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**Datasheet for the decision
of 23 August 2017**

Case Number: T 2069/13 - 3.5.03

Application Number: 06126168.1

Publication Number: 1802011

IPC: H04H1/00

Language of the proceedings: EN

Title of invention:

DMB reproducing apparatus and method

Applicant:

Samsung Electronics Co., Ltd.

Headword:

DMB reproducing apparatus and method/SAMSUNG

Relevant legal provisions:

EPC Art. 56, 123(2)

Keyword:

Inventive step (no) - main and first auxiliary requests
Added subject-matter (yes) - second and third auxiliary
requests

Decisions cited:

Catchword:



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Case Number: T 2069/13 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 23 August 2017

Appellant: Samsung Electronics Co., Ltd.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 6 May 2013
refusing European patent application
No. 06126168.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman F. van der Voort
Members: K. Schenkel
O. Loizou

Summary of Facts and Submissions

- I. This appeal is against the decision of the examining division refusing European patent application No. 06126168.1, publication number EP 1 802 011 A.

The refusal was based *inter alia* on the ground that the subject-matter of claim 1 of a main request and claim 1 of an auxiliary request lacked an inventive step having regard to the disclosure of document

D1: Seung Kyu Lee et al: "Video For Mobile and Handheld Devices: Design and Implementation of the Korean T-DMB system", INTERNATIONAL BROADCASTING CONFERENCE 2004, 10 to 14 September 2004, Amsterdam, and

taking into account the common general knowledge of the skilled person.

- II. With the statement of grounds of appeal, the appellant requested that the decision be set aside and that a patent be granted on the basis of the claims of either the main request or the auxiliary request. Oral proceedings were conditionally requested.
- III. In a communication accompanying a summons to oral proceedings, the board gave a preliminary opinion that, *inter alia*, the subject-matter of all independent claims of the main and auxiliary requests did not involve an inventive step having regard to the disclosure of D1 and taking into account the common general knowledge of the skilled person and, further, that the independent claims of the auxiliary request did not comply with Article 123(2) EPC.

IV. In response to the summons, the appellant filed with a letter dated 26 July 2017 a substantive response together with amended claims of a main request and a (first) auxiliary request as well as two further sets of claims of a second and a third auxiliary request. Further, it informed the board that it would not be attending the oral proceedings.

V. Oral proceedings were held on 23 August 2017 in the absence of the appellant.

On the basis of the written submissions, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the main request or, in the alternative, the claims of one of first to third auxiliary requests, all requests as filed with the letter dated 26 July 2017.

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

VI. Claim 1 of the main request and claim 1 of the first auxiliary request each read as follows:

"A digital multimedia reproducing apparatus providing digital broadcasting, the apparatus comprising:

a tuner unit to receive a digital broadcasting signal via a predetermined channel;

a channel decoding unit to convert the digital broadcasting signal received from the tuner unit into a digital signal and to perform OFDM demodulation, Viterbi decoding, and/or Reed Solomon decoding on the digital signal so as to produce an MPEG-2 transmission stream;

a decoding unit to demultiplex the MPEG-2 transmission stream to extract video data and/or audio data and to H.264-decode the video data, wherein the decoding unit comprises a post which is configured to convert a format of the decoded video data into YUV format and to magnify or reduce a screen; and

a control unit to decode the extracted audio data and to control the decoded audio data and the video data to be output."

- VII. Claims 1 of the second and the third auxiliary requests differ from claims 1 of the main request and the first auxiliary request in that at the end of the fourth paragraph after "YUV format" the wording "and to magnify or reduce a screen" has been deleted and in that at the end of each claim the following feature is added:

"wherein the decoding unit comprises a rotator which processes a rotation of the decoded video data".

Reasons for the Decision

1. *Main Request and first auxiliary request - claim 1 - inventive step*
 - 1.1 D1 is considered as representing the closest prior art. It relates to the implementation of a DMB (Digital Multimedia Broadcasting) system (cf. the title and the abstract) and, in particular, a terrestrial (T-DMB) system (page 1, section "INTRODUCTION", third paragraph). Figure 8 referred to in the section "T-DMB RECEIVERS" illustrates the receiver components.
 - 1.2 In particular, D1 discloses, using the language of claim 1, a digital multimedia reproducing apparatus

providing digital broadcasting (page 5, lines 1 to 3), the apparatus including:

a tuner unit to receive a digital broadcasting signal via a predetermined channel (see Figure 8; the blocks "RF" and "ADC" connected to an antenna "BAND-III ANT" constitute a tuner unit for the reception of an airborne DMB signal);

a channel decoding unit to convert the digital broadcasting signal received from the tuner unit into a digital signal and to perform OFDM demodulation, Viterbi decoding, and/or Reed Solomon decoding on the digital signal so as to produce an MPEG-2 transmission stream (see Figure 8; blocks "OFDM Demod" and "RS Decode" provide a signal for the block "MPEG-2 TS DEMUX", which implies that they produce an MPEG-2 transmission stream);

a decoding unit to demultiplex the MPEG-2 transmission stream to extract video data and/or audio data (see Figure 8; block "MPEG-2 TS DEMUX" demultiplexes the received signal and provides signals for an "AVC decoder" and an "BSAC decoder", "AVC" (Advanced Video Coding) and "BSAC" (Bit Sliced Arithmetic Coding) referring respectively to video and audio coding, cf. page 3, lines 1 to 6, and Figure 2) and to H.264-decode the video data ("AVC decoder" decodes a video signal which is H.264 encoded, see page 4, Figure 4, and page 6, Figure 8); and

a control unit to decode the extracted audio data (Figure 8; "BSAC decoder") and to control the decoded audio data and the video data to be output (there is inherently a unit providing the outputs of the audio and video signals provided by the blocks "AVS decoder" and "BSAC decoder")."

1.3 The apparatus of claim 1 thus differs from the apparatus disclosed in D1 in that:

the decoding unit comprises a post which is configured:

i) to convert a format of the decoded video data into YUV format; and

ii) to magnify or reduce a "screen".

The board interprets, as did the appellant, the term "screen" in this context as referring to the displayed video image and "magnify or reduce" as referring to increasing or decreasing the resolution relative to the original resolution of the as-broadcast video data.

1.4 Re i): At the claimed priority date (20 December 2005), the YUV format was a very common coding scheme for color video signals and, hence, was part of the common general knowledge of the skilled person, as was stated in the board's communication. This was not disputed by the appellant. Providing in the apparatus of D1 the decoded video signals at the output of the AVC decoder in YUV format does not therefore contribute to an inventive step.

1.5 Re ii): Magnifying or reducing the image to be displayed has the effect that the whole video image may be displayed on the display and in a manner such that the full screen size of the display is used as much as possible.

Starting out from D1, a technical problem to be solved in this respect may therefore be seen in providing an optimised display of the video data.

As regards display screens for reproducing the digital broadcast, D1 discloses a screen size of 7 inches for

vehicle receivers and mobile phone embedded receivers with smaller screen sizes for pedestrians.

As already set out in the board's communication, at the priority date it was part of the common general knowledge of the person skilled in the art that up- and downscaling of video data may be applied in order to adapt a video image to a display of different size or different resolution. This was not disputed by the appellant.

The skilled person would therefore, starting out from D1 and faced with the above-mentioned problem, adapt the video data to the native resolution of a given display screen or, in other words, provide for a magnification or reduction of the resolution of the video data.

- 1.6 The appellant argued that, even though D1 disclosed displays with different physical sizes, there was no suggestion in D1 that these different screens would have different resolutions. It was well-known for displays of different sizes to have different pixel sizes and it was perfectly possible for displays of very different sizes to have the same number of pixels. Therefore physical size itself could not be taken as an indication of the actual pixel resolution of the display. It would seem reasonable to assume that a DMB receiver would be provided with a display with a native resolution corresponding to the resolution of the as-broadcast DMB video, in which case no magnification or reduction would be required to display the DMB video.

Nevertheless, even if when reading D1 the skilled person did consider displaying the DMB video on screens with different native resolution, there was no

suggestion in D1 to magnify or reduce the video resolution in any way. Instead, the skilled person could, for example, simply display the DMB video in a window of appropriate dimensions on part of a higher-resolution display.

The appellant further argued that D1, penultimate paragraph on page 5, disclosed examples of DMB vehicle receivers and PDA embedded receivers which had a standard screen size of seven inches and which were described as being fully compatible with the Korean T-DMB standard and further that the skilled person would understand from this that a particular screen resolution was needed for compatibility with the T-DMB standard, hence the standardisation of the screen size among different vehicle and PDA-based receivers.

1.7 The board is not convinced by these arguments.

D1 discloses that the video data may also be reproduced by mobile phones with smaller screen size. At the priority date of the present application, there were many different models of mobile phones with different screen sizes and different native resolutions.

Thus, even if, for the sake of argument, there were a standard resolution for T-DMB video data, the skilled person would in practice be faced with the problem of displaying the video data on different mobile phone models with different native screen resolutions.

Further, the skilled person would, in particular for small screens, like the ones of mobile phones, try to make full use of the available screen area and not use only a section of the display. The board further notes that in a case in which the video data resolution is

higher than the screen's native resolution a part of the video would not be displayed at all if the resolution of the video data were not reduced, which is evidently highly undesirable. The skilled person would therefore, if only to prevent this, provide the possibility of reducing the video image.

1.8 The board therefore concludes that the subject-matter of claims 1 of the main request and the first auxiliary request does not involve an inventive step (Articles 52(1) and 56 EPC).

2. *Second and third auxiliary requests - claim 1 - added subject-matter*

2.1 Claims 1 of the second and third auxiliary requests each include the feature that the decoding unit comprises a rotator which processes a rotation of the decoded video data.

The board notes that in the application as filed there is only one reference to a rotator, namely in the description and only in connection with the embodiment as shown in Fig. 1 and as described at page 7, line 29 ff. In this embodiment, the decoding unit 130 includes a post 134 which converts a moving picture, i.e. the video data, of the DMB into a YUV format and magnifies or reduces the screen as needed (page 9, lines 9 to 12 and 23 to 24).

The one sentence which refers to the rotator reads as follows (see page 9, lines 24 to 26):

"Although not shown, the decoding unit 130 may further include a rotator which processes a rotation of the DMB moving picture." (underlining by the board).

It follows that reference is made to the previously mentioned decoding unit 130 which includes a post 134 which magnifies or reduces the screen (see above).

Hence, the application as filed does not provide a basis for a decoding unit which includes a post and a rotator which processes a rotation of the DMB moving picture, without the post being configured to magnify or reduce a screen.

2.2 The appellant argued that, according to the Guidelines for Examination, Part H-V 3.2.1, it was allowable to take a feature from a particular embodiment and add it to a claim if:

- the feature was not related or inextricably linked to the other features of that embodiment; and
- the overall disclosure justified the generalising isolation of the feature and its introduction into the claim.

The function of the rotator was to process a rotation of the DMB moving picture and it would be readily appreciated that this function could be performed independently of a magnification or reduction of a screen. In particular, D1 disclosed that each of the post and the rotator operate on the DMB moving picture, indicating that the rotator and the post can operate independently on each frame of the DMB video with or without the other operations being performed. Thus, the function of the rotator was not inextricably linked to the conversion or scaling applied by the post, and vice versa.

2.3 The board is not convinced by these arguments.

The board firstly generally notes that the section of the Guidelines for Examination the appellant referred to qualifies the above-mentioned conditions merely as "an aid to assessing, in the particular case of an intermediate generalisation, if the amendment fulfils the requirements of Art. 123(2)" and further states that "In any case, it has to be ensured that the skilled person is not presented with information which is not directly and unambiguously derivable from the originally filed application, even when account is taken of matter which is implicit to a person skilled in the art using his common general knowledge.". Hence, even if the above-mentioned two conditions were accepted as relevant criteria in this context and were met, it does not necessarily follow that the amendment would comply with Article 123(2) EPC.

Secondly, with respect to the present case, the board notes that the claimed apparatus is not limited for use with a quadratic display screen or quadratic video image. Hence, in case of a rectangular, but not quadratic, display screen or video image, after a rotation by e.g. 90 degrees, the aspect ratio of the video image may be reversed and, hence, without further measures being taken, might result in only a partial display of the image, which would be avoided if the image were accordingly reduced in size. Hence, it can not be said that the rotation of the image is not related to the feature of magnifying or reducing the screen. Further, since at the priority date rectangular, but not quadratic, screens were the standard for displaying multimedia content, the overall disclosure of application as filed does not justify the generalising isolation of the rotator feature, i.e.

without the post being configured to magnify or reduce a screen, and its introduction into claim 1.

The board also notes that both magnifying or reducing the screen and rotating the decoded video data relate to the editing of the video image. In digital image processing, which is the field of the application in suit, different image editing operations may well be carried out by the same data processing unit and, in that case, would in this sense not be independent from each other. In this respect, the board notes that the application explicitly states that, "when the decoding is completed, a change of the format of the screen and magnification/reduction of the format may be performed in the post 134" (page 9, lines 27 to 31).

- 2.4 In view of the above, the board concludes that the application as filed does not directly and unambiguously disclose a decoding unit including a post and a rotator which processes a rotation of the decoded video data, without the post being configured to magnify or reduce a screen.
- 2.5 Consequently, claim 1 of each of the second and third auxiliary requests contains subject-matter which extends beyond the content of the application as filed (Article 123(2) EPC).
3. As there is no allowable request, it follows that the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



G. Rauh

F. van der Voort

Decision electronically authenticated