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Datasheet for the decision of 10 July 2026

Case Number: T 1235/24 - 3.4.01

Application Number: 20155702.2

Publication Number: 3671736

IPC: G10L19/00, G10L19/02

Language of the proceedings: EN

Title of invention:
AUDIO DECODER, METHOD FOR DECODING AN AUDIO SIGNAL AND CORRESPONDING COMPUTER PROGRAM

Applicant:
Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.

Headword:
Context-based audio decoding / Fraunhofer-Gesellschaft

Relevant legal provisions:
EPC Art. 87(1)

Keyword:
Priority - validity of priority claim (no)

Decisions cited:
T 1385/18

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Case Number: T 1235/24 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 10 July 2026

Appellant: (Applicant)	Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V. Hansastr. 27c 80686 München (DE)
Representative:	Burger, Markus Schoppe, Zimmermann, Stöckeler Zinkler, Schenk & Partner mbB Patentanwälte Radlkoferstraße 2 81373 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted/electronically transmitted on 23 April 2024 refusing European patent application No. 20155702.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	P. Scriven
Members:	A. Medeiros Gaspar
	L. Basterreix

Summary of Facts and Submissions

I. The applicant appealed the Examining Division's decision to refuse the application.

II. The application is a divisional application, of an application filed on 6 October 2009 and claiming the priority of the US provisional application 61/103,820 filed 8 October 2008.

III. The following document, published during the priority year, was cited during examination proceedings:

D1: Max Neuendorf and Philippe Gournay, "WD3 of USAC", ISO/IEC JTC1/SC29/WG11, MPEG2009/ N10661, 26 May 2009.

IV. The Examining Division came to the conclusion that the priority claim was not valid for claim 1 of the main request before them, with the consequence that D1 formed part of the prior art. They also found that D1 deprived claim 1 of novelty.

V. On appeal, the applicant contested the Examining Division's finding that the priority was not validly claimed. They requested that the contested decision be set aside and the issue of "an Official Communication under 71(3) EPC".

VI. The appellant also conditionally requested oral proceedings.

VII. In a communication under Article 15(1) RPBA, the Board expressed the preliminary and non-binding opinion that the priority claim was not valid.

VIII. Oral proceedings took place before the Board, at the end of which the appellant confirmed their request to be as set out under point V.

IX. Claim 1 of the sole request reads:

An audio decoder (100;200) for providing a decoded audio information (112;212) on the basis of an arithmetically encoded audio information (110;210, 222,224), the audio decoder comprising:

a context-based arithmetic decoder (120;240) configured to decode the arithmetically-encoded spectral values (110;210,222,224) in dependence on a context (q[O],q[l]), which context is based on previously-decoded spectral values in a non-reset state-of-operation;

a linear-prediction-domain to time-domain audio signal reconstruction and a frequency-domain to time-domain audio signal reconstruction;

wherein the context-based arithmetic decoder (120;240) is configured to select a cumulative frequency information (cum_freq[pki]), for deriving the decoded spectral values (112;212) from the encoded audio information, in dependence on the context (q[0],q[l]), and to use the selected cumulative frequency information for deriving a first portion of the decoded spectral values; and

wherein the audio decoder is configured to reset (arith_reset_context) the context (q[0],q[l]) for selecting the cumulative frequency information to a default context, which default context is independent from the previously-decoded spectral values (qs), in response to a side information (132; arith_reset_flag) of the encoded audio information (110;210), and
wherein the context-based arithmetic decoder is configured to use the cumulative frequency information, which is based on the default context, for deriving a second portion of the decoded spectral values;

wherein the audio decoder is configured to receive, as the side information (132;arith_reset_flag) for resetting the context (q[0],q[l]), a one-bit context reset flag per audio frame of the encoded audio information (110;210,224), and

to receive, as the encoded audio information, a sequence of encoded audio frames (1210,1220,1230), the sequence of

encoded audio frames comprising a linear prediction- domain audio frame (1210,1220,1230), comprising linear prediction parameters together with an excitation signal which is an ACELP-encoded excitation or an arithmetically coded transform-coded-excitation, and a frequency domain frame comprising scale factor data and arithmetically coded spectral data;

wherein the linear-prediction-domain audio frame comprises a selectable number of transform-coded-excitation portions (1212b, 1212c,1212d,1222a,1222b,1222c,1222d,1232) for exciting a linear-prediction-domain audio synthesizer (262); and

wherein the context-based arithmetic decoder (120;240) is configured to decode spectral values of the transform-coded-excitation portions in dependence on a context (q[0],q[1]), which context is based on previously-decoded spectral values in a non-reset state of operation; and

wherein the context-resetter (130) is configured to reset, in response to the side information (l32;arith_reset_flag), the context (q[0],q[1]) to the default context before a decoding of a set of spectral values of a first transform-coded-excitation portion (1212b,1222a,1232) of a given audio frame (1210,1220,1230), while omitting a reset of the context to the default context between a decoding of sets of spectral values of different transform-coded-

excitation portions (1212b,1212c,1212d; 1222a,1222b,1222c,1222d) of the given audio frame (1210,1220,1230).

Reasons for the Decision

Validity of the priority claim

1. The priority document comprises 96 pages, organized in chapters, as indicated in a table of contents, presented from page 2 to page 4. The table of contents is preceded by a first page indicating, under the heading "Description", that:

Several aspects of the present invention are described in the following description in: Table 4.1, Table 4.2, Table 4.3, Table 4.5 lines 18-29 (tw-related syntax), Table 4.6, Table 4.7, Table 4.8, Table 4.9, Table 4.10, Table 4.15, Table 4.17, Table 4.18, Table 4.19, Table 4.20, Table 4.21, Table 4.23, Table 4.24, Table 4.25, Table 4.26, Table 4.27, Table 4.28, Section 5.1.1, Section 5.2.1.1, Section 5.2.1.2, Section 5.2.2.1, Section 5.2.2.2, Section 5.2.2.4, Section 5.3.2.1 definition of arith_reset_flag, Section 5.2.4, Section 5.2.5, Section 5.2.6, Section 6.2, Section 6.4, Section 6.5, Section 6.9, Section 6.10 and Annex B.

2. The Examining Division found that the specific combination of features defined in claim 1 could not be

directly and unambiguously derived from the various passages of the priority document indicated by the appellant.

3. The appellant argues, to the contrary, that on the basis of the statement on page 1 of the priority document, reproduced above, the skilled person would understand that certain of the aspects mentioned on that passage could be isolated from others.

4. The reference to *arith_reset_flag*, in particular, would direct the skilled person to those of the listed passages that make reference to it, namely, tables 4.8 and 4.10 and sections 5.2.3.1, 5.2.4 and 6.4. The skilled person would also consult tables 4.11 and 4.14, even though they are not listed on page 1 of the priority document, because those tables also relate to the same functionality. From each of those passages the skilled person would then extract the key teachings to be combined with the essential features described in the section providing a technical overview (section 1.1 of the priority document).

5. The Board is not persuaded.

6. Even if it could be accepted that the skilled person would understand that some of the "aspects" were related to some, but not all, of the others, nothing on page 1 identifies any particular "aspect" or picks out any specific combination of "aspects". This applies, in particular to the reference to "Section 5.3.2.1 definition of arith_reset_flag". There is nothing to indicate that the reader should pursue the mentions of "arith_reset_flag" throughout the document.

7. The appellant's argument, according to which each individual feature of claim 1 was, in one way or another, derivable from the various passages of the priority document that (directly or indirectly) referred to *arith_reset_flag*, also misses the point that the priority claim is only valid for claim 1 if the specific combination of features defined in the claim is directly and unambiguously identified in the priority document.

8. With regard to Section 1.1 and Figure 1.2 of the priority document, the appellant is correct in noting that these provide a technical overview and depict, in a block diagram, a combination of functions implemented in a decoder.

9. However, Section 1.1 and Figure 1.2 of the priority document do not disclose a decoder according to claim 1. For instance, they do not disclose the decoder as being context-based, and do not disclose a configuration of the decoder to reset the context, as defined in the claim. Conversely, claim 1 does not define the decoder depicted in Figure 1.2.

10. Furthermore, as the Examining Division correctly observed, each of the features defined in claim 1 was disclosed, in the passages to which the appellant referred as providing its basis, as functionally linked to other features that were not included in the claim.

11. The appellant's argument, according to which it would be apparent to the skilled person which of those other features could be omitted, overlooks the fact that the features the appellant identifies as inessential were not described as such and would, thus, not (at least not all) be regarded as mere implementation details,

that the skilled person would immediately recognise as such.

12. The situation, rather, is that the features of the claim have each been isolated from the context in which they were disclosed, generalized, and combined with other features, equally isolated from their respective contexts and generalized.

13. As an example, section 6.4.3 of the priority document describes how it is determined whether the context of the decoder must be reset. It explains that this is done on the basis "4-tuples quantized spectral coefficients noiselessly coded and transmitted starting from the lowest to the highest frequency". Not only are these elements not described as optional, but the skilled person would also immediately recognise that this context reset method could not be generalised to any other tuples, or to any other forms of quantization and transmission, though all those are covered by the wording of claim.

14. The appellant also argued that the decision in T 1385/18 indicated that the requirements for accepting the validity of the priority claim should not be overstressed.

15. However, quite apart from the fact that the 6-page priority document of the application underlying T 1385/18 differs significantly from the priority document of this application, the approach adopted in that decision (reasons 3 to 6) does not contradict the approach adopted by the Board in this case.

16. All in all, the Board fails to identify, in the priority document - in particular in sections 1.1,

5.2.3.1, 5.2.4, 6.4, as well as tables 4.8, 4.10, 4.11, 4.14, and 4.15, mentioned by the appellant - a direct and unambiguous disclosure of the combination of features defined in claim 1 of the main request.

17. Therefore, the priority is not validly claimed for claim 1 of the main request (Article 87(1) EPC).

Consequences of the invalidity of the claimed priority

18. The priority claim not being valid, D1 forms part of the state of the art under Article 54(2) EPC.

19. The appellant did not contest the Examining Division's finding that D1 disclosed all the features of claim 1 of the main request. Consequently, that part of the decision is not open to review.

20. The Board sees, therefore, no reason for setting aside the contested decision.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar: The Chairman:

D. Meyfarth P. Scriven

Decision electronically authenticated