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Datasheet for the decision of 30 April 2014

Case Number: T 2425/10 - 3.5.04

Application Number: 01933958.9

Publication Number: 1293096

IPC: H04N7/68, H04N5/14

Language of the proceedings: EN

Title of invention:
FLAG CONTROLLED VIDEO CONCEALING METHOD

Applicant:
SISVEL International S.A.

Headword:

Relevant legal provisions:
EPC 1973 Art. 56, 113(1)
EPC Art. 123(2)
EPC 1973 R. 67

Keyword:
Amendments - added subject-matter (yes)
Inventive step - (no)
Reimbursement of appeal fee - (no)

Decisions cited:
G 0010/93, T 1266/07

Catchword:

Europäisches Patentamt
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Case Number: T 2425/10 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 30 April 2014

Appellant: (Applicant)	SISVEL International S.A. 44, rue de la Vallée 2661 Luxembourg (LU)
Representative:	Potter Clarkson LLP The Belgrave Centre Talbot Street Nottingham, NG1 5GG (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 27 July 2010 refusing European patent application No. 01933958.9 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	F. Edlinger
Members:	R. Gerdes
	B. Müller

Summary of Facts and Submissions

I. The appeal is directed against the decision to refuse European patent application No. 01 933 958.9, published as international application No. WO 01/89228 A1.

II. The patent application was refused by the examining division on the grounds that the subject-matter of the independent claims of the main request lacked novelty (claim 1) or inventive step (certain other claims). The claims according to the auxiliary request were considered to lack clarity and to relate to content extending beyond the content of the application as filed. The prior-art documents taken into account in the decision under appeal included the following:

D4: G. Côté, M. Gallant: "Proposed Draft of modified Annex L including Copyright, normative Error Concealment, and Exact IDCT Signaling", JOINT VIDEO TEAM (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/ SC29/WG11 and ITU-T SG16 Q6), no. q15i22, 11 October 1999, pages 1 to 10, XP030002992.

In a section entitled "Further Observations" the examining division indicated that the subject-matter of the independent claims of the auxiliary request also lacked novelty or inventive step, respectively, in view of the disclosure of D4. For the sake of completeness only, the examining division referred to a new document D6 and provided arguments as to why the disclosure of that document was relevant to the claimed subject-matter:

D6: US 5 737 022 A.

III. The applicant appealed against this decision and, with the statement of grounds of appeal, submitted claims of a main request and of first to third auxiliary requests, these sets of claims being labelled as M1 and A1 to A3, respectively. The claims of the main request and of the first auxiliary request were identical to those of the corresponding requests underlying the decision under appeal. The appellant requested that the decision under appeal be set aside and that favourable reconsideration be given to the application on the basis of the new claims. Furthermore, the appellant requested a refund of the appeal fee "given that the applicant has not previously had a chance to comment on the interpretation of D6 before the Examining Division." The case should be remitted to the examining division if the board considered D6 to be *prima facie* relevant.

IV. With a letter of 25 July 2012 the appellant filed claims of further auxiliary requests by making two specific amendments to each of the requests submitted with the statement of grounds of appeal. These requests were labelled M1-2, A1-2, A2-2, A3-2 and M1-3, A1-3, A2-3, and A3-3.

V. In a communication annexed to a summons to oral proceedings the board indicated *inter alia* that it tended to share the examining division's opinion that the subject-matter of the independent claims of the main request lacked either novelty or inventive step. The board stated that it did not consider the citation of D6 in the section "Further Observations" of the decision under appeal to constitute a procedural violation. The board expressed the provisional opinion that the examining division's reasoning in the decision under appeal regarding novelty and inventive step of

the claimed subject-matter appeared to apply equally with respect to the disclosure of D6. In addition, the board raised objections under Article 123(2) EPC and Article 84 EPC 1973, some of which applied to all requests.

VI. With a letter of reply of 28 March 2014 the appellant submitted claims of 14 new auxiliary requests labelled M1-4, A1-4, A2-4, A3-4, A2-5, A3-5, A2-6, A2-7, A3-8, A3-9, A3-10, A3-11, A3-12 and A3-13.

VII. In a fax dated 14 April 2014, the appellant requested that the scheduled oral proceedings be held by video conference if possible.

VIII. The board informed the appellant on 22 April 2014 that oral proceedings by video conference before the boards of appeal were not permitted.

IX. Oral proceedings were held by the board on 30 April 2014. As announced beforehand, nobody appeared for the appellant. The board noted that the appellant had requested in writing that the decision under appeal be set aside and that a patent be granted on the basis of the claims of one of the requests in the order as set out in the letter of 28 March 2014 on pages 2 to 4. The board further noted that the appellant had requested a refund of the appeal fee and remittal of the case to the examining division if the board considered document D6 to be *prima facie* relevant.

X. Claim 1 of the **main request M1** reads as follows:

"A method of encoding a sequence of pictures to form an encoded video signal, the method comprising:

- generating an error concealment algorithm type indicator for a picture or a part of a picture, the error concealment algorithm type indicator being distinct from an encoding mode indicator for the picture and having a value indicative of a type of error concealment algorithm to be used in a corresponding decoding process; and
- providing the error concealment algorithm type indicator, for use in the corresponding decoding process, separate from the encoding mode indicator for the picture."

XI. Claim 1 of the **first auxiliary request A1** differs from claim 1 of the main request M1 by the insertion of the following additional feature after "in a corresponding decoding process":

", the value of the indicator providing a type indication without specifically indicating a particular error concealment algorithm for the picture or said part of a picture".

XII. Claim 1 of the **second auxiliary request A2** is based on claim 1 of the main request M1. The method step relating to "generating an error concealment algorithm type indicator ..." has been reformulated to read (amendments highlighted in bold by the board):

"generating an error concealment algorithm type indicator for a picture or a part of a picture, the error concealment algorithm type indicator being distinct from an encoding mode indicator for the picture and having a value indicative **that either a temporally-predictive or a non-temporally-predictive** type of error concealment algorithm **is** to be used in a corresponding decoding process".

XIII. Claim 1 according to the **third auxiliary request A3** contains the amendments according to both the first auxiliary request A1 and the second auxiliary request A2.

XIV. Each claim 1 of the **fourth to seventh auxiliary requests M1-2, A1-2, A2-2 and A3-2** is based on claim 1 of the main request M1 and the first to third auxiliary requests A1 to A3, respectively. These claims contain the following additional feature:

".. and having **one of at least two** value**s** indicative ...".

XV. Each claim 1 of the **eighth to eleventh auxiliary requests M1-3, A1-3, A2-3 and A3-3** is based on claim 1 of the fourth to seventh auxiliary requests M1-2 to A3-2, respectively. These claims contain the following additional feature, which is appended to the method step of "generating an error concealment algorithm type indicator ...":

"thereby to allow choice of a particular error concealment of the type indicated from a number of available error concealment algorithms at the decoder".

XVI. Claim 1 of the **twelfth auxiliary request M1-4** is identical to claim 1 of the eighth auxiliary request M1-3 except for the fact that the expression "thereby to allow choice of ..." has been amended to read "thereby to allow **a free** choice ...". Each claim 1 of the **thirteenth to fifteenth auxiliary requests A1-4, A2-4 and A3-4** has been modified similarly based on claim 1 of the ninth to eleventh auxiliary requests

A1-3, A2-3 and A3-3, respectively, to read "thereby to allow **free** choice ...".

XVII. Each of claim 1 according to the **sixteenth and seventeenth auxiliary requests A2-5 and A3-5** corresponds to claim 1 of the fourteenth and fifteenth auxiliary requests A2-4 and A3-4, respectively, with the expression "having one of at least two values indicative that either ..." being replaced by "having two values respectively indicative of either ...".

XVIII. Claim 1 according to the **eighteenth auxiliary request A2-6** reads as follows:

"A method of encoding a sequence of pictures to form an encoded video signal, the method comprising:
- based on a measured similarity between a first picture of the sequence or a part of a first picture of the sequence and a second picture of the sequence, and a comparison of the similarity with a predetermined criterion, generating an error concealment algorithm type indicator for the first picture or said part of a first picture, the error concealment algorithm type indicator being distinct from a picture coding type indicator for the first picture and having one of at least two values indicative that either a temporally-predictive or a non-temporally-predictive type of error concealment algorithm is to be used in a corresponding decoding process, thereby to allow choice of a particular error concealment of the type indicated from a number of available error concealment algorithms at the decoder; and
- providing the error concealment algorithm type indicator, for use in the corresponding decoding process, separate from the picture coding type indicator for the first picture."

XIX. Claim 1 according to the **nineteenth auxiliary request A2-7** corresponds to claim 1 of the eighteenth auxiliary request A2-6, with the first method step being modified to read:

"**- calculating a measure of similarity between a first picture of the sequence or a part of a first picture of the sequence and a second picture of the sequence**;
- comparing the measure of similarity with a predetermined criterion of similarity; and
- generating an error concealment algorithm type indicator for the first picture or **a** part of **the** first picture **based on the comparison**, the error concealment type indicator being distinct from ...".

XX. Claim 1 according to the **twentieth auxiliary request A3-8** differs essentially from claim 1 of the nineteenth auxiliary request A2-7 by the insertion of the following additional feature after the expression "in a corresponding decoding process":

", the value of the indicator providing a type indication without specifically indicating a particular error concealment algorithm for the first picture or said part of a first picture".

XXI. Claim 1 according to the **twenty-first auxiliary request A3-9** differs from claim 1 of the twentieth auxiliary request A3-8 in that the following feature has been deleted from the claim:

", thereby to allow choice of a particular error concealment of the type indicated from a number of available error concealment algorithms at the decoder".

XXII. Claim 1 according to the **twenty-second auxiliary request A3-10** differs from claim 1 of the twenty-first auxiliary request A3-9 in that the expression "non-temporally-predictive type of error concealment algorithm" has been amended to read "spatial type of error concealment algorithm". In addition, the expression "the value of the indicator providing a type indication without specifically indicating a particular error concealment algorithm" has been replaced by "the value of the indicator not specifying the particular error concealment algorithm".

XXIII. Claim 1 according to the **twenty-third auxiliary request A3-11** differs from claim 1 of the twenty-second auxiliary request A3-10 in that the expression "the error concealment algorithm type indicator being distinct from a picture coding type indicator for the first picture and having one of at least two values indicative that either ..." has been amended to read "the error concealment algorithm type indicator being distinct from a picture coding type indicator for the first picture, changes in the value of the error concealment algorithm type indicator indicative that either ...".

XXIV. Claim 1 of the **twenty-fourth auxiliary request A3-12** is essentially distinguished from claim 1 of the twenty-third auxiliary request A3-11 in that the reference to the calculation of a measure of similarity for "a part of a first picture of the sequence" has been deleted.

XXV. Claim 1 of the **twenty-fifth auxiliary request A3-13** is based on claim 1 of the twenty-fourth auxiliary request A3-12. It is essentially distinguished by deletion of the reference to the use of the error concealment algorithm in a corresponding decoding process.

XXVI. In the decision under appeal the examining division referred to the expression "error concealment algorithm type" in claim 1 of the (first) auxiliary request. This expression was unclear and went beyond the content of the application as filed. More specifically, "the filed description (cf. page 15, lines 13-25) discloses in the context as claimed only that the indicator consists in one bit that identifies whether a temporal prediction concealment algorithm or a spatial concealment method is used, where the specific spatial or temporal concealment algorithm is not further defined by the indicator itself" (see decision under appeal, Reasons 4.1 to 4.3).

XXVII. The appellant contested this objection, arguing that a basis for the amendment could be found throughout the application, including page 6, lines 24 to 27.

Regarding the objections under Article 123(2) EPC that had been raised in the communication annexed to the summons to oral proceedings, the appellant did not provide any arguments.

In respect of D6 the appellant disputed that the document disclosed an indication of a type of error concealment algorithm. There was "no discussion of the decoder being given a choice of a particular error concealment algorithm of the type indicated". With reference to D6, figure 10: 146 and column 19, lines 45 to 50, the appellant stated that D6 disclosed "a selection of either a specific temporal error concealment algorithm or a specific spatial error concealment algorithm", "responsive to an indication of an encoding mode for the picture in which the error occurs". Such a dependency of error concealment on the

encoding mode was specifically excluded by the claims of the appellant's requests, since claim 1 specified that the error concealment algorithm type indicator was "distinct from an encoding mode indicator" for the picture. Furthermore, the decision under appeal had given little weight to the word "type" in the claims. The prior art did not disclose a grouping of algorithms into categories having similar characteristics, as was required by the word "type". There was no teaching or suggestion in the prior art "to leave the decision of the actual error concealment algorithm to be used to the decoder, based on the type indicator, as presently claimed" (see statement of grounds, page 3, third paragraph, page 5, second paragraph and page 7, second paragraph).

With respect to its request for reimbursement of the appeal fee the appellant did not file any observations on the preliminary opinion expressed by the board.

Reasons for the Decision

1. The appeal is admissible.

Request to hold oral proceedings as a video conference

2. According to the "Updated information from the European Patent Office dated 1 May 2012 concerning interviews and oral proceedings to be held as a video-conference" (see OJ EPO 2012, 354), applicants and their representatives can request that an interview or oral proceedings before an examining division be held as a video-conference. This is also confirmed in the Guidelines for Examination, E-II, 11.1.1. There are no corresponding provisions for the boards of appeal. The

board notes that the "general framework" that would be required as a prerequisite for holding a video conference before a board of appeal, as set out in T 1266/07 (see Reasons 1.2), is currently not in place.

Hence, the request to hold oral proceedings before the boards of appeal by video conference had to be refused.

Main request M1 and first to seventeenth auxiliary requests A1 to A3-5

3. According to Article 123(2) EPC the European patent application may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed. The relevant criterion is whether the proposed amendments are directly and unambiguously derivable from the application as filed (see Case Law of the Boards of Appeal of the European Patent Office, 7th edition, 2013, section II.E.1.7).

3.1 Claim 1 of the application as filed included the following features: "comparing a first picture with a second picture, calculating a measure of similarity between the first and the second pictures, comparing the measure of similarity with a predetermined criterion of similarity". These features or corresponding features were also present in the other independent claims 5, 9 and 10 relating to an encoder or an encoding method of the application as filed. In addition, the features were explicitly or implicitly included in the passages of the description presenting the invention in general form (see page 6, lines 12 to 22, page 7, lines 1 to 17, page 8, lines 13 to 21, page 9, lines 13 to 24, page 9, line 26 to page 10, line 3). These feature were thus consistently presented

as features of the invention and the application does not present an alternative way to determine the error concealment algorithm type indicator.

3.2 Hence, considering the overall disclosure of the application as filed, the omission of the above features contravenes Article 123(2) EPC. Since these features are not present in any claim 1 of either the main request or the first to seventeenth auxiliary requests, all of those requests contravene Article 123(2) EPC.

Eighteenth auxiliary request A2-6

4. D6 may be considered as the closest prior art with respect to the subject-matter of claim 1.

4.1 D6 discloses an encoding method for motion pictures allowing for the concealment of transmission errors on the decoder side. In one embodiment of D6 the encoder adds a scene change identifying flag to each frame, the flag having one of two values. The value of the flag serves as an indicator of a scene change and hence as a measure of similarity between two subsequent pictures. The measure of similarity is determined on the basis of the "absolute-value sum of the A.C. components" of an input image. The resulting value is compared with the "absolute-value sum of error signals" supplied from a motion vector detection circuit (see D6, column 4, lines 38 to 55; column 17, lines 22 to 35 and lines 59 and 60; column 19, lines 28 to 42 together with figures 7, 18, 22 and 23). Therefore, the similarity between two (successive) pictures is determined in D6 and the (degree of) similarity compared with a predetermined criterion is used for generating an error concealment algorithm indicator as in present claim 1.

In the decoder of D6 the scene change identifying flag serves to select between a spatial and a temporal error concealment method. If a block cannot be decoded and the scene change identifying flag indicates that a scene change occurred, the output of a pixel value interpolation circuit is used for concealment, i.e. a non-decodable block is concealed based on adjacent blocks of the same frame. Alternatively, a motion-compensated block of a reference frame is used to conceal the non-decodable block. Hence, the scene change identifying flag allows to choose a particular error concealment of the type indicated from a number of available error concealment algorithms at the decoder (see column 10, line 60 to column 11, line 18; column 18, lines 30 to 42; column 19, lines 43 to 55 and figures 10 and 22).

4.2 D6 does not explicitly disclose that the scene change identifying flag is provided separately from the picture coding type indicator for that picture and that it is distinct from a picture coding type indicator for the first picture. D6 discloses that "the scene change identifying flag (1 bit) may be added to each frame" (see column 17, lines 59 and 60).

4.3 Starting from D6 the skilled person would have considered transmitting the scene change identifying flag separately from the picture coding type indicator for that picture. Any other solution - such as using the picture coding type indicator as the scene change identifying flag - would have required further consideration, for example whether the picture coding type indicator always takes the same value as the scene change identifying flag.

4.4 Hence, the subject-matter of claim 1 of the eighteenth auxiliary request A2-6 was obvious to a person skilled in the art in view of D6 and thus lacks an inventive step (Article 56 EPC 1973).

4.5 The appellant's arguments did not convince the board.

The board accepts the appellant's argument that claim 1 unambiguously specifies that the error concealment algorithm type indicator for the first picture is "distinct from a picture coding type indicator for the first picture". However, this does not allow the conclusion that a dependency of the error concealment on encoding mode was specifically excluded.

The specification of an "error concealment algorithm type indicator" in a "method of encoding" does not necessarily imply that the corresponding decoder selects an appropriate error concealment algorithm based on the type indicator (and further criteria). In particular, the wording of claim 1 does not preclude the possibility of each one spatial and temporal error concealment algorithm being permanently assigned to each value of the error concealment algorithm type indicator in a one-to-one relationship.

Hence, the board understands an "error concealment algorithm type indicator ... having one of at least two values indicative that either a temporally-predictive or a non-temporally-predictive type of error concealment algorithm is to be used in a corresponding decoding process, thereby to allow choice ..." in claim 1 as a definition which includes the error concealment algorithm type indicator that is disclosed in D6 (scene change identifying flag).

This understanding of claim 1 is consistent with the examples of the invention presented in the application documents (see dependent claims 7, 8 of auxiliary request A2-6 together with page 13, line 12 to page 14, line 19 of the application as filed). According to these embodiments the encoder "outputs a first concealment method indicator CMI=0" "if the similarity between the two pictures is below a certain threshold" and otherwise "a second concealment method indicator CMI=1". Hence, the error concealment algorithm type indicator of the present invention cannot be distinguished from the flag that is disclosed in D6.

For the above reasons, the error concealment algorithm type indicator of the present encoding method is not distinguished from that of the encoding method of D6, because the same information is transmitted. The appellant's argument only implies that the same encoded information as in D6 is intended to be used in a new way at the decoder of the present application, such that one of several concealment algorithms in the same category may be selected for each value of the error concealment algorithm type indicator. However, this intended use of the known information at the decoder does not make it possible to distinguish the encoding method of D6 in this respect from the one of the present application.

Nineteenth to twenty-fifth auxiliary requests A2-7 to A3-13

5. The amendments of claim 1 according to the **nineteenth auxiliary request** and the additional features of claim 1 according to each of the **twentieth and the twenty-second auxiliary requests** (see points XIX, XX and XXII above) have already been taken into account in the reasoning with respect to claim 1 of the eighteenth

auxiliary request (see point 4.5 above). The subject-matter of claim 1 according to the **twenty-first auxiliary request**, by deleting a feature (see point XXI above), is encompassed in that of the twentieth auxiliary request. Hence, the nineteenth to twenty-second auxiliary requests are not allowable for the reasons given in point 4.5 above.

6. Claim 1 according to the **twenty-third auxiliary request** A3-11 has been amended to refer to the embodiment of the invention described on page 13, line 12 to page 14, line 6. The amendment of claim 1 specifies that scene changes are identified by changes in the value of the error concealment algorithm type indicator (e.g. by incrementing the value each time it is updated). According to D6 (see column 17, lines 28 to 36 and column 19, lines 33 to 36), the scene change identifying flag is enabled when a scene change is detected. Even if the expression "changes in the value..." is given the interpretation as disclosed in the description, such coding of a scene change by assigning different values to subsequent scenes is a matter of normal design possibilities. Whether or not scene changes are indicated by a transition in subsequent values of a flag or by the value of the scene change flag itself is a matter of mere scene change representation which would be chosen by the skilled person taking into account the desired information content and the coding requirements. The appellant has not indicated any additional technical effect, and the board sees none. Hence, this feature cannot justify an inventive step.

Claim 1 according to each of the **twenty-fourth** and **twenty-fifth auxiliary requests** encompasses the subject-matter of claim 1 of the twenty-third auxiliary

request, since features have been deleted (see points XXIV and XXV above) to address objections raised by the board.

Hence, the subject-matter of claim 1 according to the **nineteenth to twenty-fifth auxiliary requests** A2-7 to A3-13 does not involve an inventive step (Article 56 EPC 1973).

7. In summary, none of the appellant's claim requests is allowable.

Request for reimbursement of the appeal fee

8. The appellant requested a refund of the appeal fee "given that the applicant has not previously had a chance to comment on the interpretation of D6 before the Examining Division" (see point III above). According to Rule 67, first sentence, EPC 1973 the reimbursement of appeal fees shall be ordered where the board of appeal deems an appeal to be allowable, if such reimbursement is equitable by reason of a substantial procedural violation.

8.1 The present appeal not being allowable, there is no basis for the reimbursement of the appeal fee pursuant to Rule 67 EPC 1973. The discussion below solely serves the purpose of completeness.

8.2 The objection of the examining division based on D6 was explicitly made under the heading "Further Observations". Hence, these observations do not form part of the reasons of the decision of the examining division.

8.3 Article 113(1) EPC 1973 provides that the decisions of the European Patent Office may only be based on grounds or evidence on which the parties concerned have had an opportunity to present their comments. The interpretation of D6 was not part of the "Reasons for the Decision" under appeal and consequently not part of the grounds and evidence on which the decision was based. Hence, the interpretation of D6 in the section "Further Observations" could not constitute a violation of Article 113(1) EPC.

Apart from that, the appellant has not submitted that it had no opportunity to present comments on the grounds or evidence set out in the "Reasons for the Decision".

The board also notes that further observations may be made to expedite the procedure (see Guidelines for Examination, revised edition of September 2013, E-IX, 5.5). The board sees nothing wrong with this in the present case.

8.4 As a consequence, the appellant's request for reimbursement of the appeal fee cannot be allowed.

Remittal

9. The appellant had requested that the case be remitted to the examining division if the board considered D6 to be prima facie relevant.

9.1 Article 111(1) EPC 1973 specifies that the board of appeal may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution. In deciding on

remittal, the relevant circumstances of the case must be taken into account and consideration must be given in particular as to whether further investigations should be carried out, whether a procedural violation has taken place which would preclude a decision on the merits, whether there has been any significant change in the facts with respect to the contested decision, what stance the applicant is taking with regard to the "loss of instance", whether a decision by the board would speed up the proceedings significantly and whether there are any other grounds for or against remittal (see G 10/93, OJ 1995, 172, Reasons 5).

9.2 In the present case, the board does not see any particular circumstances which preclude a decision on the merits of this case. The amendments made on appeal have not significantly changed the claimed subject-matter with respect to inventive step. Furthermore, the board considered that, in a situation where the essential arguments of the examining division with respect to a new document (D6) were already known to the board and the board concurred with the examining division's assessment of inventive step, the argument of a "loss of instance" had less weight than a speedy conclusion of the proceedings and legal certainty for the interested public. Hence, the board sees no need to remit the case for further prosecution to the examining division and declines to allow the corresponding request.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

K. Boelicke F. Edlinger

Decision electronically authenticated