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**Datasheet for the decision
of 23 August 2016**

Case Number: T 2018/12 - 3.5.03

Application Number: 05777947.2

Publication Number: 1795041

IPC: H04R1/40, A61F11/14, G10K11/178

Language of the proceedings: EN

Title of invention:
Apparatus and method for sound enhancement

Applicant:
Sensear Pty Ltd

Headword:
Hearing protector/SENSEAR

Relevant legal provisions:
EPC Art. 56
RPBA Art. 12(4)

Keyword:
Inventive step (main and 5th auxiliary requests) - no
Admissibility (1st-4th, 6th and 7th auxiliary requests) - no

Decisions cited:

T 0606/89, T 0273/92, T 0506/95, T 0834/91, T 0380/93,
T 0824/05

Catchword:



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Case Number: T 2018/12 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 23 August 2016

Appellant: Sensear Pty Ltd
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Representative: Archer, Graham John
Urquhart-Dykes & Lord LLP
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 17 April 2012 refusing European patent application No. 05777947.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman F. van der Voort
Members: T. Snell
O. Loizou

Summary of Facts and Submissions

- I. This appeal is against the decision of the examining division refusing European patent application No. 05777947.2, with international publication number WO 2006/026812.

The refusal was based on the ground of lack of inventive step starting out from document

D1: WO 2004/016037 A1.

In the decision, reference was also made to the following documents:

D2: GB 2 188 210 A;

D5: DE 101 17 705 A1.

- II. The appellant filed an appeal against the above decision. Sets of claims of respectively a main request and seven auxiliary requests were filed together with the statement of grounds of appeal.

Oral proceedings were conditionally requested.

- III. In a communication accompanying a summons to oral proceedings, the board gave a preliminary opinion that, with respect to the main request, it agreed with the findings of the examining division that the subject-matter of claim 1 did not involve an inventive step. It also gave a preliminary opinion that the auxiliary requests were not admissible.

- IV. The appellant informed the board by a letter dated 15 August 2016 that it would not attend the oral

proceedings. No substantive comments were made in respect of the board's communication.

- V. Oral proceedings were held on 23 August 2016 in the absence of the appellant.

On the basis of the written submissions, the board understood the appellant to be requesting that the decision under appeal be set aside and that a patent be granted on the basis of a main request or, in the alternative, one of seven auxiliary requests, all requests as filed with the statement of grounds of appeal.

At the end of the oral proceedings, the chairman announced the board's decision.

- VI. Claim 1 of the main request reads as follows:

"A hearing protector for sound enhancement, the hearing protector comprising:

passive sound suppression means (8) in the form of an ear muff or ear plug arranged to be located adjacent each ear of a wearer to suppress ambient sound reaching the ear drums of the wearer, said sound suppression means able to provide passive sound suppression of at least 15dB; and

loud speaker means (22) for presenting sound to the wearer;

characterised by at least two microphones (9) providing a directional microphone array arranged to be pointed in the wearer's look direction to receive a sound signal of interest and unwanted noise signals and

generate a sound signal corresponding thereto; and processing means (20) to process the sound signal generated by said directional microphone array to enhance the sound signal of interest relative to other sound received by said directional microphone array and generate a corresponding enhanced signal for presentation to the wearer via the loud speaker means (22)."

VII. Claim 1 of the 5th auxiliary request is the same as claim 1 of the main request except that the words "or ear plug" in the 2nd clause are deleted.

VIII. In view of the board's decision not to admit the other auxiliary requests (see below), their wording is not reproduced.

Reasons for the Decision

1. *Main request - claim 1 - inventive step*

1.1 Claim 1 is directed at a hearing protector for sound enhancement. In essence, the hearing protector as claimed comprises passive sound suppression means in the form of an ear muff or an ear plug, loud speaker means for presenting sound to the wearer, at least two microphones forming a directional microphone array, and processing means. The directional microphone array and processing means enhance a sound signal of interest, whereas the ear muff or ear plug is designed to passively attenuate unwanted noise signals by at least 15dB.

1.2 In the impugned decision, the examining division came to the conclusion that the subject-matter of claim 1 did not involve an inventive step having regard to the

disclosure of document D1. It was argued that D1 disclosed all the features of claim 1 except for the feature of the passive sound suppression means (which in D1 is in the form of ear plugs) providing passive sound suppression of at least 15 dB. It was then argued that, in order to solve the problem of providing increased protection from ambient noise, it would be obvious on the basis of common knowledge to ensure that the ear plugs of D1 would have a passive sound suppression of at least 15 dB.

1.3 In the statement of grounds of appeal, the appellant contends that D1 is not the closest prior art, but rather D5. The reasons put forward supporting this point of view, which are the same as those presented in the examination procedure, are set out and dealt with in detail in the impugned decision (cf. point 3 of the reasons, reproduced below).

1.4 In this respect, point 3 of the reasons of the impugned decision reads as follows:

"3 Arguments of the Representative

The Representative argued that document D1 could not be considered as the closest prior art for the following reasons.

3.1 D1 does not describe a hearing protector in sufficient detail to enable a person skilled in the art to put the invention into effect. In fact, even if D1 (see p. 8, l. 2-5; p. 10, l. 20-22; p. 14, l. 2-6) suggests the possibility to implement the sound enhancement system developed for glass[es] frames (see fig. 1) in a hat, a headband or a helmet, it does not

however disclose how to implement it. This is against GL [NB: The Guidelines for Examination], C-IV, 9.4.

The Examining Division firstly made clear that in his *[sic]* opinion a *hearing protector* is basically a device having means for suppressing or attenuating sound. Only by suppressing sound a device may achieve the goal of protecting the user's hearing system as intended by the present application.

Next, it was emphasized that the passage on p. 8, l. 2-5 [of] D1 literally discloses that *Earphones engaging the ear canal of the user can also reduce ambient sounds. This may be especially important where hearing protection is required.* In this passage D1 disclose *[sic]* the problem of hearing protection over which the earphones play the role in reducing the ambient sounds (i.e. suppressing sounds). Moreover, in the further passages on p. 10, l. 20-22 and on p. 14, l. 2-6 document D1 discloses that the configuration shown for glass frames may be implemented over a headband or a helmet. Furthermore, on p. 33, l. 23 D1 discloses that *the described embodiment [sic] provides a multi-functional audio interface which can serve as [...] a hearing protector, or a hearing aid assembly.* Again, D1 shows an apparatus suitable to provide sound suppression which, in a passage, is also literally named *hearing protector*. Made apparent that the apparatus in D1 can be considered a hearing protector, the Examining Division was of the opinion that the skilled person would have no problem in implementing both the microphone array and the earphones in a hat, a helmeted *[sic]* or a headband with the information derivable from the teaching of D1. This means that D1 provides information [in] sufficient detail to enable a skilled person in the art to arrange an apparatus

working as a hearing protector in the sense of the present application.

3.2 In the passage on p. 8, l. 2-5 document D1 suggests that additional hearing protection would need to be provided to achieve some sound protection, since the disclosed earphones are not hearing protectors.

This argument cannot be followed. In fact, it is commonly known that any earphone suppresses external sound when worn by the user.

3.3 The earphones of D1 can be rotated away from the ears and are therefore unsuitable for providing hearing protection against hearing damage.

This argument cannot be followed. In fact, also the apparatus of the application does not achieve its protecting goal when removed from the user's head.

3.4 The apparatus of D1 would not provide any protection against high level noises in case its power supply should fail.

This argument cannot be followed. As said in §3.1.2 [*sic*] above, earphones have the implicit feature of suppressing sound, said feature being independent from any active protection which may be additionally implemented.

3.5 The choice of D1 as the closest prior art is also against the GL C-IV 11.5.1 and a set of T-decisions of the Board of Appeal (T606/89, T273/92, T506/95, T834/91, T380/93). In fact, in order to be a promising closest prior art, D1 should show not only an apparatus

which is similar in construction to the one of the application. The apparatus of D1 should also be thought [i.e. conceived] with the same intentions.

The Examining Division considers that this is the case with document D1. In fact, the present application has as the scope to enhance sound (see e.g. the title and the abstract) and to protect the user from high level noises. D1 (see the title and the abstract) has the same purposes and effects of the application since it increases the speech intelligibility (i.e. it enhances sounds, see the title and the abstract) and provides means for sound suppression (i.e. for protecting the user's ears). Moreover, D1 belongs to the same field, and discloses an apparatus which need [sic] minimum structural and functional modifications to arrive at the claimed invention.

Lastly, it was highlighted the outcome of the decision T834/91, cited by the Representative, in that not only the explicit teaching, but also the implicit teaching of a document has to be taken into account when faced with the problem to identify the closest prior art (see §4.2, last 8 lines, and §4.4). This decision shows a strong parallelism with the present case, wherein the sound suppression feature is an implicit, inherent feature of any earphone."

- 1.5 The board observes that the appellant has submitted no counter-arguments aimed at refuting any of the above arguments and has instead relied entirely on the same written submissions as filed during the examination procedure (basically a "cut-and-paste" approach). The board has reviewed the reasons given by the examining division and finds them persuasive. The board observes in particular that there is no clear distinction

between a "hearing protector" and a device for sound enhancement which reduces noise. The only possible difference is the level of noise to be suppressed, although no clear distinction can apparently be made at which point a device for sound enhancement with noise suppression becomes a hearing protector. In this respect, any noise can potentially be irritating or detrimental to well-being, not just high-level noise. Therefore the detailed embodiment described in D1 (cf. page 17, line 12, to page 18, line 18, and Fig. 2) using mini active noise cancellation (ANC) earphones appears to be embraced by the term "noise protector". In any case, the board observes that the subject-matter described in the description of the present application is not confined narrowly to hearing protectors, but is applicable generally "where a particular sound is to be enhanced in an environment where other, but not required, sounds are present" (cf. page 1 of the description, 1st paragraph). Furthermore, D1 mentions hearing protection in several places, cf. page 2, lines 9-11, page 4, lines 19-24, and page 8, lines 1-5. Consequently, D1 belongs to the same technical field as the present application.

- 1.6 Whether D5 is a more promising jumping-off point than D1, as argued by the appellant, is a matter which does not need to be considered here, since the decisive question is whether or not the skilled person would arrive in an obvious way at the claimed subject-matter when starting out from any chosen starting point, here D1, which is a matter to be determined objectively using the problem-solution approach and does not depend on whether the claimed subject-matter is or is not obvious starting out from a different prior art document, here D5. In fact, if the invention were non-obvious starting out from D5, as argued by the

appellant, this would only support the examining division's assessment that D1 did indeed represent the closest prior art (cf. T 824/05, point 6.2 of the reasons).

- 1.7 It remains to deal with the only distinguishing feature with respect to D1, which is the feature that the ear phone provides a passive suppression of at least 15 dB.
- 1.8 Starting out from D1, the technical problem to be solved can be formulated as how to more efficiently provide protection from ambient noise. As it is clearly an aim of D1 to suppress ambient noise (cf., e.g., page 5, lines 7-11), the formulation of this problem does not contribute to inventive step.
- 1.9 In connection with mitigating potential ear damage in the presence of loud ambient noise, the examining division noted that D1 discloses that ear phones may be mounted inside a helmet (cf. D1, page 14, lines 1-6), which would inherently result in an improved passive suppression value. Whether this results in a suppression value of at least 15dB is merely a matter concerned with design optimisation. In this respect, the board notes that claim 1 does not define any specific constructional features of the hearing protector by means of which the suppression value of at least 15 dB is achieved. Furthermore, the board notes that D1 contemplates the use of "high performance ... ANC Headsets" which are "designed for ultra-noisy environments" and which have "the ability to attenuate high-frequency noise due to the big ear cups of the headsets" (cf. page 17, lines 29-33). Even though it is stated that they are not preferred for normal day-to-day use in normal environments due to their high cost, size and weight, this passage of D1 does teach the

skilled person that such high-performance headsets, which unquestionably would have a passive suppression of at least 15 dB, may alternatively be used, e.g., occasionally or in other than "normal environments".

1.10 Consequently, the board concludes that the subject-matter of claim 1 of the main request does not involve an inventive step (Articles 52(1) and 56 EPC).

2. *1st to 7th auxiliary requests - admissibility*

2.1 These requests are identical to the requests filed during the examination procedure with the letter dated 22 December 2011, which were re-ordered during the oral proceedings before the examining division, resulting in the 5th auxiliary request being elevated to the 1st auxiliary request. Further, the remaining auxiliary requests were withdrawn after the examining division had given a preliminary opinion that the independent claims of these requests infringed Articles 56, 84 and/or 123(2) EPC (cf. page 3 of the minutes, 3rd paragraph). These seven auxiliary requests were now resubmitted in their original order with the statement of grounds of appeal.

2.2 In accordance with Article 12(4) RPBA, the board has the discretion to not admit requests which could have been presented [for decision] in the first instance proceedings. The latter clearly applies to requests which were withdrawn before a decision is taken. By withdrawing the above-mentioned auxiliary requests, the applicant thus prevented the examining division from giving a final decision on the merits of these requests. Reinstating in appeal proceedings these requests would therefore compel the board either to give a first ruling on the critical issues, which would

run contrary to the purpose of a second-instance ruling, or to remit the case to the department of first instance, which would clearly be contrary to procedural economy. Hence, if the applicant had wished to pursue the current 1st to 4th, 6th and 7th auxiliary requests, these requests could, and indeed should, have been maintained. In the event of their refusal, the board would have been in a position to examine the correctness of the decision in respect of these requests. As the applicant expressly withdrew the requests, the board sees no reason why they should now be re-admitted at the appeal stage. Nor did the appellant give any reason.

2.3 Consequently, the board has decided that the 1st to 4th, 6th and 7th auxiliary requests are not admitted to these appeal proceedings (Article 12(4) RPBA).

2.4 As the 5th auxiliary request was already filed during the examining procedure (renumbered as the 1st auxiliary request) and was not withdrawn, the board admitted the request (Article 12(2) and (4) RPBA).

3. *5th auxiliary request - claim 1 - inventive step*

3.1 The only difference between claim 1 of the 5th auxiliary request and claim 1 of the main request is that claim 1 of the 5th auxiliary request is limited to the embodiment in which the passive suppression means comprises an ear muff.

3.2 The board agrees with the examining division that the skilled person, considering that D1 suggests the use of a helmet, would not require inventive skill to contemplate the use of a headset or helmet with ear

muffs, e.g. as disclosed in D2 (c.f. point 5 of the reasons of the impugned decision).

- 3.3 The appellant has not commented on this reasoning of the examining division in the statement of grounds of appeal. Instead, it merely argued that D5 is the closest prior art, not D1. However, this argument has already been considered in connection with claim 1 of the main request.
4. The board therefore concludes that the subject-matter of claim 1 does not involve an inventive step (Articles 52(1) and 56 EPC).
5. *Conclusion*

As there is no allowable request, it follows that the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



G. Rauh

F. van der Voort

Decision electronically authenticated