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**Datasheet for the decision  
of 12 March 2020**

**Case Number:** T 1654/14 - 3.5.04

**Application Number:** 12161254.3

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**IPC:** H04N7/12, H04N7/26, H04N7/30,  
G06T3/40, G06T9/00, H04N7/50

**Language of the proceedings:** EN

**Title of invention:**

Method and system for improving compressed image chroma information including extended quantization parameter range function

**Applicant:**

Dolby Laboratories Licensing Corporation

**Headword:**

**Relevant legal provisions:**

EPC Art. 76(1)

**Keyword:**

Divisional application - subject-matter extends beyond content of earlier application (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

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Case Number: T 1654/14 - 3.5.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.04**  
**of 12 March 2020**

**Appellant:** Dolby Laboratories Licensing Corporation  
(Applicant) 100 Potrero Avenue  
San Francisco, CA 94103 (US)

**Representative:** Peterreins Schley  
Patent- und Rechtsanwälte  
Hermann-Sack-Straße 3  
80331 München (DE)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 7 February 2014  
refusing European patent application  
No. 12161254.3 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** C. Kunzelmann  
**Members:** B. Willems  
T. Karamanli

## Summary of Facts and Submissions

- I. The appeal is against the decision of the examining division dated 7 February 2014 refusing European patent application No. 12 161 254.3, which was published as EP 2 493 186 A1.
- II. The documents cited in the decision under appeal included the following:
- D4: US 5 333 212 A;
- D5: Gisle Bjøntegaard: "*Use of higher QP for chroma AC Coefficients*", Video Coding Experts Group of ITU-T, Study Group 16, 11th meeting: Portland, Oregon, USA, 22-25 August 2000; document Q15-K-29, 16 August 2000, XP030003122, ISSN: 0000-0463;
- D7: EP 0 595 562 A1.
- III. The application was refused on the grounds that the subject-matter of claim 1 of the then main request and the then first to third auxiliary requests lacked inventive step over the combined disclosures of D4, D5 and D7 and the common general knowledge of the person skilled in the art (Article 56 EPC).
- IV. The applicant filed notice of appeal and maintained the requests underlying the decision under appeal. With the statement of grounds of appeal, the appellant provided reasons as to why the claims of all the requests met the requirements of Article 56 EPC. 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 or one of the first, second or third auxiliary requests.

- 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 2007, 536), annexed to the summons, the board introduced the following document into the proceedings:

D17: G. Sullivan: "*Draft Text of Recommendation H.263 Version 2 ("H.263+") for Decision*", ITU-T, Study Group 16 - Contribution COM-99-E, 10 February 1998.

The board gave the following provisional opinion.

- Claim 1 did not meet the requirements of Article 84 EPC in any of the requests, because it did not specify all the essential features necessary for determining the chrominance quantisation parameter (chroma QP).
- Claim 1 did not meet the requirements of Article 56 EPC in any of the requests because its subject-matter lacked inventive step over the disclosure of document D17 combined with the common general knowledge of the person skilled in the art.

- VI. With the reply dated 31 January 2020, the appellant filed amended claims according to a main request and auxiliary requests I, II and III, replacing all the previous requests on file. It also filed replacement description pages 6 and 7, and requested that pages 8 to 12 and 25 to 28 of the originally filed description be deleted. It submitted arguments as to why the amended claims of all the requests met the requirements of Articles 56, 84 and 123(2) EPC, and requested that

the decision under appeal be set aside and that a European patent be granted on the basis of the claims of the main request or one of auxiliary requests I to III, all requests filed by letter dated 31 January 2020.

VII. The oral proceedings before the board were held on 12 March 2020.

At the oral proceedings, the appellant withdrew all the previous requests on file and submitted claims according to a sole main request.

The appellant's final request was 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 filed at the oral proceedings of 12 March 2020.

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

VIII. Claim 1 reads as follows:

"A method for decompression of a color video image in a video image decompression system,  
receiving a compressed color video image,  
receiving a first quantization parameter value for a luminance channel (Y);  
characterized by  
receiving a quantization parameter bias value;  
determining a second quantization parameter value for at least one of two chroma channels (U, V) of the color video image by adding the quantization parameter bias value to the first quantization parameter value for the luminance channel (Y);

extending a range of the second quantization parameter value using an extended quantization parameter range function or lookup to determine an extended second quantization parameter value;  
decompressing the compressed video signal using the first quantization parameter value for the luminance channel (Y) and the extended second quantization parameter value for at least one of the two chroma channels (U, V)."

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

(a) Paragraphs [0088] to [0100], and in particular paragraphs [0091] and [0100], provided a basis for extending the range of chroma-biased QP values determined by adding a bias value to the luma QP value.

(b) Paragraphs [0093] to [0099] illustrated how to implement the different embodiments described in paragraphs [0088] to [0092].

### **Reasons for the Decision**

1. The appeal is admissible.
2. *Claim 1 - added subject-matter (Article 76(1) EPC)*
  - 2.1 According to the established jurisprudence of the boards of appeal, if a divisional application is amended after being filed, it must meet the requirements of both Article 76(1) EPC and Article 123(2) EPC, so as to preclude the introduction of new subject-matter into the examination proceedings (see Case Law of the Boards of Appeal, 9th edition

2019, II.F.2.2). The question to be decided in the present case, therefore, is whether the subject-matter of claim 1 is such as to "*extend beyond the content of*" either the earlier application (Article 76(1) EPC) or the divisional application as filed (Article 123(2) EPC).

According to the consistent interpretation of Article 123(2) EPC by the Enlarged Board of Appeal, an amendment can only be made within the limits of what a skilled person 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 as filed (see G 3/89, OJ EPO 1993, 117; G 11/91, OJ EPO 1993, 125; G 2/10, OJ EPO 2012, 376). When determining whether the subject-matter of a divisional application extends beyond the content of the earlier application as filed (Article 76(1), second sentence, EPC) exactly the same principles are to be applied as for extension of subject-matter under Article 123(2) EPC (see Case Law of the Boards of Appeal, 9th edition 2019, II.F.1.).

3. The present application is a divisional application of European patent application No. 10 007 124.0, which was published as EP 2 239 943 A1 and will be referred to as the "*earlier application*".
4. Present claim 1 corresponds to claim 6 as originally filed. Thus, the point to be determined is whether this claim is directly and unambiguously derivable from the whole of the description, claims and drawings of the earlier application as filed.
5. The earlier application as filed does not have a claim corresponding to present claim 1. Claim 6 of the



earlier application as filed specifies adding a bias value but does not specify extending the range of the QP values.

6. Paragraph [0100] of the earlier application as filed specifies that when higher compression is required "*a positive QP bias is applied to the QP value for the Y channel for use with either or both of the U and V chroma channels (preferably checking against a QP maximum value of a compression system, if any). Separate bias can be used for each of the U and V channels. Otherwise, the steps of such an embodiment would be similar to those shown in FIG. 2*". Thus, paragraph [0100] specifies adding a QP bias value to the luma QP value to obtain the chroma QP value.

Paragraph [0091] discloses that "*the range of these differential chroma-biased QP values can be extended using the extended QP range function or lookup*" (emphasis added).

The board is not persuaded that paragraphs [0091] and [0100], when read in the context of the whole of paragraphs [0088] to [0100], provide a clear and unambiguous basis for extending the range of chroma-biased QP values determined by adding a bias value to the luma QP value (see point IX(a) above).

- 6.1 Paragraph [0100] does not specify extending the range of the chroma-biased QP values.
- 6.2 Paragraph [0100] refers to the embodiment shown in Figure 2. Figure 2 and paragraphs [0093] to [0099] disclose steps (of a flow-chart) of an illustrative method for applying a QP bias value. In none of these steps is the range of the chroma QP values extended.

The board is not convinced that paragraphs [0093] to [0099] illustrate how to implement the different embodiments described in paragraphs [0088] to [0092] (see point IX(b) above). Paragraphs [0093] to [0099] set out in general terms how to apply a bias without considering any of the special features (constant or variable bias, range extension) described in paragraphs [0088] to [0092].

- 6.3 Paragraph [0091] discloses that the range of the differential chroma-biased QP values can be extended. The range extension increases the bit rate and is disclosed in the context of an embodiment which aims at reducing the level of chroma noise by lowering the chroma QP value and thus increasing the bit rate. Both extending the range and reducing the chroma QP value improve representation of the chroma components.

Paragraph [0100] discloses that a positive QP bias is applied to the luma QP value to achieve a higher compression, i.e. to lower the bit rate. Extending the range - which increases the bit rate - would be counterproductive. Therefore, the person skilled in the art would not consider combining the range extension described in paragraph [0091] with the application of a positive QP bias set out in paragraph [0100].

7. In view of the above, claim 1 does not meet the requirements of Article 76(1) EPC.
8. Since the appellant's request is not allowable, 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