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**Datasheet for the decision
of 4 September 2020**

Case Number: T 1291/16 - 3.5.03

Application Number: 13161611.2

Publication Number: 2613564

IPC: H04R3/00, H04S7/00

Language of the proceedings: EN

Title of invention:

Focusing on a portion of an audio scene for an audio signal

Applicant:

Nokia Technologies Oy

Headword:

Focusing on audio scenes/NOKIA

Relevant legal provisions:

RPBA 2020 Art. 13(1), 13(2)
EPC Art. 84

Keyword:

Oral proceedings before the board - held by videoconference upon request
Admittance of claim requests filed shortly before the oral proceedings - (no): amendments do not overcome objections raised under Art. 84 EPC

Decisions cited:

T 0989/15



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Case Number: T 1291/16 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 4 September 2020

Appellant: Nokia Technologies Oy
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 21 December
2015 refusing European patent application
No. 13161611.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair K. Bengi-Akyürek
Members: K. Schenkel
J. Geschwind

Summary of Facts and Submissions

- I. This appeal is against the decision of the examining division refusing the present European patent application for added subject-matter (Article 76(1) EPC) with respect to the claims of a main request and for lack of novelty (Article 54 EPC) with respect to the claims of first and second auxiliary requests.
- II. In a preliminary opinion under Article 15(1) RPBA 2020, the board indicated *inter alia* that all claim requests on file were not allowable under Article 84 EPC.
- III. In response to the board's preliminary opinion, the appellant replaced all the requests on file with a new main request and new first to third auxiliary requests filed with a letter received in the morning of 4 September 2020, shortly before the start of the arranged oral proceedings.
- IV. Oral proceedings before the board were held on 4 September 2020 by videoconference in accordance with the appellant's request.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the set of claims of the new **main request** or, in the alternative, of any of **first to third auxiliary requests**, all requests filed shortly before the start of the oral proceedings. The appellant stated that the former claim requests were withdrawn.

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

V. Claim 1 of the new **main request** reads as follows (labelling (a) to (e) added by the board):

"A method comprising:

- (a) obtaining one or more input signals (151; 251) generated by a plurality of audio sources defining an original sound field, wherein the original sound field can be synthesised from the one or more input signals and directional information (159; 253);
- (b) obtaining from a user at least one desired direction of spatial attention (157; 261);
- (c) providing by means of a remapping controller (105; 207) a remapping function (155; 263) based on the desired direction (157; 261);
- (d) focussing attention on the desired direction (157; 261) by modifying by means of a spatial re-panning module (103; 203) the directional information to obtain modified directional information (161; 257) in accordance with the remapping function (155; 263), such that the modified directional information (161; 257) is a result of a rotation operation in accordance with the remapping function (155; 263) applied to the directional information (161; 257); and
- (e) rendering one or more output signals (153; 259) to the user based on the one or more input signals and the modified directional information whereby a modified sound field is synthesised."

VI. Claim 1 of the **first to third auxiliary requests** also includes feature (d) of claim 1 of the main request and adds further features.

Reasons for the Decision

1. The present invention

The present invention relates to the manipulation of audio signals such that a listener can direct spatial attention to a portion of an audio scene which can be synthesised from the signals of multiple audio sources and their respective directional information, analogous to a magnifying glass (cf. abstract). This can be useful, for example, in teleconferencing with several participants (cf. paragraph [07] of the application as filed). For this purpose, the directional information of the respective audio sources are modified (cf. independent claims of all claim requests on file). In this way, an audio source, on which the listener wants to focus, can be made to stand out by expanding a region of the audio scene around the desired direction (cf. abstract and Fig. 8).

2. Main request - admittance (Article 13(2) RPBA 2020)

2.1 The main request was received shortly (10:39 hrs) before the start (13:00 hrs) of the oral proceedings before the board. Since it was filed after the notification of the summons to oral proceedings before the board, its admittance is generally governed by Article 13(2) RPBA 2020.

2.2 According to Article 13(2) RPBA 2020, any amendment to a party's case after notification of a summons to oral proceedings shall in principle not be taken into account unless there are **exceptional circumstances**, which have been justified with cogent reasons by the party concerned. Furthermore, in the application of

Article 13(2) RPBA, the criteria mentioned in Article 13(1) RPBA 2020 may be used (see e.g. T 989/15, Reasons, point 16).

In accordance with Article 13(1) RPBA 2020, "[the] Board shall exercise its discretion in view of, inter alia, the current state of the proceedings, the suitability of the amendment to resolve the issues which were ... raised by the Board, whether the amendment is detrimental to procedural economy, and, in the case of an amendment to a patent application or patent, whether the party has demonstrated that any such amendment, prima facie, **overcomes the issues raised** by ... the Board and does not give rise to new objections" (board's emphasis).

2.3 In the present case, feature (d) of claim 1 includes the steps of providing a remapping function based on the desired direction and of modifying the directional information of the sound sources in accordance with the remapping function. Feature (d) further defines that the modified directional information is a result of a "rotation operation" in accordance with the remapping function applied to the directional information.

2.4 The board held in its preliminary opinion with respect to the claim requests then on file that it was not clear how the desired direction influenced the modification of the directional information and argued that no details of this modification were given, and that it was merely defined as a result to be achieved.

Feature (d) as amended in the present main request adds that the modified directional information is a result of a *rotation operation* in accordance with the remapping function.

2.5 The board however holds that claim 1 of the main request is still unclear for the following reasons:

2.5.1 According to feature (d) as amended, the effect of focusing the listener's attention on the desired direction is achieved by applying a rotation operation on the directional information of the sound sources. A rotation of the directional information of the sound sources is supposed to make those sources appear to be located at a different direction. The virtual location of a single sound source with respect to the other sound sources is not changed if the rotation is the same for all sound sources. In such a case, no focusing effect is to be expected and it is unclear how the rotation operation should provide this effect. When the rotation operation is carried out such that the locations of sound sources adjacent to the desired direction move closer to it, it is to be expected that it becomes even more difficult to *focus* on a sound source in the desired direction.

Thus, in order to focus the listener's attention on the desired direction, further details as to the rotation of the individual sound sources are obviously required. But such details are missing here. It is therefore unclear how the desired effect of focusing the listener's attention on the desired direction can be produced by applying a rotation operation without further information.

2.5.2 Furthermore, feature (d) states that the rotation operation is performed in accordance with the remapping function. However, the remapping function does not provide any details of the rotation operation for the individual sound sources. Nor does it provide details as to how the directional information of the sound

sources is to be rotated with respect to each other. It remains unclear how the listener's attention to the desired direction is focused by means of the features of present claim 1.

The board notes in this respect that, according to paragraphs [40] and [41] of the present application as filed, look-up tables defining specific rotation instructions for the sound sources at the different locations are used for remapping the sound sources. This shows that a whole set of defined rotation operations for the sound sources in different directions is necessary to remap the sources and that the mere instruction of *rotating* the directional information of the sound sources is not sufficient.

- 2.6 The board therefore concludes that claim 1 of the main request does not *prima facie* overcome the objections under Article 84 EPC raised by the board in its preliminary opinion under Article 15(1) RPBA 2020. Moreover, the board cannot see any exceptional circumstances that justify the admittance of the late-filed main request.
- 2.7 In view of the above, the board, exercising its discretion under Article 13(2) and 13(1) RPBA 2020, decided not to admit the main request into the appeal proceedings.
3. First to third auxiliary requests - admittance (Article 13(2) RPBA 2020)
 - 3.1 Claim 1 of the first to third auxiliary requests likewise includes feature (d) of claim 1 of the main request.

3.2 Consequently, the reasons given in respect of the main request apply, *mutatis mutandis*, to claim 1 of the first to third auxiliary requests.

Thus, these auxiliary requests likewise are not clearly allowable under Article 84 EPC.

3.3 Accordingly, the board has decided not to admit the first to third auxiliary requests into the appeal proceedings either.

4. As there is no allowable set of claims, it follows that the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



B. Brückner

K. Bengi-Akyürek

Decision electronically authenticated