal (S) passes through a variable compensation filter (C), which follows the signal processing unit (DSP) in the transmission path before the combiner,

characterized in that the loop filter (B) and the compensation filter (C) are controlled with the aid of signals from the signal processing unit (DSP) with the effect of the occlusion reduction unit (10) being entirely eliminated when the gain of the audio signal (S) along its transmission path is set to be relatively low, and there is no useful signal being applied to two signal inputs of the hearing aid (1), that is to say the signal input of the signal processing unit (DSP) and the signal input of the loop filter (B), apart from microphone noise."

Reasons for the Decision

1. Decision in written proceedings

Where oral proceedings are appointed upon a party's request and that party subsequently expresses its intention not to attend (cf. point VII above), such statement is generally considered to be equivalent to a withdrawal of the request for oral proceedings (see e.g. T 3/90, OJ 1992, 737, Reasons, point 1).

As, moreover, the board did not consider holding oral proceedings to be expedient or necessary (cf. Article 116(1) EPC), the arranged oral proceedings before the board were cancelled and a decision handed down in written proceedings (Article 12(8) RPBA 2020).

2. Technical context

2.1 The present patent concerns an acoustic appliance such as a hearing aid with an "occlusion reduction unit" for reducing "occlusion effects". Occlusion effects cause

the perception of the wearer's own voice to be louder and more distorted than normal.

2.2 Claim 1 relates to Figure 5 of the patent. As shown in Figure 5 and reflected in the wording of claim 1, filters B and C in the occlusion reduction unit are controlled with the aid of signals from a digital signal processing unit (DSP). In particular, in accordance with the characterising part of claim 1 as granted, "the loop filter (B) is controlled with the aid of signals from the signal processing unit (DSP) with the effect of the occlusion reduction unit (10) being entirely eliminated when there is no signal apart from microphone noise ...".

3. *Main request (patent as granted) - claim 1 - Articles 100(c) and 123(2) EPC*

3.1 The standard test for compliance with Article 123(2) EPC is that amendments must be directly and unambiguously derivable from the application documents as filed, taking account of features which are implicit based on common general knowledge ("gold standard").

3.2 The only basis for the feature "the effect of the occlusion reduction unit being entirely eliminated when there is no signal apart from microphone noise" can be found in the description as originally filed on page 21, lines 10-12. This passage reads:

"In this case, the effect of the occlusion reduction circuit 10 can sensibly be considerably reduced, or entirely eliminated" (board's underlining).

The above passage refers specifically ("In this case") to the previous sentence which states:

"This is the case in particular when [(a)] the appliance gain, that is to say the gain of the audio signal S along its transmission path, is set to be relatively low, and [(b)] there is no useful signal being applied to the two signal inputs, apart from themicrophone noise" (board's labelling and underlining; NB: the term "useful signal" in sub-feature (b) is interpreted as any audio signal, but in particular the audio signal S and/or the audio signal picked up by the microphone M, these plausibly being the "two signal inputs").

- 3.3 However, claim 1 of the main request represents an intermediate generalisation of the embodiment disclosed in this passage. In accordance with the case law of the Boards of Appeal, intermediate generalisations may be allowable only where there is no functional and/or structural relationship between the features of the claim and other features presented in the underlying description as part of the same embodiment.
- 3.4 Albeit that it is ambiguous which "two signal inputs" are actually meant in sub-feature (b) (cf. point 4.3 below), there clearly is a functional and/or structural relationship between sub-features (a) and (b) and the above claimed feature according to which the effect of the occlusion reduction unit is entirely eliminated when there is no signal apart from microphone noise. Consequently, claim 1 concerns an *unallowable intermediate generalisation*, contrary to Article 123(2) EPC.

3.5 In the impugned decision, the opposition division commented on this objection as follows (cf. point 1.1.1.3):

"When incorporating the wording 'when there is no signal apart from microphone noise' from p. 21, l. 9 into the claim, the part of the sentence on p. 21, l. 6-8 has been omitted, although this part is connected to the wording of line 9 with the word 'and'.

The division is, however, of the opinion that the sentence in lines 6-10 discusses two circumstances as referred to in lines 5-6: a case in which the gain of the audio signal S is low and a case in which there is only microphone noise."

3.6 The board does not agree with the opposition division that the sentence in lines 6-10 discusses two circumstances, i.e. alternatives, since if this were the case, the next sentence would logically read "In these cases ..." instead of "In this case ...".

3.7 The opposition division then comments as follows:

"The incorporation of the latter case in the claims via the wording 'when there is no signal apart from microphone noise' actually implies for the skilled person that the gain of the audio signal will be low, since it would make no sense to provide a high gain in a hearing aid in case there is only microphone noise. As such, the omission of the part on p. 21, l. 6-8 does not result in subject matter that goes beyond the original disclosure."

- 3.8 The board does not agree with this analysis either, since whether or not providing a high gain makes no sense here is a question related to obviousness, i.e. inventive step, rather than meaning that it is implicit to not do so. Even taking the skilled person's common general knowledge into account, it is not *inherent or forcibly required* that the gain of the audio signal S along its transmission path, e.g. the gain of filter C, be set relatively low when there is no useful signal applied to the signal inputs.
- 3.9 The board concludes that claim 1 does not comply with Article 123(2) EPC.
4. *Auxiliary requests 1 to 7 - claim 1 - Articles 123(2) and 84 EPC*
- 4.1 Claim 1 of each auxiliary request on file includes successively more features taken from the passage on page 21, lines 4-25 of the application as filed, clearly in an attempt to overcome any objection related to Article 123(2) EPC.
- 4.2 However, only claim 1 of auxiliary request 7 includes sub-features (a) and (b) in full (see point 3.2 above). Claim 1 respectively of each of **auxiliary requests 1 to 6** therefore, *prima facie*, concerns an intermediate generalisation and hence does not comply with Article 123(2) EPC.
- 4.3 As regards claim 1 of **auxiliary request 7**, it is however not directly and unambiguously derivable from the original disclosure that "the two signal inputs" referred to on page 21, line 9 refer to "the signal input of the signal processing unit (DSP) and the signal input of the loop filter (B)", as now claimed.

For example, the inputs to the filters B and C could be meant.

- 4.4 Furthermore, claim 1 of **auxiliary request 7** is not clear within the meaning of Article 84 EPC with respect to the following feature:

"when the gain of the audio signal (S) set along its transmission path is set to be relatively low",

as the term "relatively low" is of unclear scope.

5. *Conclusion*

As there is no allowable claim request, it follows that the opposed patent must be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chair:



B. Brückner

K. Bengi-Akyürek

Decision electronically authenticated