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D E C I S I O N
of 23 June 1998

Case Number: T 1157/97 - 3.5.1

Application Number: 93101134.0

Publication Number: 0554758

IPC: H04N 5/44

Language of the proceedings: EN

Title of invention:

Processor circuit of television signals

Applicant:

EDICO S.r.l.

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (yes, after amendment)"

Decisions cited:

-

Catchword:



Case Number: T 1157/97 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 23 June 1998

Appellant:

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Representative:

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Decision under appeal:

Decision of the Examining Division of the European Patent Office posted 8 July 1997 refusing European patent application No. 93 101 134.0 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: A. S. Clelland
C. Holtz

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse European patent application No. 93 101 134.0 on the ground that the subject-matter of claim 1 of both the main and auxiliary requests lacked an inventive step, Articles 52(1) and 56 EPC, having regard to the following document:

D1: Signal Processing of HDTV, II, Proceedings of the Third International Workshop on HDTV, Turin, IT 30.08 - 01.09 1989, Edited by L. Chiariglione Elsevier, Amsterdam, NL, pages 665-673; SAKURAI: "NTSC-HDTV Up-Converter".

II. At oral proceedings before the Board, held on 23 June 1998, the appellant's sole request was that the decision under appeal be set aside and a patent granted on the basis of the following documents:

Claims: 1 to 9, submitted at the oral proceedings;

Description: pages 1 to 7 as originally filed, with the amendments to page 2/3 (column 1/2 of the published application) submitted at the oral proceedings on 23 June 1998;

Drawings: sheet 1 as originally filed.

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

"Television or video image reproducing apparatus including a processor circuit of received television or video signals, coupled to a display device being substantially rectangular, the sides of which are approximately of the ratio 16:9, characterised in that

the processor circuit of received television or video signals includes
a memory for storing all transmitted television or video lines, and
means for reading from the memory and displaying over the whole of the screen a user selectable fraction of the stored television lines so as to display an image, the sides of which are approximately of ratio 4:3 wherein a part of the original image is lost but there is no image information loss on the top or alternatively on the bottom side of the image and that manual adjustment means control the user selectable fraction so as to permit shifting the image in the vertical sense whenever the user of the reproducing apparatus so desires."

IV. The appellant argued as follows:

D1, like the claimed invention, was concerned with displaying a 4:3 aspect ratio television signal on a 16:9 aspect ratio display. D1 however related to an "NTSC-HDTV up-converter"; it was well known that up-converters were complex pieces of equipment which would only have been used at the studio side of the transmission chain. Thus, the apparatus in D1 was not intended to be used in a television receiver.

The processing in accordance with the invention did not involve any up-conversion at all. The selected lines were simply read out of the memory and displayed without being modified. This was simpler and cheaper than using an up-converter in the television receiver as disclosed by D1.

Reasons for the Decision

1. *Amendment of Claim 1*

1.1 In the course of the oral proceedings claim 1 was amended to limit its scope. The revised claim is directed to image reproducing apparatus incorporating a processor circuit whereas previously a processor circuit was claimed per se; the processor circuit is said to include a memory and means for reading from the memory a user-selectable fraction of the stored television lines.

1.2 The newly introduced features are supported by the originally filed description, see column 3 lines 40 to 49 and column 4 lines 4 to 14 of the published application.

1.3 The revised claim is clear and supported by the description, Article 84 EPC, and meets the requirement of Article 123(2) EPC in that it does not add subject-matter.

2. *Inventive Step*

2.1 The application is concerned with the problem that when a 16:9 aspect ratio receiver displays a 4:3 image either there will be black bands to the left and right of the image (or on one side if the image is not centred) or if the image is expanded to fill the width of the screen some 25% of the top and/or bottom will be lost. In accordance with the application, in a system in which the image is expanded to fill the width, this loss is under manual control and can be either at the top or bottom of the screen, or any proportion of the

two.

2.2 The examining division rejected the application in view of the disclosure of D1. In discussing how a 4:3 picture should be displayed on a 16:9 screen, D1 refers at page 665, section 2.1, paragraph 3, to the alternatives mentioned at point 2.1 above and states that in one particular mode, mode II, "the top and bottom portion of the NTSC picture is eliminated"; this is illustrated at Figure 1 on page 666 and is plainly what is done in the application. Further on, at page 667, section 3.2, D1 states more generally that "The rest of the N/4 lines are abandoned" (N being the number of scanning lines). This is followed by the statement:

"The position of the displayed area needs to be selected arbitrarily by the user command."

2.3 In the Board's view this refers to the positioning of a 4:3 image on a 16:9 screen rather than, as asserted by the appellant, the standard fine adjustment of the position of an image on a display by a service engineer. The latter is a routine measure which would not warrant specific mention in the description of mode II. It is noted that it is not mentioned in connection with the other modes, although the same requirement would arise. Moreover, the references to positioning "arbitrarily" and "by the user command" are at odds with the appellant's interpretation.

2.4 Thus, the Board considers that D1 discloses, using the terminology of claim 1, television image reproducing apparatus including a processor which in "mode II" displays a 4:3 aspect ratio image on a 16:9 aspect

ratio display device, such that a part of the original image is lost. Manual adjustment means permit the user to shift the image in the vertical sense whenever desired.

2.5 Claim 1 further includes a memory for storing all transmitted lines. This feature is not disclosed in D1, although a scan conversion (see point 2.6 below) arguably implies the need for such a memory. Finally, claim 1 includes means for reading and displaying over the whole of the screen a user selectable fraction of the stored lines. This is understood by the Board as meaning that only the actual number of lines that are selected is read and displayed. If the number of displayed lines is reduced compared to what is stored it follows that a non-standard signal is displayed; in the course of the oral proceedings a fraction of about 400 lines for a 525 line television signal was mentioned. The display of such a non-standard signal implies a modification of the vertical deflection of the display, as mentioned in the passage bridging columns 3 and 4 of the published application.

2.6 In D1 on the other hand, see Figure 3, the selected number of lines is converted to the conventional number of lines for the display, i.e. from $3/4N$ lines back to N lines. There is no suggestion in D1 of directly displaying the selected number of lines over the whole screen. D1 is the only document in the European Search Report representing the state of the art under Article 54(2) EPC and the Board sees no reason why the skilled person would consider modifying the D1 disclosure to display a non-standard number of lines. Thus the subject-matter of present claim 1 involves an inventive step with regard to document D1.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to grant a patent in accordance with the appellant's request.

The Registrar:

The Chairman:

E. Görgmaier

P. K. J. van den Berg