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Datasheet for the decision of 9 December 2011

Case Number: T 1240/08 - 3.5.05

Application Number: 00301167.3

Publication Number: 1032152

IPC: H04L 1/00

Language of the proceedings: EN

Title of invention:
Unequal error protection for multi-mode vocoders

Applicant:
LUCENT TECHNOLOGIES INC.

Headword:
Unequal error protection for multi-mode vocoders/LUCENT

Relevant legal provisions:
EPC Art. 52(1), 54(2), 84, 106, 107, 108, 111(1), 123(2)
EPC R. 111(2)
RPBA Art. 15(3)

Keyword:
"Clarity and support by the description (yes - after amendment)"
"Novelty (yes - after amendment)"
"Remittal to the department of first instance"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1240/08 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 9 December 2011

Appellant: LUCENT TECHNOLOGIES INC.
600 Mountain Avenue
Murray Hill, NJ 07974-0636 (US)

Representative: Sarup, David Alexander
Alcatel-Lucent Telecom Limited
Unit 18, Core 3, Workzone
Innova Business Park
Electric Avenue
Enfield EN3 7XU (GB)

Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 24 January 2008 refusing European patent application No. 00301167.3 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: A. Ritzka
Members: M. Höhn
F. Blumer

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, dispatched on 24 January 2008, refusing European patent application No. 00301167.3 because of lack of novelty (Articles 52(1) EPC and 54(2) EPC) having regard to the disclosure of

D1: US 5751725 A1.

Further publications referred to in the decision under appeal were

D2: US 5754734 A1,
D3: JP 10091194 A and
D4: US 5909663 A1.

II. The notice of appeal was submitted on 13 March 2008. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was submitted on 6 May 2008. 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 filed with the statement setting out the grounds of appeal.

III. A summons to oral proceedings to be held on 9 December 2011 was issued on 16 September 2011. In an annex accompanying the summons the board expressed its preliminary opinion that the subject-matter of independent claim 1 did not appear to fulfil the requirements of clarity and support by the description (Article 84 EPC). Furthermore, the subject-matter of independent claim 1 did not appear to be novel having regard to the disclosure of D1.

Since a complete assessment of inventive step for the claimed subject-matter had not been carried out during the first-instance proceedings, the board expressed its intention to remit the case to the department of first instance for further prosecution (Article 111(1) EPC), should the objections under Articles 54(2) and 84 EPC be overcome.

IV. With a letter dated 8 November 2011 the appellant submitted an amended set of claims 1 to 13 together with arguments in support of the amendments and of the clarity and novelty of the claimed subject-matter. In addition, the appellant informed the board that it would not be attending the oral proceedings scheduled for 9 December 2011.

V. Independent claim 1 reads as follows:

"1. A method of detecting errors in data received by a multi-mode vocoder, said method comprising:
receiving a transmission, the transmission including data and an error code;
reading the error code; and
determining whether the data is erroneous by successively comparing the error code to portions of the data using a plurality of CRC coding formulas-until at least one [sic] the comparisons matches, or all of the comparisons fail, the data being determined error-free if one of the comparison[sic] matches, the data being determined erroneous if all of the comparison [sic] fail,
wherein each CRC coding formula of the plurality of CRC coding formulas is uniquely associated with a different

mode of various modes of the multi-mode vocoder, the various modes of the vocoder being determined by types of data being received by the multi-mode vocoder."

Independent claim 6 reads as follows:

"6. A method of detecting errors in data transmission received by a multi-mode vocoder, the data transmission including data and an error code, said method comprising:
reading the error code and portions of the data identifying a mode; and
determining whether the data is erroneous by comparing the error code to portions of the data using a CRC coding formula dictated by the identified mode, wherein if the comparison matches, the data is deemed error-free and otherwise the data is deemed erroneous,
wherein the multi-mode vocoder has a plurality of modes and a plurality of CRC coding formulas, the identified mode being one of the plurality of modes corresponding to a type of the data, and each CRC coding formula of the plurality of CRC coding formulas is uniquely associated with a different mode of the plurality of [sic]."

From the marked-up version of claim 6 showing the amendments made and which was submitted together with the clean copy of claim 6, it is apparent that claim 6 was intended to end with the words "of the plurality of modes".

Independent claim 10 reads as follows:

"10. A method of forming data for transmission by a multi-mode vocoder, said method comprising:
analyzing an input signal of the multi-mode vocoder to determine a mode of the multi-mode vocoder,
processing the input signal, in accordance with the mode, to form data;
selecting a CRC coding formula from a plurality of CRC coding formulas based on the mode;
forming an error code by applying the selected CRC coding formula to a portion of the data, with the CRC coding formula being selected in accordance with the mode; and
attaching the error code to the data,
wherein the multi-mode vocoder has a plurality of modes, each mode being determinative of types of data being transmitted by the multi-mode vocoder, and each of the plurality of CRC coding formulas of the plurality of CRC coding formulas [sic] is uniquely associated with a different mode of the plurality of modes."

VI. The appellant requested in writing that the appealed decision be set aside and that a patent be granted on the basis of the set of claims 1 to 13 submitted with letter dated 8 November 2011.

VII. Oral proceedings were held on 9 December 2011 in the absence of the appellant. After due deliberation on the basis of the written submissions and of the request, the board announced its decision.

Reasons for the Decision

1. Admissibility

The appeal complies with the provisions of Articles 106 to 108 EPC (see Facts and Submissions, point II above). It is therefore admissible.

2. Non-attendance at oral proceedings

In its letter of 8 November 2011 the appellant announced that it would not be attending the oral proceedings. The board considered it expedient to hold them on the date set. Nobody attended the hearing on behalf of the appellant.

Under Article 15(3) RPBA, the board is not obliged to delay any step in the proceedings, including its decision, by reason only of the absence at the oral proceedings of any party duly summoned who may then be treated as relying only on its written case.

Thus the board was in a position to take a decision at the end of the oral proceedings.

3. Amendments - Article 123(2) EPC

3.1 The board considered the feature of claim 1 "a plurality of formulas corresponding to a plurality of modes of the data", as submitted with the statement setting out the grounds of appeal and introduced into the appeal proceedings by amending claim 1 as refused by the decision under appeal, to be a generalisation of

the original disclosure and therefore to lack a basis in the description as originally filed. By deleting this feature in present claim 1, this objection has been overcome.

3.2 The feature "a plurality of CRC coding formulas" of claims 1, 6 and 10, which was introduced by amendment, is originally disclosed on page 8, lines 13 and 14 of the application as filed ("In other words, each mode would have its own CRC coding formula.").

3.3 The last feature of present claim 1 which was added by amendment reads

"wherein each CRC coding formula of the plurality of CRC coding formulas is uniquely associated with a different mode of various modes of the multi-mode vocoder, the various modes of the vocoder being determined by types of data being received by the multi-mode vocoder."

Independent claims 6 and 10 have been amended in a similar way by a corresponding feature.

This feature is disclosed in claim 13 as filed and on page 8, lines 19 to 23 of the application as originally filed. Since original claim 13 makes reference to all independent claims 1, 6 and 10, the requirements of Article 123(2) EPC are fulfilled for all the independent claims.

4. The decision under appeal is based solely on lack of novelty of the subject-matter of claim 1 with regard to the disclosure of D1.

4.1 The examining division argued that D1 disclosed "four formulas" according to the four data rates which were to be "blind" detected. The board agrees that a different data rate can be considered to be a "different mode of various modes …, the various modes … being determined by types of data being received" according to the added feature of claim 1, because a "mode" comprises both coding schemes and data rates. Therefore this aspect of the amendment does not render claim 1 novel over the disclosure of D1.

4.2 Claims 1, 6 and 10 specify the use of a plurality of CRC coding formulas, each of the CRC coding formulas being uniquely associated with a different mode of various modes of the multi-mode vocoder, the various modes of the vocoder being determined by types of data being received by the multi-mode vocoder. In contrast, according to the teaching of D1 different versions of a portion of data, each of the versions corresponding to a different data rate, are compared to a CRC, i.e. the same error code for all of the versions (see column 5, lines 1 to 15). Hence, D1 does not teach the use of mode-specific CRC coding formulas for the CRC coding/decoding, each being uniquely associated with a different mode of various modes according to the last feature of each of claims 1, 6 and 10.

The subject-matter of independent claims 1, 6 and 10 is therefore novel with regard to the disclosure of D1.

5. The decision under appeal contains obiter dicta in section III ("Remarks") dealing with independent claims 6 and 10. Although this is not part of the

reasons for the decision under appeal, the board gives below its opinion on the relevance of prior-art publications D2 and D4, so as to complete the substantive examination of the requirement of novelty according to Articles 52(1) and 54(2) EPC.

5.1 The subject-matter of claims 6 and 10 is not directed to "blind detection". In fact, information is transmitted identifying the mode to be chosen in the receiver. According to the disclosure of D2, it is the position of the bits in a frame which identify the mode, rather than a dedicated code or portion of data. However, the board accepts that this is within the scope of the feature of "portions of data identifying a mode" of claim 6.

However, the claimed subject-matter still requires a plurality of CRC formulas, but only a single one is chosen for comparing the error code to portions of the data. D2 is silent about multiple formulas to choose from for error correction according to the mode used for encoding. As can be seen from figure 5 of D2, there is only a single mode using a CRC error code (CLASS I). Therefore D2 does not disclose the selection of a formula dictated by an identified mode which is used for comparing the error code to portions of data.

The board therefore agrees with the appellant's argument (see letter dated 8 November 2011, page 2, last paragraph) that although D2 teaches the prioritisation of certain bits of a first frame and of a second frame and then the performing of a single CRC check on combined bits, it does not disclose a plurality of CRC coding formulas.

5.2 The board further agrees with the appellant's argument that D2 discloses encoding on the transmitter side, but fails to disclose concrete steps for determining whether the data is erroneous by comparing the error code to portions of the data using a formula dictated by the mode from a plurality of CRC formulas on the receiver side. D2 discloses encoding of data with different modes (see e.g. column 3, lines 24 to 52). Only the most important bits are encoded using a CRC error code. However, no explicit information is given regarding how such data and the error code are used for decoding and error correction.

5.3 For the same reason, D2 does not disclose the step "selecting a CRC coding formula from a plurality of CRC coding formulas based on the mode" in corresponding independent claim 10.

D2 therefore does not anticipate the subject-matter of claims 6 and 10, contrary to the reasoning in section III of the decision under appeal.

6. The board notes that D4 is not prior art under Article 54(2) EPC, but was cited during the first-instance proceedings as an indication that its family member D3 in Japanese, which is prior art, was novelty-destroying (see section III-1.1 of the decision under appeal: "D4 appears to be a truthful translation of the document D3"). Since the abstract of D3 in English does not disclose all the features of the independent claims 1, 6 and 10 and the exact content of pre-published document D3 is not known, whereas D4 is post-published, the board is not in a position to base a

decision on either D3 or D4 without a correct translation of D3 in one of the official languages.

7. Only a very general statement is found (in section II.1.3 of the decision) to the effect that the subject-matter of claim 1 at least did not involve an inventive step in view of D1 combined with one of D2 to D4. No reasoning was given, and not even any difference and the underlying technical problem were identified. This is not considered to constitute a reasoned decision within the meaning of Rule 111(2) EPC. A complete assessment of inventive step for the claimed subject-matter has therefore not been carried out during the first-instance proceedings.

For this reason, and since the objections under Articles 54(2) and 84 EPC raised or dealt with in the annex to the summons for oral proceedings have been overcome, the board exercises its discretion to remit the case to the department of first instance for further prosecution (Article 111(1) EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance for further prosecution on the basis of claims 1 to 13 submitted with letter dated 8 November 2011.

The Registrar | The Chair

K. Götz | A. Ritzka