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**Datasheet for the decision
of 18 May 2016**

Case Number: T 0360/11 - 3.4.01

Application Number: 06799097.8

Publication Number: 1946301

IPC: G10L19/00, G10L19/14, G10L19/04

Language of the proceedings: EN

Title of invention:

METHOD AND APPARATUS FOR SIGNAL PROCESSING AND ENCODING AND
DECODING METHOD, AND APPARATUS THEREFOR

Applicant:

LG Electronics Inc.

Headword:

Relevant legal provisions:

RPBA Art. 13(1)
EPC 1973 Art. 84

Keyword:

Late-filed request - amendments after arrangement of oral
proceedings

Decisions cited:

Catchword:



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Case Number: T 0360/11 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 18 May 2016

Appellant: LG Electronics Inc.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 1 October 2010 refusing European patent application No. 06799097.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman G. Assi
Members: P. Fontenay
C. Schmidt

Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse European patent application No. 06 799 097.8

The impugned decision was remitted to the post on 1 October 2010.

- II. In the "*Reasons for the decision*", the examining division held that the subject-matter of independent claims 1, 6, 7 and 8 of the sole request then on file was not new in the sense of Article 54(1), (2) EPC 1973 in view of document D6 (Hyen-O Oh et al., "*Proposed core experiment on pilot-based coding of spatial parameters for MPEG Surround*", ISO/IEC JTC1/SC29/WG11, 13 October 2005, Nice, France). Document D6 was considered to be part of the prior art as a consequence of the finding that the claims to the priority of 5 October 2005 (P2, US 60/723,631) and of 13 October 2005 (P1, US 60/725,654) were found invalid.

The examining division further stated that the claims of the then pending request did not fulfill the requirements of Article 84 EPC 1973 and Article 123(2) EPC.

- III. The notice of appeal was filed on 30 November 2010. The appeal fee was paid on the same day. The statement of grounds of appeal was filed on 1 February 2011.

- IV. With the statement of grounds of appeal, the appellant requested that the decision under appeal be set aside and, as a main request, that a patent be granted on basis of a set of claims 1 to 12 as filed on 16 August 2010 as then auxiliary request I, i.e. the set of

claims underlying the impugned decision. As an auxiliary request, the appellant requested that a patent be granted on the basis of a set of claims 1 and 2 filed with the grounds of appeal.

As a further auxiliary request, the appellant requested that oral proceedings be appointed.

- V. Summons to attend oral proceedings were issued on 10 March 2016.

In a communication of the Board pursuant to Article 15(1) RPBA issued on 21 April 2016, the appellant was informed of the provisional opinion of the Board with regard to the requests then pending.

In particular, the Board observed that the claims of the main request did not appear to fulfill the requirements of Article 84 EPC 1973 and Article 123(2) EPC. The observations of the Board relied, primarily, on the finding that the terminology used throughout the claims was unclear as such and on the fact that no clear basis could be found for the combination of features actually claimed. With regard to novelty and inventive step, the Board agreed with the examining division on that the claimed invention did not enjoy the priority of documents P1 and P2, so that D6, which appeared to reproduce the essential features of the claimed coding/decoding system and method, was part of the prior art in the sense of Article 54(2) EPC 1973.

Similar issues were raised with regard to the auxiliary request.

- VI. In a letter of reply dated 6 May 2016, a new auxiliary request was filed. It replaced the previous auxiliary

request which had been filed with the statement of grounds of appeal. Arguments in support of the new auxiliary request were also presented.

VII. Oral proceedings before the Board took place on 18 May 2016 in the presence of the appellant's representative.

During the oral proceedings, the Chairman of the Board observed that the appellant had not reacted to the comments expressed by the Board in its provisional opinion with regard to the main request. Concerning the new auxiliary request filed with letter of 6 May 2016, doubts concerning its admissibility under article 13(1) RPBA were expressed, since it was late filed, referred to complex subject-matter and since the clarity issues affecting the main request still applied. The Chairman of the Board stressed that late filed requests would normally be admitted in appeal proceedings only if they solve *prima facie* all pending issues.

In the course of the oral proceedings, a new request was filed replacing all previous requests on file.

VIII. Independent claim 3 of the appellant's sole request reads:

*"3. An apparatus adapted to be operated in an MPEG surround encoder for processing a multi-channel audio signal, comprising:
a spatial information estimating part (120) configured to extract spatial parameters from the multi-channel audio signal, the spatial parameters including at least one of a channel level difference, inter-channel correlation, and channel prediction coefficient spatial parameter;*

a spatial information coding part (300) configured to encode spatial parameters according to a data coding scheme being one of a pilot coding scheme, a differential coding scheme, and a pulse code modulation, PCM, coding scheme, wherein the pilot coding scheme is used when a preset condition regarding the amount of data to be coded is met, the spatial information coding part (300) comprising:

a pulse code modulation, PCM, coding part (311) configured to PCM-encode the spatial parameters with a PCM coding scheme by a group part;

a pilot based coding part (312) configured to data-encode the spatial parameters by performing the pilot coding scheme on the spatial parameters using a pilot reference value and one or more pilot difference values which are generated using the spatial parameters and the pilot reference value, according to the following formula:

- $d[n] = x[n] - P$, wherein $n = 0, 1, \dots, m-1$,
wherein:

- $x[n]$ represents the spatial parameters ,
- P is the pilot reference value selected from one of a plurality of values including a mean value, a median value, and a most frequently used value of the spatial parameters,

- the pilot reference value P is a single value which applies to all of the spatial parameters,
- $d[n]$ is each pilot difference value decided by using each spatial parameter and the pilot reference value, and

- m is a number of the pilot difference values and a number of the spatial parameters,

a differential coding part (320) configured to data-encode the spatial parameters by performing the differential coding scheme on the spatial parameters, the differential coding part (320) comprising:

a differential forward time coding part (322) and a differential backward coding part (323) configured to data-encode the spatial parameters based on a time differential coding scheme; and

a differential frequency coding part (321) configured to data-encode the spatial parameters based on a frequency differential coding scheme according to the following formula:

$$d[0]=x[0],$$

$$d[n]=x[n] - x[n-1], \text{ wherein } n = 1, 2, \dots, m-1,$$

$x[n]$ represents the spatial parameters,

$d[n]$ is each frequency difference value decided by using each of the spatial parameters and each of the difference reference values,

m is a number of the data elements, and

$n-1$ is a number of the difference reference values, an entropy-encoding part (330) configured to entropy-encode the pilot encoded or differential encoded spatial parameters according to a one-dimensional Huffman coding scheme (331) or a two-dimensional Huffman coding scheme (332, 333), the two-dimensional Huffman coding scheme comprising time pairing (333) or frequency pairing (332); and

an outputting part (OUT1) configured to transfer the entropy-encoded spatial parameters or the PCM-encoded spatial parameters and data coding identification information indicating the data coding scheme,

wherein:

the differential coding scheme comprises at least one of the frequency differential coding scheme and the time differential coding scheme;

the frequency differential coding scheme is used to data-encode the spatial parameters using a difference reference value and a frequency difference value which are calculated on a frequency axis, and

the time differential coding scheme is used to data-encode the spatial parameters using a difference reference value and a time difference value which are calculated in a time axis."

Claim 1 was not specified. The appellant had indicated in the space normally devoted to the wording of claim 1 the mention "*(to be elaborated in case of admissibility)*".

Claim 2 referred to a computer-readable medium. It reads:

"2. A computer-readable medium comprising code portions which, when executed on a processor, configure the processor to perform all steps of a method according to claim 1".

Reasons for the Decision

1. Applicable law

This decision is issued after the entry into force of the EPC 2000 on 13 December 2007 whereas the application was filed before this date. Reference is thus made to the relevant transitional provisions for the amended and new provisions of the EPC, from which it can be derived which Articles and Rules of the EPC 1973 are still applicable to the present application and which Articles and Rules of the EPC 2000 are to apply. When Articles or Rules of the former version of the EPC are cited, their citations are followed by the indication "1973" (cf. EPC, Citation practice).

2. Admissibility of the appeal

The notice of appeal and the statement of grounds of appeal comply with the requirements of Articles 106 to 108 EPC and Rule 99 EPC. The appeal is thus admissible.

3. *Appellant's (sole) request - admissibility*

- 3.1 During the oral proceedings before the Board, the appellant filed a new request, replacing all previous requests on file.

In the appellant's view, the new request constituted an attempt to meet the objections raised by the Board in its provisional opinion against the allowability of the main request then on file and to resolve the doubts expressed by the Board regarding the admissibility of the auxiliary request then on file.

The Board remarks that the mere fact that the wording of claim 1 of the new filed request was missing would normally have led to the rejection of the request as inadmissible. The Board, however, accepted, by way of exception, that the debate concerning the admissibility of the new filed request focused, first, on the merits of claim 3, acknowledging that claim 1, which was intended to define the corresponding method, could have been elaborated at a later stage, if necessary.

- 3.2 Under Article 13(1) RPBA, *"Any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the Board's discretion. The discretion shall be exercised in view of inter alia the complexity of the new subject matter submitted, the current state of the proceedings and the need for procedural economy"*. It is generally accepted practice that the subject-matter of late filed requests should be such that it can be easily understood and

regarded as allowable. A new request would be considered admissible, if the claims it encompasses solve all previous issues raised by the Board or in the impugned decision and do not give rise to any new objection (cf. case law of the Boards of appeal of the EPO, 7th. edition, section IV.E.4.4.2, first paragraph). This is not the case.

- 3.2.1 Firstly, the Board is not convinced that concepts like "*spatial information estimating part*" and "*spatial parameters*", as they appear in claim 3, have a generally recognised meaning. In particular, the indication "*the spatial parameters including at least one of a channel level difference, inter-channel correlation, and channel prediction spatial parameter*" suggests that said parameters may include some additional undefined information.

Claim 3 finds its basis in the embodiment corresponding to Figures 24 and 25. However, in the absence of any reference in claim 3 to the "*Channel Downmixing Part*" of the apparatus as illustrated in Figure 24, the present wording suggests that the "*Spatial Information Estimating Part*" should also incorporate data corresponding to said channel downmixing part. Similarly, in the absence of any reference to the "*Core Coding Part*" of Figure 24, the claim suggests that the corresponding processing is performed by the "*Spatial Information Coding Part*". This leads to a lack of clarity (apart from doubts whether the requirements of Article 123(2) EPC are met).

- 3.2.2 A further lack of clarity results from the reference in claim 3 to "*a pulse code modulation, PCM, coding part configured to PCM-encode the spatial parameters with a PCM coding scheme by a group part*". In particular, the

reference to "a group part", without specifying how and according to which criteria data elements would be grouped, does not permit to clearly identify the resulting features inherent to the coding process. In the preliminary opinion issued by the Board (cf. point 2.3.1, fifth paragraph), the attention of the appellant had already been drawn to the fact that the notion of group had no recognised meaning in the context of the independent claims then on file. The Board further observes that the description does not provide any clear definition of a group of data elements since it relates in the section starting on page 48, line 9 to page 72, line 2 to various techniques of "Grouping" which might also be combined.

- 3.2.3 The Board also observes that the description consists, essentially, in a large collection of so-called "*embodiments of the invention*", actually referring to various aspects of signal coding techniques, without providing any clear teaching as to how these various techniques are to be combined in one invention. Although claim 3 appears to focus, more concretely, on the embodiment of Figures 24 and 25, the description, as a whole, makes it difficult for the skilled reader to appreciate what is the invention for which protection is sought.
- 3.3 For these reasons, the request filed by the appellant during the oral proceedings does not *prima facie* meet the requirements of Article 84 EPC 1973. Hence, exercising its discretion under Article 13(1) RPBA, the Board did not admit the request into the appeal proceedings.
4. In the absence of any admissible request, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



R. Schumacher

G. Assi

Decision electronically authenticated