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**Datasheet for the decision
of 8 November 2018**

Case Number: T 1031/13 - 3.5.04

Application Number: 08828861.8

Publication Number: 2182733

IPC: H04N7/32, H04N7/26

Language of the proceedings: EN

Title of invention:

VIDEO SIGNAL GENERATING DEVICE, VIDEO SIGNAL GENERATING
METHOD, VIDEO SIGNAL GENERATING PROGRAM AND COMPUTER READABLE
RECORDING MEDIUM ON WHICH THE PROGRAM IS RECORDED

Applicant:

Nippon Telegraph and Telephone Corporation

Headword:

Relevant legal provisions:

EPC Art. 56, 123(2)
RPBA Art. 13(1)

Keyword:

Amendments - added subject-matter - main and first auxiliary request (yes)

Inventive step - second and third auxiliary requests (no)

Late-filed fourth auxiliary request - admitted (no)

Decisions cited:

Catchword:



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Case Number: T 1031/13 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 8 November 2018

Appellant: Nippon Telegraph and Telephone Corporation
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on
29 November 2012 refusing European patent
application No. 08828861.8 pursuant to
Article 97(2) EPC**

Composition of the Board:

Chairman C. Kunzelmann
Members: B. Willems
B. Müller

Summary of Facts and Submissions

- I. The appeal is against the decision of the examining division dated 29 November 2012 refusing European patent application No. 08 828 861.8, which was published in accordance with Article 153(4) EPC as EP 2 182 733 A1.
- II. The documents cited in the decision under appeal included the following:
- D1: US 2007/147503 A1 (Ikeda Toshiyuki [JP] et al.)
28 June 2007
- D2: "PROPOSED SMPTE STANDARD for Television-Transporting MPEG-2 Recoding Information through 4:2:2 Component Digital Interfaces", SMPTE JOURNAL, SMPTE INC., SCARSDALE, NY, US, vol. 109, no. 2, February 2000, pages 141-146, XP000913022, ISSN: 0036-1682.
- III. The application was refused on the grounds that the subject-matter of claim 1 extended beyond the disclosure of the application as filed (Article 123(2) EPC) and lacked inventive step over the combined disclosures of D1 and D2 and the common general knowledge of the person skilled in the art (Article 56 EPC).
- IV. The applicant filed notice of appeal. With the statement of grounds of appeal, the appellant filed claims according to a main request and first, second and third auxiliary requests. It submitted that the claims of the main request were identical to those underlying the decision under appeal. It requested that the examining division's decision be set aside and that

a European patent be granted on the basis of the claims of the main request underlying the decision under appeal or on the basis of the claims of the first, second or third auxiliary request. It provided arguments as to why the subject-matter of the claims of all requests met the requirements of Articles 54, 56 and 123(2) EPC.

- V. The board issued a summons to oral proceedings. In a communication under Article 15(1) RPBA (Rules of Procedure of the Boards of Appeal, OJ EPO 2007, 536) annexed to the summons, the board gave its provisional opinion that:
- (a) the subject-matter of claim 1 of the main request extended beyond the disclosure of the application as filed (Article 123(2) EPC);
 - (b) the subject-matter of claim 1 of the main request lacked inventive step over the combined disclosures of D1 and D2 and the common general knowledge of the person skilled in the art (Article 56 EPC);
 - (c) the subject-matter of claim 1 of the first auxiliary request extended beyond the disclosure of the application as filed (Article 123(2) EPC);
 - (d) the subject-matter of claim 1 of the first, second and third auxiliary requests lacked inventive step over the combined disclosures of D1 and D2 and the common general knowledge of the person skilled in the art (Article 56 EPC).
- VI. In its reply dated 30 July 2018, the appellant put forward arguments as to why the claims met the requirements of Articles 56 and 123(2) EPC.

VII. The board held oral proceedings on 8 November 2018.

The appellant was represented. During the oral proceedings, it filed the claims of a fourth auxiliary request.

The appellant's final requests were that the decision under appeal be set aside and that a European patent be granted on the basis of the claims according to the main request or, in the alternative, one of the first to third auxiliary requests filed with the statement of grounds of appeal, or the fourth auxiliary request filed during the oral proceedings of 8 November 2018.

At the end of the oral proceedings, the chairman announced the board's decision.

VIII. Claim 1 of the main request reads as follows:

"A video signal generation apparatus for receiving a bit stream of video coded data generated by infra [read: intra]-coding and inter-coding, and decoding the bit stream in units of blocks each having a specified size to generate a video signal, comprising:

a decoding unit configured to decode coding information, pertaining to coding parameters, for a decoding target block included in the bit stream;

a writing unit configured to write each piece of the coding information at a specified bit position in a 2D data structure with one bit depth having a size the same as that of the decoding target block according to a coding information format that includes a first area and a second area each having a specified bit length and a specified bit position,

the first area including a fixed code area for synchronization, a decoding target block cyclic number area, a picture coding information describing area, a slice coding information describing area, a slice type area, a decoding target block intra-code area, a block division unit flag area, and a block type area, each area having a specified bit length,

the second area corresponding to a switch interpretation area, having a specified bit length, where coding information of intra-coding is written if the macroblock is intra-coded and where coding information of inter-coding is written if the macroblock is inter-coded,

wherein the writing unit:

writes a fixed code for synchronization having a predetermined value in the fixed code area for synchronization,

writes a decoding target block cyclic number indicating a position of the decoding target block on a screen in the decoding target block cyclic number area,

writes picture coding information assigned to the decoding target block in the picture coding information describing area,

writes slice coding information assigned to the decoding target block in the slice coding information describing area,

writes a flag value indicating whether the decoding target block has been coded by intra-coding or

inter-coding in the decoding target block intra-code area

writes information indicating a block division of the decoding target block in the block division flag area and the block type area,

writes a slice type of the decoding target block in the slice type area; and

writes the coding information of intra-coding or inter-coding in the specified switch interpretation area where coding information of the intra-coding is written according to a data format conforming to the intra-coding if the decoding target block has been coded by intra-coding, and coding information of the inter-coding is written according to a data format conforming to the inter-coding if the decoding target block has been coded by inter-coding; and

a generation unit configured to generate a video signal by superimposing the 2D data structure on a decoded image of the decoding target block by embedding the 2D data structure into one bit of the least significant bits of the colour difference component of the video signal."

IX. Claim 1 of the first auxiliary request reads as follows:

"A video signal generation apparatus for receiving a bit stream of video coded data generated by infra [read: intra]-coding and inter-coding, and decoding the bit stream in units of blocks each having a specified size to generate a video signal, comprising:

a decoding unit configured to decode coding information, pertaining to coding parameters, for a decoding target block included in the bit stream;

a writing unit configured to write each piece of the coding information at a specified bit position in a 2D data structure with one bit depth having a size the same as that of the decoding target block according to a coding information format that includes a first area and a second area,

the first area including a fixed code area for synchronization, a decoding target block cyclic number area, a picture coding information describing area, a slice coding information describing area, a slice type area, a decoding target block intra-code area, a block division unit flag area, and a block type area,

the second area corresponding to a switch interpretation area, having a specified bit length, where coding information of intra-coding is written if the macroblock is intra-coded and where coding information of inter-coding is written if the macroblock is inter-coded,

wherein the writing unit:

writes a fixed code for synchronization having a predetermined value in the fixed code area for synchronization,

writes a decoding target block cyclic number indicating a position of the decoding target block on a screen in the decoding target block cyclic number area,

writes picture coding information assigned to the decoding target block in the picture coding information describing area,

writes a piece of slice coding information assigned to the decoding target block in the slice coding information describing area, such that the slice coding information describing area contains information which becomes slice coding information if a plurality of pieces of information of slice coding information describing areas for a plurality of macroblocks in predetermined slices among all slices forming a picture are combined,

writes a flag value indicating whether the decoding target block has been coded by intra-coding or inter-coding in the decoding target block intra-code area

writes information indicating a block division of the decoding target block in the block division flag area and the block type area,

writes a slice type of the decoding target block in the slice type area; and

writes the coding information of intra-coding or inter-coding in the specified switch interpretation area where coding information of the intra-coding is written according to a data format conforming to the intra-coding if the decoding target block has been coded by intra-coding, and coding information of the inter-coding is written according to a data format conforming to the inter-coding if the decoding target block has been coded by inter-coding; and

a generation unit configured to generate a video signal by superimposing the 2D data structure on a decoded image of the decoding target block by embedding the 2D data structure into one bit of the least significant bits of the colour difference component of the video signal."

- X. Claim 1 of the second auxiliary request differs from claim 1 of the first auxiliary request in that the feature

"writes a piece of slice coding information assigned to the decoding target block in the slice coding information describing area [...] for a plurality of macroblocks in predetermined slices among all slices forming a picture are combined"

is replaced by:

"writes a piece of slice coding information assigned to the decoding target block in the slice coding information describing area, such that the slice coding information describing area contains information which becomes slice coding information if all pieces of information of slice coding information describing areas for all macroblocks of a picture are combined" (emphasis added).

- XI. Claim 1 of the third auxiliary request differs from claim 1 of the second auxiliary request in that the introductory part of the claim refers to H.264 and specifies:

"A video signal generation apparatus for receiving an H.264 encoded bit stream of video coded data generated by infra [read: intra]-coding and inter-coding, and

decoding the bit stream in units of blocks each having a specified size to generate a video signal".

XII. Claim 1 of the fourth auxiliary request reads:

"A video signal generation apparatus for receiving a bit stream of video coded data generated by infra-coding and inter-coding, and decoding the bit stream in units of blocks each having a specified size to generate a video signal, comprising:

a decoding unit configured to decode coding information, pertaining to coding parameters, for a decoding target block included in the bit stream;

a writing unit configured to write each piece of the coding information at a specified bit position in a 2D data structure with one bit depth having a size the same as that of the decoding target block according to a coding information format that includes a first area and a second area,

the first area including a fixed code area for synchronization, a decoding target block cyclic number area, a picture coding information describing area, a slice coding information describing area, a slice type area, a decoding target block intra-code area, a block division unit flag area, and a block type area,

the second area corresponding to a switch interpretation area, having a specified bit length, where coding information of intra-coding is written if the macroblock is intra-coded and where coding information of inter-coding is written if the macroblock is inter-coded,

wherein the writing unit:

writes a fixed code for synchronization having a predetermined value in the fixed code area for synchronization,

writes a decoding target block cyclic number indicating a position of the decoding target block on a screen in the decoding target block cyclic number area,

writes picture coding information assigned to the decoding target block in the picture coding information describing area,

writes a piece of slice coding information assigned to the decoding target block in the slice coding information describing area, such that the slice coding information describing area contains information which becomes slice coding information if all pieces of information of slice coding information describing areas for all macroblocks of a picture are combined,

writes a flag value indicating whether the decoding target block has been coded by intra-coding or inter-coding in the decoding target block intra-code area

writes information indicating a block division of the decoding target block in the block division flag area and the block type area,

writes a slice type of the decoding target block in the slice type area; and

writes the coding information of intra-coding or inter-coding in the specified switch interpretation

area where coding information of the intra-coding is written according to a data format conforming to the intra-coding if the decoding target block has been coded by intra-coding, and coding information of the inter-coding is written according to a data format conforming to the inter-coding if the decoding target block has been coded by inter-coding;

a generation unit configured to generate a video signal by superimposing the 2D data structure on a decoded image of the decoding target block by embedding the 2D data structure into one bit of the least significant bits of the colour difference component of the video signal,

wherein, when data amount of the coding information is larger than the switch interpretation area of the decoding target block so that the coding information cannot be accommodated in the switch interpretation area, the writing unit writes the coding information with a decreased accuracy of the motion vector into the switch interpretation area according to a data format conforming to the coding division form."

XIII. The examining division's arguments, where relevant to the present decision, may be summarised as follows:

(a) The application as filed did not provide a basis for "*specified bit length and specified bit position*" because the description, page 4, lines 5, 11 and 12, only mentioned a specified first area and a specified second area and Figure 2 did not provide exact bit length and bit position information (see decision, Reasons, section 1).

- (b) D1 was the closest prior art for the assessment of inventive step (see decision, Reasons, page 7, point 2.2). It explicitly referred to SMPTE-319M, which was disclosed in D2.
- (c) The subject-matter of claim 1 differed from the disclosure of D1 in that a slice type area separate from a slice coding information area was provided (see decision, Reasons, page 9, point 2.3).
- (d) The slice structure was a key element of H.264 that the person skilled in the art would try to preserve when re-coding the image (see decision, Reasons, point 2.6, paragraph bridging pages 9 and 10 and page 10, first full paragraph). Separate areas for the slice type and slice coding enabled access to the slice type at the macroblock level and ensured that a similar slice structure with similar slice coding parameters was used when re-coding the picture (see decision, Reasons, page 9, point 2.5).
- (e) The person skilled in the art would include slice type and slice coding information in the 2D data structure in a manner similar to the picture coding (picture rate) information. Spreading the slice coding information amongst all the macroblocks of a picture allowed embedding all slice coding information (see decision, Reasons, point 2.6, page 10, second full paragraph).
- (f) The application did not disclose "*notable technical effects*" of having the slice type information available at the macroblock level (see decision, Reasons, point 2.6, page 10, third full paragraph).

XIV. The appellant's arguments, where relevant to the present decision, may be summarised as follows:

- (a) Page 5, lines 10 to 22 and Figure 2 provided a basis for the wording "*specified bit length and specified bit position*" (see statement of grounds of appeal, page 1, second paragraph following the heading "*Main request*"). The one bit plane had the same size as the decoding block (see the letter dated 30 July 2018, page 1, heading "*Article 123(2) EPC*").
- (b) Although the term "specified" was used to indicate that the person skilled in the art had some flexibility in dividing the 2D data structure into a first and a second area depending on the application, this division need not be signalled because it would be apparent from the coding context.
- (c) Page 9, line 33 to page 10, line 8, and page 14, lines 26 to 36, provided a basis for the amendments made to claim 1 of the first auxiliary request. The phrase "*a plurality of macroblocks*" was used to denote all macroblocks over which slice coding information had been spread.
- (d) In comparison with "*conventional processing*", the claimed invention reduced the complexity of the slice type information extraction because this information was present in a dedicated area of each macroblock (see statement of grounds of appeal, page 2, and the letter dated 30 July 2018, page 2, fourth full paragraph). Hence, the objective technical problem was how to provide a coding scheme in which slice type information could be

obtained more efficiently (see statement of grounds of appeal, page 3, second and third paragraphs). The separation of slice type and slice coding information was particularly advantageous if captions or a logo were inserted (see statement of grounds of appeal, page 2, penultimate paragraph).

- (e) The division's argument that the person skilled in the art would include slice type to guarantee a similar slice structure when re-coding was based on hindsight (see the letter dated 30 July 2018, page 2, the paragraph starting with "*As acknowledged*").
- (f) None of the prior-art documents disclosed a hybrid scheme in which slice coding information was spread over plural macroblocks but slice type information was repeated in each macroblock.
- (g) The data structure known from D2 contained information for the picture and the macroblocks, both having a fixed length. In contrast, slices as specified in the H.264 standard had a variable length.
- (h) Claim 1 of the fourth auxiliary request was based on originally filed claim 2, Figure 6B and the corresponding passage of the description on page 20.
- (i) Claim 1 of the fourth auxiliary request combined claims 1 and 2 of the second auxiliary request. Claim 1 of the second auxiliary request corresponded to claim 2 underlying the decision under appeal. Since the examining division had assessed inventive step for claim 2 in point 2.11

of the decision under appeal, it would not be too complex for the board to examine claim 1 of the fourth auxiliary request.

Reasons for the Decision

1. The appeal is admissible.
2. *Added subject-matter (Article 123(2) EPC) - main request*
 - 2.1 It is established case law that, for an amendment to a claim of a European patent application to be allowable under Article 123(2) EPC, it can only be made within the limits of what a person skilled in the art would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of the description, claims and drawings of the application as filed (see Case Law of the Boards of Appeal of the European Patent Office, 8th edition 2016, II.E.1).
 - 2.2 In the reasons set out below, the board will be referring to the description, claims and drawings of the translation of the application submitted upon entry into the regional phase before the European Patent Office as parts of the originally filed application.
 - 2.3 Claim 1 of the main request specifies:

"a 2D data structure [...] that includes a first area and a second area each having a specified bit length and a specified bit position".

2.4 The passage the appellant indicated as a basis (see point XIV(a) above) reads:

"the video signal generation apparatus writes a flag value indicating that the decoding target block has been coded by intra-coding in a specified bit position [...], writes information indicating a coding division form of the decoding target block in a specified common area on the one bit plane, and writes the coding information in a specified switch interpretation area on the one bit plane according to a data format conforming to the intra-coding".

Similar to the passage on page 4, lines 5, 11 and 12, the quoted wording mentions "a specified common area" and a "specified switch interpretation area".

However, the reference to a "specified area" does not provide a direct and unambiguous basis for the area having a specified bit length and a specified bit position. Even taking into account that the one bit plane has the same size as the decoded block (see point XIV(a) above), Figure 2 does not provide exact bit length and bit position information (see point XIII(a) above).

The board does not agree with the appellant that the flexible division of the 2D structure into two areas need not be signalled (see point XIV(b) above). Either the division is standardised and the device for re-encoding the video can extract the necessary data without receiving any position information, or the position and length of each area can vary and the device has to receive corresponding information to extract the necessary data. Since the application as filed does not disclose signalling the necessary information, it does not provide a clear and

unambiguous basis for specifying a variable division of the 2D structure into two areas.

2.5 In view of the above, the board concludes that claim 1 of the main request does not meet the requirements of Article 123(2) EPC.

3. *Added subject-matter (Article 123(2) EPC) - first auxiliary request*

3.1 Claim 1 of the first auxiliary request specifies that the writing unit:

"writes a piece of slice coding information assigned to the decoding target block in the slice coding information describing area, such that the slice coding information describing area contains information which becomes slice coding information if a plurality of pieces of information of slice coding information describing areas for a plurality of macroblocks in predetermined slices among all slices forming a picture are combined".

3.2 The passages indicated by the appellant (see point XIV(c) above) disclose that the complete slice coding information ("*all pieces of information which become slice coding information*") has to be extracted. These passages do not provide a clear and unambiguous basis for combining slice coding information from an unspecified plurality of macroblocks.

3.3 The board is not persuaded that "*a plurality of macroblocks*" inherently refers to the plurality of macroblocks over which the data has been spread (see point XIV(c) above).

3.4 In view of the above, the board concludes that claim 1 of the first auxiliary request does not meet the requirements of Article 123(2) EPC.

4. *Second and third auxiliary requests - inventive step (Article 56 EPC)*

4.1 It is undisputed that D1 may be considered the closest prior art for the assessment of inventive step (see also point XIII(b) above).

4.2 D1 discloses a video signal generation apparatus for receiving a bit stream of video coded data generated by intra-coding and inter-coding, and decoding the bit stream in units of blocks each having a specified size to generate a video signal, comprising:

a decoding unit configured to decode coding information, pertaining to coding parameters, for a decoding target block included in the bit stream (see Figure 4, decoding unit 100; paragraph [0084]: "*entropy decoding unit 101 extracts coefficient information and prediction information*"; [0094]: "*The encoded data is supplied to the encoded data selection unit from the entropy decoding unit*" and [0096]: "*it is determined whether or not mb_type is the intra-mode*");

a writing unit configured to write each piece of the coding information at a specified bit position in a 2D data structure with one bit depth having a size the same as that of the decoding target block according to a coding information format (see paragraph [0091]: "*multiplexer 110 [...] for multiplexing encoded data [...] to a video base band signal [...] synchronized with the encoded data. The format after the multiplexing [...] is prescribed by SMPTE 319-2000*

[disclosed in D2], and multiplexing is carried out at chroma (LSB) of a video signal") that includes a first area and a second area each having a specified bit length and a specified bit position (D2, Figure 1 shows the format prescribed by SMPTE 319-2000; the macroblock format comprises a plurality of areas at specified positions and with a specified bit length), the first area including a fixed code area for synchronisation (D2, Table 2, "srib_sync_code, 5-bit flag, This is a fixed bit-string, 11111, which shall be used to indicate the left alignment of the first row of each macroblock"), a decoding target block cyclic number area (D2, Table 2, "rolling_srib_mb_ref, 16-bit ul, This is a 16-bit modulo 65521 rolling reference value (see note). This rolling reference increments on every macroblock of the transmitted picture. The count shall be continuous across transmitted picture boundaries. This value shall be initialized at start-up to a number selectable between 0 and 65520 inclusive"), a picture coding information describing area (see D2, Figure 1 and Table 1, picrate_element), a decoding target block intra-code area (see D1, Figure 3, mb_type and paragraph [0010]; D2, Figure 1, line 5, mb_intra), a block division unit flag area, and a block type area (see D1, Figures 1 and 2, Figure 3 flags mb_type and sub_mb_type, paragraphs [0011] and [0012]), each area having a specified bit length (see D2, Tables 1 and 2, No. of bits), the second area corresponding to a switch interpretation area, having a specified bit length, where coding information of intra-coding is written if the macroblock is intra-coded and where coding information of inter-coding is written if the macroblock is inter-coded, wherein

the writing unit writes

a fixed code for synchronisation having a predetermined value in the fixed code area for synchronization (see D2, Figure 1 and Table 2, `srib_sync_code`);

a decoding target block cyclic number indicating a position of the decoding target block on a screen in the decoding target block cyclic number area (see D2, Figure 1, Table 2, `rolling_srib_mb_ref`);

picture coding information assigned to the decoding target block in the picture coding information describing area (see D2, Figure 1 and Table 1, `picrate_element`);

a flag value indicating whether the decoding target block has been coded by intra-coding or inter-coding in the decoding target block intra-code area (see D1, Figure 3, `mb_type` and paragraph [0010]; D2, Figure 1, line 5, `mb_intra`);

information indicating a block division of the decoding target block in the block division target area and the block type area (see D1, Figures 1 and 2, Figure 3 flags `mb_type` and `sub_mb_type`, paragraphs [0011] and [0012]);

the coding information of intra-coding or inter-coding in the specified switch interpretation area where coding information of the intra-coding is written according to a data format conforming to the intra-coding if the decoding target block has been coded by intra-coding, and coding information of the inter-coding is written according to a data format conforming to the inter-coding if the decoding target block has been coded by inter-coding (coding information related to either intra or inter coded

blocks is written, depending on the macroblock type, see D1, Figures 3 and 5 and paragraphs [0096] to [0099]);

and a generation unit configured to generate a video signal by superimposing the 2D data structure on a decoded image of the decoding target block by embedding the 2D data structure into one bit of the least significant bits of the colour difference component of the video signal (see D1, Figure 4, multiplex 110 and paragraph [0091]).

- 4.3 The subject-matter of claim 1 of the second auxiliary request differs from the disclosure of D1 in that the former specifies spreading the slice coding information and writing the slice type information in a separate, dedicated area (see also point XIV(d) above).
- 4.4 The board has not been persuaded that the examining division's statement that the person skilled in the art would preserve a slice structure and add slice coding information including slice type information was based on hindsight (see point XIV(e) above). Rather, the board agrees with the examining division that the person skilled in the art would include the slice coding information including the slice type information in the 2D data structure in a manner similar to the picture coding information and spread the slice coding information among plural macroblocks (see points XIII(d) and XIII(e) above).
- 4.5 When spreading the slice coding information including the slice type information as suggested by "*conventional processing*", the data of multiple macroblocks have to be extracted and processed to obtain the slice type information. Extracting slice

type information is less complex if this information is present in a dedicated area of each macroblock (see also point XIV(d) above).

4.6 Document D2, sections "*6 Macroblock rate information*" and "*8 Picture rate information*", disclose a hybrid scheme inserting certain elements of the picture coding information at both picture and macroblock level to facilitate editing of the resulting stream. Contrary to the appellant (see point XIV(g) above), the board is of the opinion that the person skilled in the art would equally provide certain elements of the slice coding information at slice level and macroblock level. Thus, the slice coding information would be spread, but certain elements of the slice coding information would be repeated at macroblock level. The board agrees with the examining division that the application does not disclose any reasons for selecting specific elements of the slice coding information, in particular, the slice type information, to be provided at macroblock level (see point XIII(f) above). As a result, any information repeated at macroblock level will be easier to extract and less likely to be overwritten by captions or a logo (see point XIV(d) above).

4.7 In view of the above, the board comes to the conclusion that claim 1 of the second auxiliary request does not meet the requirements of Article 56 EPC because its subject-matter lacks inventive step over the combined disclosures of D1 and D2 and the common general knowledge of the person skilled in the art.

4.8 In comparison with claim 1 of the second auxiliary request, claim 1 of the third auxiliary request additionally recites that the coded bitstream is H.264 encoded.

- 4.8.1 Document D1, paragraph [0008] discloses that "*to suppress deterioration of image quality as much as possible, it is necessary to transmit encoded data after it is multiplexed to decoded image of an H.264 bit stream likewise SMPTE 319-2000*". Hence, D1 discloses that the coded bitstream is H.264 encoded.
- 4.8.2 Moreover, the board is not convinced that the variable slice length in H.264 would dissuade the person skilled in the art from applying the teaching of D2 to slice coding information (see point XIV(g) above). The person skilled in the art would naturally spread slice coding information among macroblocks belonging to a slice.
- 4.9 In view of the above, the board comes to the conclusion that claim 1 of the third auxiliary request does not meet the requirements of Article 56 EPC because its subject-matter lacks inventive step over the combined disclosures of D1 and D2 and the common general knowledge of the person skilled in the art (Article 56 EPC).
5. *Fourth auxiliary request - admission into the proceedings (Article 13(1) RPBA)*
- 5.1 Under Article 13(1) RPBA, any amendment to a party's case after it has filed its statement of grounds of appeal may be admitted and considered at the board's discretion. This discretion is to 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.

- 5.2 The present auxiliary request was filed for the first time during the oral proceedings. Hence, it was filed at a very late stage of the appeal proceedings.
- 5.3 The board's communication contained a detailed explanation of the objections raised under Articles 56 and 123(2) EPC. During the oral proceedings, the board repeated this reasoning and rebutted the appellant's counter-arguments. Therefore, the discussion at the oral proceedings cannot be considered to have caused the submission of the fourth auxiliary request.
- 5.4 The appellant indicated originally filed claim 2, Figure 6B and the corresponding description on page 20 as the basis for claim 1 of the fourth auxiliary request (see point XIV(h) above).
- 5.4.1 Claim 2 as originally filed specified that *"when data amount of the coding information becomes large according to the coding division form of the decoding target block so that the coding information cannot be accommodated in the switch interpretation area, the writing unit writes the coding information from which a part of it is omitted into the switch interpretation area according to a data format conforming to the coding division form"*.
- 5.4.2 Figure 6B and the corresponding passage on page 20 illustrate that if the macroblock is divided into four 8x8 blocks and bidirectional prediction is used, the coding information becomes large, such that *"accurate motion vectors cannot be written [...and] only 5 bits of the LSB side are written"*.
- 5.4.3 Neither originally filed claim 2 nor the originally filed description refers to *"a decreased accuracy of*

the motion vector". This decreased accuracy is a generalisation for "*the 5 bits of the LSB*". Hence, claim 1 of the fourth auxiliary request relates to a new combination of features partly taken from the originally filed claims and partly resulting from a generalisation of features taken from the originally filed description. Moreover, the features from the description have been taken out of context, because the claim does not specify bidirectional prediction for four 8x8 blocks. Summarising, the amendment raises complex issues relating to Article 123(2) EPC.

- 5.4.4 Claim 1 specifies "*a decreased accuracy of the motion vector*". At first glance, the phrase "*decreased accuracy*" is not clear because it is ambiguous as to whether it refers to possible errors introduced by estimating the vector based on temporally or spatially neighbouring vectors or whether it refers to the precision of the vector which depends on the number of bits used to code it. Thus, the wording of claim 1 of the fourth auxiliary request raises complex issues relating to Article 84 EPC.
- 5.5 Summarising, the board would have to address complex issues relating to Articles 84 and 123(2) EPC before it could examine the objection raised under point 2.11 of the decision under appeal (see point XIV(i) above).
- 5.6 In view of the above, the board exercised its discretion under Article 13(1) RPBA and decided not to admit the fourth auxiliary request into the proceedings.
6. Since none of the appellant's requests can be allowed, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



K. Boelicke

C. Kunzelmann

Decision electronically authenticated