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**Datasheet for the decision  
of 22 March 2021**

**Case Number:** T 1459/16 - 3.5.04

**Application Number:** 14158796.4

**Publication Number:** 2919458

**IPC:** H04N5/783, H04N21/2343

**Language of the proceedings:** EN

**Title of invention:**

Method and system for playback of motion video

**Applicant:**

Axis AB

**Headword:**

**Relevant legal provisions:**

EPC Art. 56

RPBA 2020 Art. 13(2)

**Keyword:**

Amendment after summons - exceptional circumstances (yes)

Inventive step - (no)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
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Case Number: T 1459/16 - 3.5.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.04**  
**of 22 March 2021**

**Appellant:** Axis AB  
(Applicant) Gränden 1  
223 69 Lund (SE)

**Representative:** AWA Sweden AB  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 5 January 2016  
refusing European patent application  
No. 14158796.4 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chair** B. Willems  
**Members:** A. Seeger  
T. Karamanli

## **Summary of Facts and Submissions**

- I. The appeal is against the decision of the examining division to refuse European patent application No. 14 158 796.4, published as EP 2 919 458 A1.
- II. The prior art documents cited in the decision under appeal included the following:
- D1: US 6,445,738 B1
- D3: US 2002/0023269 A1
- III. The application was refused on the following grounds.
- The subject-matter of claims 1 and 11 of the main request lacked inventive step over the disclosure of document D1 combined with the common general knowledge of the person skilled in the art (Article 56 EPC).
  - The subject-matter of claims 1 and 10 of the auxiliary request lacked inventive step over the combined disclosures of documents D3 and D1 and the common general knowledge of the person skilled in the art (Article 56 EPC).
- IV. The applicant ("appellant") filed notice of appeal. With the statement of grounds of appeal, the appellant filed amended claims of a sole main request. The appellant argued that the claims had been amended to clarify the scope of the claims and to facilitate the understanding of the appellant's arguments. It also indicated a basis for the claims in the application as

filed and provided arguments why the claims met the requirements of Article 56 EPC.

V. On 29 July 2020, a summons to oral proceedings was issued. In a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal in the 2020 version (RPBA 2020, OJ EPO 2019, A63), the board introduced document US 6,012,091 A ("D4") *ex officio* into the appeal proceedings. It also expressed the preliminary opinion that claim 1 of the main request did not meet the requirements of Article 84 EPC and that the subject-matter of claims 1 and 11 lacked inventive step over the combined disclosures of documents D3 and D4 and the common general knowledge of the person skilled in the art (Article 56 EPC).

VI. By letter dated 3 March 2021, the appellant filed amended claims according to a main request and a first auxiliary request. The appellant submitted that the main request was identical to the main request on which the appealed decision was based and that the first auxiliary request was identical to the sole main request filed with the statement of grounds of appeal.

VII. On 22 March 2021, the board held oral proceedings.

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 of the main request or, alternatively, on the basis of the claims of the first auxiliary request, both requests filed by letter dated 3 March 2021.

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

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

"Method for playback of motion video, said method comprising:

requesting, via a communication network (16), streaming of a specific motion video sequence from a motion video storage device (12) to a motion video playback device (14),

streaming motion video data of the requested motion video sequence from the motion video data storage device (12) to the motion video playback device (14),

displaying the streamed motion video data on a display connected to the playback device (14) as the streamed motion video data is received at the playback device (14),

sending a request of change of playback speed to the motion video data storage device (12),

in response to receiving the request of change of playback speed at the motion video data storage device (12) the following acts are performed:

decoding, in a decoder (62) of the motion video data storage device (12), motion video data from a temporal position in the specific motion video sequence that has not yet been streamed to the motion video playback device (14),

compressing, in respect of time, the decoded motion video data,

encoding, in an encoder (58) of the motion video data storage device (12), the compressed motion video data using an encoding scheme corresponding to an encoding scheme used to encode the specific motion video sequence, and

continue streaming said motion video sequence to the motion video playback device (14) using said compressed and encoded motion video data

wherein said compressing of the decoded motion video data is performed in the decoder (62) before the motion video data is sent on an internal data bus (69) of the motion video data storage device (12) to the encoder (58)."

- IX. Claim 1 of the first auxiliary request differs from claim 1 of the main request only in the last two paragraphs. These read as follows:

"continue streaming, in the same communication stream as the requested motion video sequence, said motion video sequence to the motion video playback device (14) using said compressed and encoded motion video data

wherein said compressing of the decoded motion video data is performed by the decoder (62) before the motion video data is sent on an internal data bus (69) of the motion video data storage device (12) to the encoder (58)."

- X. The appellant's arguments relevant to the present decision may be summarised as follows.

- (a) The technical effect of compressing the decoded video data, rather than first compressing and then

decoding the video data, was not only to provide a flexible speed for trick play but also to reduce the data rate on the internal bus between the decoder and the encoder. Hence, the objective technical problem had to be formulated as how to provide a flexible speed for trick play video while avoiding a communication overload.

- (b) Combining documents D3 and D4 would have led to the decoding starting before a request for trick play was received, contrary to what was specified in claim 1. Document D4 related to video telephony in which intra frames (I frames) were placed at irregular locations. An I frame may also occur only at the very first frame of a video stream. Hence, to be prepared for a fast forward request, decoding needed to start from the very beginning of the video stream even before a trick play request was received. Otherwise, the decoder could not generate the trick play video stream fast enough to continue streaming the video sequence using the decoded, compressed and encoded video data. The skilled person would have included all the features of the solution described in D4, including decoding the stream before receiving a trick play request. Using only some of the features would be cherry picking.
- (c) Claim 1 specified to start decoding after a request for a trick play stream had been received. Hence, the decoder needed to operate at faster than real time to continue streaming the video sequence using the decoded, compressed and encoded video data. Neither document D3 nor document D4 disclosed or hinted at such a high speed decoder. The "high speed decoder" in Figure 2 of document D4 was only capable of decoding in real time.



## **Reasons for the Decision**

1. The appeal is admissible.
2. Main request - admittance (Article 13(2) RPBA 2020)

In the case at hand, the summons to oral proceedings was notified after the date on which RPBA 2020 entered into force, i.e. 1 January 2020 (Article 24(1) RPBA 2020). Thus, in accordance with Article 25(1) and (3) RPBA 2020, Article 13(2) RPBA 2020 applies to the question of whether to admit the appellant's main request, which was filed after notification of the summons to oral proceedings and is therefore an amendment within the meaning of Article 13(2) RPBA 2020.

The board raised an objection under Article 84 EPC for the first time in the communication pursuant to Article 15(1) RPBA 2020. In response to this communication, the appellant filed a main request aimed at overcoming this new objection. The board considers this to represent exceptional circumstances within the meaning of Article 13(2) RPBA 2020. Exercising its discretion under this provision, the board thus decided to admit the main request into the appeal proceedings.

3. Main request - inventive step (Article 56 EPC)
- 3.1 In accordance with current case law, partial problems exist if the features or sets of features of a claim are a mere aggregation of these features or sets of features which are not functionally interdependent, i.e. do not mutually influence each other to achieve a technical success over and above the sum of their

respective individual effects. In this case, it has to be established whether each set of features would have separately been obvious in light of the prior art (see Case Law of the Boards of Appeal of the European Patent Office, 9th edition 2019, I.D.9.2.2).

3.2 The board holds that document D3 may be regarded as the closest prior art for the assessment of inventive step of the subject-matter of claim 1. During the oral proceedings, the appellant did not contest this.

3.3 Document D3 discloses a method for playback of motion video comprising the following features:

- streaming motion video data of a motion video sequence from the motion video data storage device to the motion video playback device (see Figure 1, paragraph [0041]: "*A data distribution system constructed in accordance with the present invention shown in FIG. 1 is formed of a server 1 for distributing stored data and a decoding terminal 10 connected to the server 1 via a transmission medium 20*" and paragraph [0052]: "*The decoder 12 decodes the special playback video data received from the receiver 11 and outputs the decoded data to a display unit (not shown) so as to display the content of the special playback video data*")

- displaying the streamed motion video data on a display connected to the playback device as the streamed motion video data is received at the playback device (see paragraph [0052])

- sending a request of change of playback speed to the motion video data storage device (see paragraph [0045]: "*A special playback designation signal indicating a*

*request to perform a special playback operation is input into the special playback controller 3 by a user ... The special playback controller 3 supplies a special playback control signal indicating the type of special playback operation and the designated video data to the data converter 4 based on the special playback designation signal")*

in response to receiving the request of change of playback speed:

- *compressing, in respect of time, the motion video data and decoding, in a decoder of the motion video data storage device, motion video data from a temporal position in the specific motion video sequence that has not yet been streamed to the motion video playback device (see paragraph [0075]: "In response to a special playback control signal from the special playback controller 3, the decoder 51 reads the designated normal playback video data from the data storage unit 2 according to a reading technique optimal for the type of special playback operation. For example, if a special playback control signal indicating a request of the fastforward playback operation is input, the decoder 51 reads the normal playback video data from the data storage unit 2 by skipping B pictures, which are not used for decoding" and paragraph [0076]: "The decoder 51 decodes the read normal playback video data and supplies it to the encoder 52. The decoded video signal reflects the result of the special playback operation")*
  
- *encoding, in an encoder of the motion video data storage device, the compressed motion video data using an encoding scheme corresponding to an*

encoding scheme used to encode the specific motion video sequence (see paragraph [0077]: "*The encoder 52 then encodes the decoded video signal output from the decoder 51, and outputs it to the switch 53 as the special playback video data*")

- continue streaming said motion video sequence to the motion video playback device using said compressed and encoded motion video data (see Figure 4, paragraph [0078]: "*When the normal playback operation is performed in the decoding terminal 10, the switch 53 reads the normal playback video data from the data storage unit 2 via an input terminal b, and outputs it to the multiplexer 5 via an output terminal a*" and paragraph [0079]: "*In response to a special playback control signal from the special playback controller 3, the switch 53 receives the special playback video data from the encoder 52 via an input terminal c, and outputs it to the multiplexer 5 via the output terminal a*")

3.4 During the oral proceedings, the appellant agreed that the subject-matter of claim 1 differed from the disclosure of document D3 in that the claim specifies:

- (a) requesting, via a communication network, streaming of a specific motion video sequence from a motion video storage device to a motion video playback device
- (b) the decoder compressing the decoded motion video data before the motion video data is sent on an internal data bus of the motion video data storage device to the encoder

3.5 The features identified in points 3.4(a) and 3.4(b) are not functionally interdependent. Therefore, it has to be established whether each set of features would have been separately obvious in light of the prior art.

3.6 The feature mentioned in point 3.4(a) above is a well-known step of a method for distributing video content. The appellant has not contested this.

3.7 The technical effect of compressing the decoded video data, rather than first compressing and then decoding the video data, is that the speed of the resulting trick play video stream is not limited by the format of the encoded video data, namely the number of B frames that can be dropped between I frames.

Thus, the objective technical problem related to distinguishing feature (b) may be identified as providing a flexible speed for trick play video.

3.8 The appellant argued that the technical effect of distinguishing feature (b) was not only to provide a flexible speed for trick play but also to reduce the data rate on the internal bus between the decoder and the encoder. Hence, the objective technical problem had to be formulated as how to provide a flexible speed for trick play video while avoiding communication overloading (see point X(a) above).

3.9 The board is not convinced by this argument because if the order of compressing and decoding in a system according to document D3 is interchanged, the resulting communication rate (after the latter of the two operations) to the encoder remains the same.

Hence, the following examination is based on the objective technical problem as formulated in point 3.7 above.

- 3.10 Faced with this problem, the skilled person would have considered document D4 because it also relates to a server providing video trick play, in particular fast forward and fast reverse (see D4, title).

Document D4 (column 6, lines 22 to 34) discloses that in MPEG2 periodically occurring I frames can be extracted. Since in H.263 I frames do not periodically occur, frames cannot be simply extracted. Therefore, the original bitstream is decoded, then every nth frame is extracted, and the extracted frames are re-encoded (see D4, column 6, lines 47 to 60).

Once the video is decoded as set out in document D4, any restrictions on the speed of the trick play stream dictated by the coding format of the video no longer apply. Hence, video frames can be extracted at any rate providing a fully flexible speed for the resulting trick play video.

Thus, the person skilled in the art would have implemented this processing in the method known from document D3 to provide more flexibility in setting the speed of the trick play stream.

- 3.11 To evaluate the appellant's argument that combining documents D3 and D4 would lead to the decoding starting before a request for trick play was received (see point X(b) above), it needs to be established which features the skilled person would have kept from the system disclosed in the closest prior art document D3 and

which features the skilled person would have imported from document D4.

- 3.12 Document D3 discloses that decoding starts in response to a special playback control signal (see D3, paragraph [0075]).

Moreover, document D3 discloses that the video data is coded in compliance with ISO/IEC 13818-2, which is MPEG2 video (see D3, paragraphs [0010] and [0077]).

Finally, document D3 states that storage of special playback video data is to be avoided to reduce required storage capacity (see D3, paragraph [0082]).

This disclosure sets the starting point for the skilled person.

- 3.13 The skilled person would now have considered the disclosure of document D4.

Document D4 discloses that when a subscriber calls a server to retrieve a video message, the server decodes the video message and stores frames of interest for re-encoding at one or more speed-up rates. If the subscriber then sends, for example, a fast forward command, the encoder generates the fast forward bitstream based on the stored frames (see D4, column 7, lines 34 to 46).

If, however, the server permits the user to "immediately" fast forward through the entire video message, the server cannot store decoded frames of interest before receiving the fast forward command, and the decoder has to operate, for instance, eight times

faster if an eight times speed-up was selected (see D4, column 7, lines 52 to 57).

According to document D4 (column 7, lines 57 to 63), an eight times faster decoder processor would not "*seem to be out of the question*".

In conclusion, document D4 discloses either:

- decoding video frames before a request for trick play is received, this requiring the storing of decoded frames; or
- starting decoding "immediately" when a request for trick play is received, this requiring a decoder operating at a higher than real-time speed.

3.14 The person skilled in the art, setting out to solve the problem identified in point 3.7 above and looking for a solution compatible with the teaching of document D3 that decoding starts in response to the special playback control signal (see point 3.12, first item), would have opted for operating the decoder at a higher than real-time speed.

Document D3 discloses that the video data is coded in compliance with ISO/IEC 13818-2, which is MPEG2 video (see point 3.12, second item). It is common general knowledge that video data coded in this format includes I frames at regular intervals. Thus, in contrast to the format disclosed in document D4, there is no need to decode an entire video sequence from its very beginning. Therefore, when changing the order of the decoding and compression in document D3 to provide more flexibility in setting the trick play speed, the skilled person would not have been dissuaded from operating the decoder at a higher than real-time speed because there is no necessity to start the decoding at



the beginning of the MPEG2-coded video sequence. Rather, the skilled person would have been dissuaded from storing the entire decoded video sequence because this would require a lot of storage which according to document D3 is to be avoided (see point 3.12, third item).

- 3.15 The board is thus not convinced by the appellant's argument set out in point 3.11 above. As explained, document D4 discloses both decoding frames before receiving a trick play request and decoding frames "immediately" when a trick play request is received. The board holds that choosing the latter because it is compatible with the disclosure of the closest prior art document D3 is not cherry picking.
- 3.16 For the reasons set out in point 3.13 above, the board is not convinced by the appellant's argument that neither document D3 nor document D4 disclosed or hinted at a decoder operating at a speed faster than real time (see point X(c) above). Document D4 (column 7, lines 52 to 63) discloses a decoder operating at faster than real-time speed.
- 3.17 Therefore, the skilled person would have arrived at the distinguishing feature identified in point 3.4(b) in a straightforward manner.
- 3.18 In view of this finding and the findings in points 3.5 and 3.6 above, the subject-matter of claim 1 lacks inventive step over the combined disclosures of documents D3 and D4 and the common general knowledge of the person skilled in the art (Article 56 EPC).
4. First auxiliary request - inventive step (Article 56 EPC)

- 4.1 Apart from one editorial modification, claim 1 of the first auxiliary request differs from claim 1 of the main request only in the following feature: "continue streaming in the same communication stream as the requested motion video sequence, said motion video sequence to the motion video playback device (14) using said compressed and encoded motion video data".
- 4.2 This feature is disclosed in document D3, Figure 4, showing that the normal playback video data and the trick play video data generated by the decoder/encoder combination are transmitted via the same multiplexer and transmitter. Any gap between the normal playback video data and the trick play video data is compensated by splicing video data (see D3, paragraph [0080]).
- 4.3 Hence, the features distinguishing the subject-matter of claim 1 of the first auxiliary request from the disclosure of document D3 are the same as those of claim 1 according to the main request.
- 4.4 Therefore, the subject-matter of claim 1 of the first auxiliary request does not meet the requirements of Article 56 EPC for the same reasons as set out for the main request (see section 3 above).
5. Since neither of the appellant's requests is allowable, the appeal is to be dismissed.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chair:



K. Boelicke

B. Willems

Decision electronically authenticated