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**Datasheet for the decision
of 16 November 2016**

Case Number: T 2480/11 - 3.4.01

Application Number: 06769317.6

Publication Number: 1920438

IPC: G10L19/00

Language of the proceedings: EN

Title of invention:

METHOD FOR GENERATING ENCODED AUDIO SIGNAL AND METHOD FOR
PROCESSING AUDIO SIGNAL

Applicant:

LG Electronics Inc.

Headword:

Relevant legal provisions:

EPC 1973 Art. 84

Keyword:

Clarity of the claims (No)

Decisions cited:

T 0190/99, T 1271/05, T 1281/06

Catchword:



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Case Number: T 2480/11 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 16 November 2016

Appellant: LG Electronics Inc.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 9 June 2011 refusing European patent application No. 06769317.6 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman G. Assi
Members: P. Fontenay
J. Geschwind

Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse European patent application No. 06 769 317.6.

The impugned decision was remitted to the post on 9 June 2011.

- II. In the "*Reasons for the decision*", the examining division held that the application did not meet the requirements of Article 83 EPC in combination with Rule 42(1)(e) EPC. Concretely, the examining division considered that the application did not contain sufficient information in order to generate a fixed output channel corresponding to a predetermined output channel using the fixed channel configuration information. The application was also not sufficient to reproduce the claimed step of generating an arbitrary output channel using the fixed output channel and the arbitrary channel configuration information.

In this respect, the examining division noted that the terminology used in the passage on page 28, lines 11-23 of the published application with regard to the embodiment of Figure 4, which had been cited by the applicant in support of its argumentation, was not devoid of ambiguity. Moreover, the application did not describe how the configuration elements of the matrices m1 and m2 referred to in the embodiment of Figure 4 were obtained.

The examining division also rejected the alternative line of argumentation put forward by the applicant according to which the teaching contained in a paper (document A2) reproducing the content of a presentation

at the 118th Convention of the Audio Engineering Society on 28-31 May 2005 (AES Convention Paper 6447) provided sufficient information for reproducing the claimed invention. The examining division observed, in this respect, that the document filed by the applicant did not fulfil the criteria required in order to be regarded as evidence of common general knowledge. Moreover, according to the examining division, said document did also not disclose the required technical information regarding the implementation of spatial audio systems actually missing from the application.

- III. On 4 August 2011, the appellant (applicant) filed a notice of appeal. The prescribed appeal fee was payed on the same date.

The statement setting out the grounds of appeal was filed on 18 October 2011.

- IV. With the statement of grounds, the appellant requested that the decision under appeal be set aside in its entirety and that a patent be granted on the basis of the following application documents:

Description pages:

1-27 and 29-35, as originally filed;

28, as attached to the statement of grounds of appeal;

Claims:

1-11, as attached to the statement of grounds of appeal;

Drawing sheets:

1/5-5/5, as originally filed.

New page 28 filed with the statement of grounds incorporates the passage which was cited by the appellant before the examining division in support of its argumentation under Article 83 EPC. Page 28 has been corrected to remedy the objection raised by the examining division regarding the lack of consistency of the terms used.

- V. In accordance with the appellant's request, a summons to attend oral proceedings was issued on 11 May 2016.
- VI. In a communication of the Board pursuant to Article 15(1) RPBA issued on 5 August 2016, the appellant was informed of the provisional opinion of the Board with regard to the then pending request.

In particular, the Board expressed its doubts as to whether document A2 could indeed be cited as evidence of common general knowledge. It appeared further questionable whether the teaching provided by A2 would have been sufficient for the skilled person to carry out the claimed invention.

The appellant was further informed that the debate during the oral proceedings would possibly also address issues of clarity under Article 84 EPC 1973 and that the Board intended to remit the case to the examining division if it came to the conclusion that the request met the requirements of Articles 83 and 84 EPC 1973.

- VII. In a letter of reply dated 12 September 2016, the appellant presented further arguments in support of its view.

VIII. Oral proceedings before the Board took place on 16 November 2016 in presence of the appellant's representative.

IX. Claim 1 of the appellant's request reads:

*"A method for processing an audio signal, comprising:
receiving an encoded audio signal including a
downmix signal, fixed channel configuration
information, and arbitrary channel configuration
information, the downmix signal being generated from a
multi-channel audio signal;
generating a fixed output channel corresponding to
a predetermined output channel using the fixed channel
configuration information; and
generating an arbitrary output channel using the
fixed output channel and the arbitrary channel
configuration information,
wherein:
the fixed channel configuration information
indicates a single channel configuration from among
several pre-established channel configurations,
the arbitrary channel configuration information is
used to extend the number of channels of the fixed
output channel and includes at least one of a division
identifier (ID) and a non-division identifier (ID), and
the division identifier indicates a channel
division occurs at a node of a layer and the non-
division identifier indicates no channel division at a
node of a layer."*

Claims 2 to 6 depend on claim 1.

Independent claim 7 concerns an apparatus for processing an audio signal. It reads:

"7. An apparatus for processing an audio signal, comprising:

a means for receiving an encoded audio signal including a downmix signal, fixed channel configuration information, and arbitrary channel configuration information, the downmix signal being generated from a multi-channel audio signal;

a means for generating a fixed output channel corresponding to a predetermined output channel using the fixed channel configuration information, and generating an arbitrary output channel using the fixed output channel and the arbitrary channel configuration information,

wherein:

the fixed channel configuration information indicates a single channel configuration from among several pre-established channel configurations,

the arbitrary channel configuration information is used to extend the number of channels of the fixed output channel and includes at least one of a division identifier (ID) and a non-division identifier (ID), and

the division identifier indicates a channel division occurs at a node of a layer and the non-division identifier indicates no channel division at a node of a layer."

Claims 8 to 11 depend on independent claim 7.

Reasons for the Decision

1. Applicable text of the EPC

It is noted that the revised version of the Convention (EPC 2000) does not apply to European patent applications pending at the time of its entry into

force (13 December 2007), unless otherwise provided. In this decision, where Articles or Rules of the former version of the EPC apply, their citation is followed by the indication "1973".

2. *Admissibility*

The appeal meets the requirements of Articles 106 to 108 EPC and Rule 99 EPC. It is thus admissible.

3. *Clarity - Article 84 EPC 1973*

- 3.1 The subject-matter of claim 1 according to the appellant's sole request is not clearly defined contrary to the requirements of Article 84 EPC 1973.

The terms "*fixed channel configuration information*", "*arbitrary channel information*", "*fixed output channel*" and "*arbitrary output channel*" have no recognised meaning in the field of audio coding and have also not been defined in claim 1 so that it is impossible for the skilled reader to identify from the wording of the claim alone the matter for which protection is sought.

- 3.2 The appellant contested the view expressed by the Board. It was, in particular, stressed that the description provided sufficient information regarding the meaning of the terms objected to by the Board. Particular reference was made to Figure 4 and the corresponding passage of the description. Moreover, it was a generally established principle resulting from the case law of the boards of appeal that a patent had to be construed by a mind willing to understand, not a mind desirous of misunderstanding (cf. T 190/99). The application of this principle to the present case would

have led the skilled person to understand the claimed definitions.

3.3 The Board is not convinced by the arguments put forward by the appellant.

3.3.1 The need for a reference to the description and drawings in order for the skilled reader to make technical sense of the wording of claim 1 confirms that the subject-matter of claim 1 is not clear from its wording alone. In situations where the terms used in a claim have no recognised meaning or have a meaning which differs from their usual understanding, the requirement of clarity of Article 84 EPC 1973 implies that the claims be drafted so as to make sure that each term employed be given its intended significance. This requirement implies that the claims reproduce the definitions of the terms used as it results from the description or, in the absence of such definitions, any information derivable therefrom useful for the understanding of the claims.

As already stated in previous decisions of the present Board (in different compositions), *"The Board is aware of the jurisprudence which acknowledges that an exception to this principle may exist in situations in which a patent description would provide unambiguous definitions of certain terms and would also make clear that such definitions apply throughout the complete application, so that, when interpreting the wording of claims, the patent specification would constitute its own dictionary"* (cf. T 1271/05, point 4.3, not published; T 1281/06, point 2.1, not published).

Under the present circumstances, however, the indications contained in the section of the description

extending from page 20, line 23 to page 34, line 7, corresponding to the section "*Channel Division*" in the published description, do not appear to contain any definitions of the terms of the claims objected to. As a matter of fact, this section of the description is in itself too ambiguous and fuzzy in order to derive any clear teaching regarding the terms employed.

While it is acknowledged that the paragraph on page 22 lines 11 to 16 clarifies that the notion of "*fixed channel configuration information*" relates to the notion of "*basic channel configuration information*" employed in the previous paragraphs of the description, a certain ambiguity results from the further indication in the same paragraph that the "*fixed output channel*" refers to the multiple channels "**created by**" the fixed channel configuration information. The Board fails namely to understand how channels may be created from information.

A further ambiguity results from the inherent contradiction in the paragraph of the description preceding the paragraph referred to above which reads: "*One or more channel configuration information is used as the above-mentioned basic channel configuration information. Particularly, the basic channel configuration information indicates a single channel configuration information selected from among several channel configuration information.*" The reference to a plurality of channel configuration information, as it results from the use of the expression "*one or more*", appears to contradict the very fact that this information indicates a "*single channel configuration*". The Board further fails to understand how a plurality of channel configuration information would be used in the decoding process. This is particularly true, if the

fixed channel configuration information contains data which permit to identify the number of input channels on the encoding side, the number of channels used for transmission of the down-mixed signals and, finally, the number of output channels on the decoding side, as suggested, for example, by the indications on page 23, lines 1-9, of the description.

- 3.3.2 As emphasized by the appellant during the oral proceedings, the patent had to be construed by a mind willing to understand.

This principle is often relied on to exclude interpretations of the claims which are artificial or at odd with the teaching of the application or patent as a whole. However, it is also relied on this principle as a subsidiary principle of interpretation in situations where the general rules of interpretation referred to in the previous section fail in providing the skilled reader with a clear teaching of the claimed subject-matter.

Under the present circumstances, the application of this principle would imply that the skilled reader would attempt, despite the unclear wording of claim 1, to make sense of the terms used in claim 1 so that the claimed method as a whole be technically meaningful. It could therefore be argued, in favour of the appellant, that the skilled person might have indeed associated the information relating to the complete encoding/decoding chain with the notion of "*fixed channel configuration information*". Concretely, this information is, for example, represented in the form "5-2-5" to identify a structure where six input channels are down-mixed and transmitted on two channels in order to be then recombined in six output channels

(cf. description, page 23, lines 3-9). Similarly, the skilled person might have possibly associated the notion of "*arbitrary channel configuration information*" with a sequence of "0" and "1" of the kind "1100001001..." (cf. description, page 27, lines 4-6) to define the division identifiers applicable to the different nodes. The skilled person might have then, in an attempt to make sense of the claim's wording, construed the step of "*generating a fixed output channel corresponding to a predetermined output channel using the fixed channel configuration information*", as the step of generating all the output channels as specified by the reference to the "*fixed channel configuration information*". In the context of the example cited above of a "5-2-5" configuration, said step would then correspond to the generation of 6, i.e. 5+1, output channels. This interpretation would indeed be in line with the definition of the output channels as it results from the statement in the description on page 22, lines 11-16. Any interpretation seeking to equate said generating step with the down-mixing step would be excluded, since claim 1 explicitly recites that the signal that has been received includes a down-mixed signal, i.e. a signal transmitted on two channels.

At that point, however, the skilled person would fail in the attempt to make sense of the claimed subject-matter. The step in claim 1 of "*generating an arbitrary output channel using the fixed output channel and the arbitrary channel configuration information*" wherein "*the arbitrary channel configuration information is used to extend the number of channels of the fixed output channel*" would namely imply that some other processing is taking place after that the output channels have been generated. This interpretation

would, however, be at odd with the teaching of the present application so that the skilled person would still fail to understand the claimed subject-matter.

- 3.3.3 In the course of the oral proceedings, the appellant objected that the method actually claimed was a fair reproduction of the process disclosed with regard to Figure 4 and the corresponding section of the description. In this respect, the appellant indicated that the expression "*arbitrary output channel (y)*" on page 28, line 11 of the published version of the application was the result of a "*minor typographical or translation error*". A new page 28 had therefore been filed where the erroneous expression was replaced by "*fixed output channel (y)*" and where the further expression "*another arbitrary output channel (z)*" was replaced by "*an arbitrary output channel (z)*".

The Board notes, however, that an interpretation of claim 1 in the light of the embodiment of Figure 4 and corresponding corrected section of the description would directly contradict the indications provided on page 22 as to the meaning of the term "*fixed output channel*". Moreover, even if the skilled reader had attempted to read the claim in the light of the diagram of Figure 4, he would still have had major difficulties in assessing the meaning of the first step of generating a fixed output channel corresponding to a predetermined output channel using the fixed channel configuration information. It would, concretely, be unclear under this assumption how, for example, the knowledge of a structure of the kind "5-2-5", as identified by the fixed channel configuration information, could contribute in the definition of vector (y) in Figure 4. Under this assumption, vector (x), which corresponds to the down-mixed signals, would

be two dimensional and vector (z) would have 6 dimensions. The knowledge of these two parameters is, however, not sufficient to define the dimensions of vector (y) and which relationship should exist between vector (y) and the fixed channel configuration. For these reasons, the skilled person would be at a loss when seeking to implement the step of "*generating a fixed channel corresponding to a predetermined output channel using the fixed channel configuration information*".

The Board further observes that the embodiment of Figure 4 with its two matrices m1 and m2 suggests that the presence of vector (y) is *de facto* superfluous since it would be directly possible to obtain vector (z) from a transformation of vector (x) by a matrix resulting from the combination of the two matrices. The introduction of vector (y) would only be justified if at least a component of said vector were to be submitted to a particular nonlinear processing. This situation further increases the confusion which arises when attempting to construe the claim in a meaningful way in the light of Figure 4.

3.3.4 The applicant itself appears to have had difficulties in interpreting the claimed subject-matter since its first reaction, when confronted with the discrepancy in the passage on page 28 of the description regarding Figure 4 during the oral proceedings before the examining division, was to state that said embodiment was to be disregarded. It was only when filing the statement of grounds of appeal that the appellant argued that an obvious mistake had been done.

3.4 All in all, the skilled person fails in his attempts to make technical sense of the wording of claim 1. Hence,

claim 1 lacks clarity and does not meet the requirements of Article 84 EPC 1973.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



R. Schumacher

G. Assi

Decision electronically authenticated