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**Datasheet for the decision
of 17 March 2021**

Case Number: T 2264/18 - 3.5.07

Application Number: 04806578.3

Publication Number: 1700305

IPC: G11B27/10, G11B27/32

Language of the proceedings: EN

Title of invention:

Method for recording information on a record medium, record medium containing information, and method and device for reading information from a record medium

Applicant:

Koninklijke Philips N.V.

Headword:

Record medium for multi-angle video/PHILIPS

Relevant legal provisions:

EPC Art. 56

RPBA 2020 Art. 13(2)

Keyword:

Inventive step - second and third auxiliary request (no)
Amendment after summons - third auxiliary request -
exceptional circumstances (yes) - fourth auxiliary request -
exceptional circumstances (no)

Decisions cited:

T 0843/91, T 1033/04, T 1518/11



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Case Number: T 2264/18 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 17 March 2021

Appellant: Koninklijke Philips N.V.
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Representative: de Haan, Poul Erik
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 11 April 2018
refusing European patent application
No. 04806578.3 pursuant to Article 97(2) EPC**

Composition of the Board:

Chair J. Geschwind
Members: P. San-Bento Furtado
C. Barel-Faucheux

Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse European patent application No. 04806578.3, which was filed as international application PCT/IB2004/052826 published as WO 2005/064612 and claiming a priority date of 22 December 2003. The following documents were cited in the decision under appeal:
- D1: US 2003/0113096 A1, published on 19 June 2003;
 - D2: WO 2005/004147 A1, published on 13 January 2005;
 - D3: US 2004/0175111 A1, published on 9 September 2004;
 - D4: US 2004/0179823 A1, published on 16 September 2004.

Documents D3 and D4 were published after the priority date of the present application but claim earlier priorities than the present application. Document D2 claims three priority dates, two of which earlier than that of the present application.

The examining division decided that the subject-matter of claims 1 and 3 of both the main request and the second auxiliary request lacked novelty over document D1, and that the independent claims 1, 3, 6 and 16 of the first auxiliary request added subject-matter beyond the content of the application as filed.

- II. With the statement of grounds of appeal, the appellant submitted a main request and first and second auxiliary requests. The main request corresponds to the main request considered in the decision under appeal. The first and second auxiliary requests are based on the corresponding refused requests and introduce minor amendments.

III. In a communication annexed to the summons to oral proceedings, the board further cited the following patent documents from the same patent family as that of documents D3 and D4:

D3': WO 2004/036580 A1, published on 29 April 2004, corresponding to the content of European patent application No. 03751538.4 filed as international application, claiming priority dates of 7 March 2003 and 14 October 2002;

D4': WO 2004/055809 A1, published on 1 July 2004, corresponding to the content of European patent application No. 03777443.7 filed as international application, claiming priority dates of 16 December 2002 and 7 March 2003.

The board also took into account the prior art acknowledged in the application on pages 2 to 5 of the application as filed. The board expressed its preliminary opinion that claims 1 and 3 of the main request and first auxiliary request lacked novelty over either the disclosure of document D1 or the prior art acknowledged in the application, and that claims 1 to 4 of the second auxiliary request did not seem to be inventive. The board informed the appellant that documents D2, D3' and D4' could be relevant to the question of novelty under Article 54(1) and (3) EPC.

IV. With a letter of response the appellant filed a third auxiliary request and expressed the intention to withdraw the main request and first auxiliary request if the third auxiliary request were admitted into the proceedings.

V. Oral proceedings were held as scheduled on 17 March 2021, during which the appellant submitted a

fourth auxiliary request. At the end of the oral proceedings, the Chair announced the board's decision.

VI. The appellant's final requests were that the contested decision be set aside and that a patent be granted on the basis of the claims of one of the second, third or fourth auxiliary requests.

VII. With a letter of 4 May 2021, the appellant declared that the application was unconditionally withdrawn.

VIII. Claim 1 of the second auxiliary request reads as follows:

"Method for recording an information stream (M) on a record medium (2),

the information stream comprising a plurality of alternative video streams (VS1; VS2; VS3), wherein the alternative video streams (VS1; VS2; VS3) are recorded in an interleaved manner;

wherein each of the alternative video streams (VS1; VS2; VS3) is divided into alternative video portions (VS1(i); VS2(i); VS3(i)); each alternative video portion having a predetermined playtime;

and wherein the information stream is recorded as a succession of consecutive interleaved units (IU(i)), each interleaved unit (IU(i)) comprising alternative angle blocks;

each alternative angle block comprising a corresponding portion (VS1(i); VS2(i); VS3(i)) of the alternative video stream (VS1; VS2; VS3) and multiple audio and graphic elementary streams,

characterized by

the method further comprising, for providing seamless presentation, the step of defining alternative pluralities of at least two entry points (EP) for said alternative video portions (VS1(i); VS2(i); VS3(i)), each respective entry point corresponding to a

respective location within said alternative video portions (VS1(i); VS2(i); VS3(i)) where it is possible to start reading and decoding the video stream from a respective playtime instant without needing information from previous locations,

entry points that correspond in each of the alternative pluralities corresponding to same-time locations in each of the alternative video portions (VS1(i); VS2(i); VS3(i)), which same-time locations correspond to the same playtime instant, and

recording information defining the entry points in one or more predefined storage locations of the record medium."

IX. Claim 1 of the third auxiliary request differs from claim 1 of the second auxiliary request in that the text ", for providing seamless presentation," has been deleted and the following text has been inserted at the end of the claim:

"; wherein each alternative video portion (VS1(i); VS2(i); VS3(i)) comprises a plurality of groups of pictures (GOP), and wherein each entry point corresponds to the beginning of a GOP".

X. Claim 1 of the fourth auxiliary request reads as follows:

"Method for reading a record medium, the record medium containing an information stream (M), the information stream comprising a plurality of alternative video streams (VS1; VS2; VS3) to be selectively outputted, said alternative video streams being recorded on said medium in an interleaved manner;

wherein each of the alternative video streams (VS1; VS2; VS3) is divided into alternative video portions (VS1(i); VS2(i); VS3(i)); each alternative video portion having a predetermined playtime;

wherein a track (3) of the record medium (2) contains a succession of consecutive interleaved units (IU(i)), each interleaved unit (IU(i)) comprising alternative angle blocks;

each alternative angle block comprising a corresponding portion (VS1(i); VS2(i); VS3(i)) of the alternative video stream (VS1; VS2; VS3); and multiple audio and graphic elementary streams;

said alternative portions (VS1(i); VS2(i); VS3(i)) have alternative pluralities of at least two entry points (EP), each respective entry point corresponding to a respective location within said alternative video portions (VS1(i); VS2(i); VS3(i)) where it is possible to start reading and decoding the video stream from a respective playtime instant without needing information from previous locations,

entry points that correspond in each of the alternative pluralities corresponding to same-time locations in each of the alternative video portions (VS1(i); VS2(i); VS3(i)), which same-time locations correspond to the same playtime instant,

the record medium further containing information defining the entry points, the method comprising the steps of:

- a) selecting one (VS2) of the alternative video streams (VS1, VS2, VS3);
- c) [sic] reading a video portion (VS2(i)) of the selected one (VS2) of the alternative video streams (VS1, VS2, VS3) associated with one interleaved unit (IU(i));
- d) storing the information read into a buffer memory (MV);
- e) outputting the video portion (VS2(i)) from said buffer memory (MV);
- f) receiving a command to change to an other [sic] one (VS1; VS3) of the alternative video streams;

characterized by

- g) determining a next entry point within the video portion (VS2(i)) of the selected one (VS2) of the alternative video streams (VS1, VS2, VS3) from the respective one of the pluralities of at least two entry points (EP),
- i) [sic] jumping within the same interleaved unit (IU(i)) to an alternative entry point (EP) to a same-time location within a corresponding video portion (VS1(i); VS3(i)) of the said other one (VS1; VS3) of the alternative video streams, the alternative entry point being determined from the plurality of entry points of said other one of the alternative video streams and corresponding to the next entry point; wherein each alternative video portion (VS1(i); VS2(i); VS3(i)) comprises a plurality of groups of pictures (GOP), and wherein each entry point corresponds to the beginning of a GOP."

XI. The appellant's arguments, where relevant to this decision, are addressed in detail below.

Reasons for the Decision

Procedural matters

1. The appellant stated by a letter dated 4 May 2021 that the application was withdrawn "unconditionally". However, since the decision had been announced at the oral proceedings held on 17 March 2021 and thereby became effective on that day, the appeal proceedings are terminated (T 843/91 of 17 March 1993, OJ EPO, 1994, 818, point 10 of the reasons). Given that by virtue of the board's decision the refusal became final

and no appeal lies from decisions of the boards, the appellant's submission made after the announcement of the board's decision is without any legal effect.

Furthermore, a statement of withdrawal of the application made by the (sole) appellant after the final decision of the board has been announced at oral proceedings does not relieve the board of its duty to issue and notify to the appellant the decision in writing setting out the reasons for the decision (T 1033/04, point 3 of the reasons; T 1518/11, point 2 of the reasons).

Since the withdrawal is without any legal effect and the written decision has to be issued, the appellant is not entitled to the reimbursement of the appeal fee at 25% under Rule 103(4)(b) EPC.

Application

2. The present invention concerns the problem of changing angle in a multi-angle movie stored in a recording medium such as a Blu-Ray Disc (BD) (see the application as filed, page 1, lines 13 to 18; page 6, lines 11 to 14; page 7, lines 21 to 27).
- 2.1 In the prior-art recording method described on pages 2 to 5, a movie may contain multiple alternative versions of a moving picture (e.g. the same scene from different angles), the graphics pictures (e.g. for French and German subtitles) and the audio signals (e.g. for English and French spoken text), the contents being stored in elementary streams (page 2, lines 10 to 26; page 3, lines 10 to 22). A combination of multiple streams (e.g. moving pictures, graphics and audio) can be transported in one transport stream, each transport

stream being stored as a separate file (page 2, lines 27 to 29).

In multi-angle video, the user is given the possibility to change the viewing angle during presentation. In order to conveniently support that, a well-known DVD-video standard provides for an interleaved recording of the different transport streams. This is illustrated in Figure 1, which shows the contents of a portion of a track of a record carrier where a movie is recorded in three different viewing angles. Each transport stream is divided into relatively small transport stream pieces, indicated as angle blocks AB. The angle blocks of the different transport streams are interleaved in one stream. A combination of three angle blocks forms an interleaved unit IU (page 4, lines 9 to 33; Figure 1).

According to the description, in the prior-art method changing viewing angles is only allowed at the borders of the angle blocks. The length of the angle blocks is a trade-off between the conflicting requirements. Increasing the length of the angle blocks is advantageous in order to (b.1) fill the buffer and support seamless presentation during an entire jump, (b.2) reduce the jump frequency and (b.3) decrease the size of the file system tables. Decreasing the length of the angle blocks is desirable in order to (b.4) reduce the jump distance during normal play and (b.5) reduce the reaction time between a user pressing a selection button and the system starting to display the new angle (page 5, line 9, to page 6, line 8).

2.2 In order to address that, the present invention supports changing angles at predefined locations, called entry points, within the angle blocks. The entry points may be indicated in a table in a memory of the

disc drive or in entry point information blocks of the video streams. Such a table indicates the locations in the information streams of each angle for the same instant (time stamp). Each entry point coincides with the beginning of a group of pictures (GOP). According to the description, the invention solves problems (b.1) to (b.3) without introducing problem (b.5) (page 6, lines 11 to 24; page 9, line 21, to page 10, line 6; page 13, line 29, to page 14, line 7).

- 2.3 In one embodiment of the invention, when a user gives a command to change viewing angle, displaying of video data from the video buffer and reading of a current angle block from disc and storage into the video buffer continues until the next entry point, and then the optical head jumps to the corresponding entry point of the new angle of the same interleaved unit. Reading to the video buffer is resumed at the new angle as from this entry point. As soon as the data of the current angle block is fully displayed, the new angle block is displayed (page 11, lines 15 to 33; Figures 6a to 6c).

Second auxiliary request

3. *Inventive step - claim 1*

- 3.1 The board is still of the opinion, as it expressed in its communication pursuant to Article 15(1) RPBA 2020, that the application acknowledges on pages 2 to 5 of the application as filed (which correspond to those of the international publication) that the non-characterising features of claim 1 are known in combination from the prior art (see also point 2.1 above). This was not contested by the appellant.

- 3.2 Claim 1 further specifies the following features:
- (a) for providing seamless presentation, alternative pluralities of at least two entry points are defined for said alternative video portions, each respective entry point corresponding to a respective location within said alternative video portions where it is possible to start reading and decoding the video stream from a respective playtime instant without needing information from previous locations,
 - (b) entry points that correspond in each of the alternative pluralities correspond to same-time locations in each of the alternative video portions, which same-time locations correspond to the same playtime instant, and
 - (c) information is recorded which defines the entry points in one or more predefined storage locations of the recording medium.

In the board's view, the distinguishing features are essentially that multiple entry points are provided within an alternative video portion and that the new entry points are at same-time locations which are corresponding between alternative video portions.

- 3.3 Features (a) to (c) solve the technical problem of supporting seamless angle change closer to the point in time in which the user commands the system to change angle. This is similar to the technical problem attributed by the appellant to the use of multiple entry points within an alternative video portion, which the appellant formulated as "how to reduce the time required to perform an angle change".
- 3.4 The appellant argued that at the priority date of the present application there was an inherent underlying acceptance that changing angle could only be done

between angle blocks. The skilled person would have no motivation to change this. The skilled person, who was unimaginative by nature, would take document D1 for inspiration but would have found no reasons for using entry points in the way claimed.

- 3.5 The board does not find these arguments convincing. The skilled person would be motivated by the technical problem formulated above to search for a solution for seamless presentation other than the angle blocks.

In the board's opinion, the skilled person facing that problem would have considered introducing further entry points for angle changes in addition to the borders of the angle blocks. Since it was well known that a video stream could be decoded and displayed starting from the beginning of GOPs, it would have been straightforward to use the beginning of some GOPs as entry points. A video stream can be read and decoded from the beginning of a GOP without needing information from previous locations.

The skilled person would have implemented that solution of using the beginning of some GOPs as additional entry points in a similar way to that used for angle blocks in the acknowledged prior-art recording medium, which included the borders of corresponding angle blocks at same-time locations corresponding to the same playtime instance in the alternative video portions and recording information defining those borders of the angle blocks in predefined storage locations of the recording medium.

The board further notes that the skilled person would have immediately recognised that seamless presentation of the video upon angle change would only be possible if the beginning of the GOPs used as entry points in

alternative video portions corresponded to the same playtime instant.

Therefore, the skilled person would have arrived at features (a) to (c) without requiring inventive skills.

4. In view of that, the subject-matter of claim 1 of the second auxiliary request is not inventive over the acknowledged prior-art recording medium, when taken in combination with the common general knowledge (Article 56 EPC).

Third auxiliary request

5. Claim 1 of the third auxiliary request differs from claim 1 of the second auxiliary request in that it no longer mentions "providing seamless presentation" and in that it specifies that each alternative video portion comprises a plurality of groups of pictures, and each entry point corresponds to the beginning of a GOP.
6. *Admittance of the request into the proceedings*
 - 6.1 The third auxiliary request was filed within the period specified in the board's communication pursuant to Article 15(1) RPBA 2020 and in response to the board's preliminary opinion, which for the first time assessed inventive step of the claimed invention starting from the prior art acknowledged in the application. These are exceptional circumstances which justify admitting the request under Article 13(2) RPBA 2020. Therefore, the board admits the third auxiliary request into the appeal proceedings.

7. *Inventive step - claim 1*

7.1 Deleting the reference to "providing seamless presentation" does not improve the case for inventive step. In the acknowledged prior-art method, alternative video elementary streams also consist of groups of pictures. In addition, as explained in the inventive-step assessment for the second auxiliary request, it would be obvious for the skilled person faced with the technical problem formulated in point 3.3 above, and based on their common general knowledge, to use the beginning of a GOP as an entry point.

7.2 Therefore, the amendments do not render the subject-matter of claim 1 inventive, and the third auxiliary request does not meet the requirements of Article 56 EPC.

Fourth auxiliary request

8. *Admittance of the request into the proceedings*

8.1 The fourth auxiliary request was filed during the oral proceedings and hence in a late phase of the already advanced stage of the appeal proceedings referred to in Article 13(2) RPBA 2020. In accordance with this provision, the request shall in principle not be admitted into the appeal proceedings unless there are exceptional circumstances which have been justified with cogent reasons by the appellant.

8.2 The appellant argued that the fourth auxiliary request should be admitted because it was based on claim 6 of the second auxiliary request which was already on file. The amendments limited the claim so that the board's arguments and interpretation no longer applied. The discussion of the acknowledged prior art in the board's

preliminary opinion was difficult to understand and it was thus unclear what exactly the position of the board would be.

8.3 The board disagrees with the appellant's justification.

While claim 1 of the higher ranking requests were directed to a "Method for recording an information stream ...", claim 1 of the fourth auxiliary request concerns a "Method for reading a recording medium ..." and includes additional features, such as steps a), c) to g) and i), with no correspondence to features of claim 1 of the higher ranking requests (see sections VIII. to X. above). Before the oral proceedings, the appellant had not submitted such a request and had not relied on those additional features for defending its case. For the sake of procedural efficiency, the RPBA sets limits on when such amendments can still be filed in appeal proceedings.

Moreover, it was clear from the board's preliminary opinion that the acknowledged prior art was considered a valid starting point for assessing novelty and inventive step. In point 4.1 of the board's communication, the board summarised the acknowledged prior-art recording medium as described on pages 2 to 5 of the application as filed. In points 6, 6.1, 6.2, 9.4, 13, 13.1, 13.2 and 13.3 the board explained that the subject-matter of claim 1 of the requests then on file seemed to lack novelty (points 6, 6.1, 6.2, 9.4) or inventive step (points 13 to 13.3) when taking into account that acknowledged prior art. Points 13 to 13.3 provided a problem-solution reasoning for claim 1 of the second auxiliary request, assuming that all characterising features were distinguishing features. The board concluded in point 14 that "the subject-matter of claims 1 to 4 of the second auxiliary request

does not seem to be inventive over the acknowledged prior-art recording medium, when taken in combination with the common general knowledge or document D1".

The appellant had the opportunity to file with its letter of response new claims and arguments addressing those objections, and chose to file the third auxiliary request (which the board admits into the proceedings) and address only the argumentation based on document D1.

Therefore, the board does not recognise the presence of any exceptional circumstances which would justify admitting the request at such a late stage.

8.4 In view of this, the board, in accordance with Article 13(2) RPBA 2020, does not admit the fourth auxiliary request into the appeal proceedings.

Final conclusion

9. The second and third auxiliary requests are not allowable and the fourth auxiliary request is not admissible. Since there are no further requests on file, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



S. Lichtenvort

J. Geschwind

Decision electronically authenticated