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**Datasheet for the decision  
of 19 June 2006**

**Case Number:** T 1021/01 - 3.5.04

**Application Number:** 93101134.0

**Publication Number:** 0554758

**IPC:** H04N 5/44

**Language of the proceedings:** EN

**Title of invention:**

Processor circuit of television signals

**Patentee:**

EDICO S.r.l.

**Opponents:**

- 01: Koninklijke Philips Electronics N.V.  
02: Interessengemeinschaft für Rundfunkschutzrechte GmbH  
Schutzrechtsverwertung & Co. KG

**Headword:**

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**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

"Inventive step (yes) "

**Decisions cited:**

G 0008/93, T 1157/97

**Catchword:**

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Case Number: T 1021/01 - 3.5.04

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.04  
of 19 June 2006

**Appellants:**

(Opponent 01)

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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 16 July 2001  
rejecting the opposition filed against European  
patent No. 0554758 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** F. Edlinger  
**Members:** M. Paci  
J. Willems

## Summary of Facts and Submissions

- I. Appellant I (opponent 02) lodged an appeal against the decision of the opposition division rejecting the oppositions against European patent No. 0 554 758. A second appeal against this decision was filed by appellant II (opponent 01).
- II. The two oppositions had been filed against the whole patent and were based on Article 100(a) EPC on the grounds of lack of novelty and lack of inventive step.
- III. In a letter dated 9 July 2003 received on 10 July 2003 appellant II withdrew his opposition.
- IV. The following prior art documents cited in the opposition proceedings are relevant to the present decision:
- D1: US 4 953 025 A and  
D3: Signal Processing of HDTV, II, Proceedings of the Third International Workshop on HDTV, Turin, Italy, 30 August - 01 September 1989, Elsevier Science Publishers B. V., 1990, pages 665-673, *NTSC-HDTV Up-Converter*, Masaru Sakurai.
- V. Oral proceedings before the Board were held on 19 June 2006 during which the respondent filed a complete set of patent documents according to a new main request.
- VI. Claim 1 according to the main request reads as follows:
- "1. 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 or video lines so as to display an image, the sides of which are approximately of ratio 4:3, wherein the vertical deflection of the image is incremented in the same ratio, and 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."

Claims 2 to 9 are dependent on claim 1.

- VII. Appellant I (opponent 02) requested that the decision under appeal be set aside and that the patent be revoked.
  
- VIII. The respondent (patent proprietor) requested that the patent be maintained in amended form according to the new main request on the basis of the documents filed during the oral proceedings.
  
- IX. The reasons given in the decision under appeal may be summarised as follows (reference was also made to T 1157/97, which had ordered the grant of the patent which is now opposed).

The embodiments disclosed in D1 only display a 16:9 signal on a 4:3 screen. Some of the pixels are dropped and the remaining ones stretched in order to produce a standard NTSC signal. D1 is not suitable for performing a conversion in the opposite direction. D3 does not suggest the use of a frame memory, but a buffer memory used for interpolating lines to produce a standard NTSC signal.

In the case of the opposed patent, a non-standard signal is obtained from the frame memory and the display device necessarily has to be adapted to the non-standard signal, for example by changing the amplitude of the vertical deflection.

X. Appellant I essentially argued as follows:

Document D3 discloses an up-converter for an HDTV receiver which addresses the problem of displaying an image having a 4:3 aspect ratio on a 16:9 screen. In D3 this problem is solved by allowing the user to arbitrarily select a portion (3/4 of the lines) of the original image which is then displayed on the 16:9 screen.

The subject-matter of claim 1 thus differs from D3 only in that:

- (a) there is a memory for storing all transmitted television or video lines, and
- (b) the vertical deflection of the image is incremented in the same ratio.

As to feature (a), it would have been obvious for a skilled person to include such a memory in the apparatus of D3 for storing a whole received image. Moreover, such a memory is known from the apparatus disclosed in D1 which operates on the same principle as the claimed invention but for a conversion of a 16:9 image on a 4:3 screen. The teaching of D1 is of a more general character and may be easily applied to other aspect ratio conversions as well. It would thus be obvious to apply it to a 16:9 screen as in D3 and to include such a memory.

Regarding feature (b), in D3 the vertical deflection of the image is not changed. Instead the number of lines is increased by line-interpolation. However incrementing the vertical deflection is an obvious alternative to increasing the number of lines, taking into account the skilled person's common general knowledge.

Accordingly the subject-matter of claim 1 does not involve an inventive step (Article 56 EPC).

XI. The respondent's arguments can be summarised as follows:

D3 is the closest prior art. This document neither suggests using a memory for storing all transmitted television or video lines, nor changing the vertical deflection of the image. In fact, D3 takes a different approach by increasing the number of lines by line-interpolation in order to create a standard signal which can be displayed using the standard vertical deflection. There is no need in the apparatus of D3 for a memory storing a whole image as disclosed in D1; a

small buffer for line-interpolation is sufficient. As to the vertical deflection, there is no reason to increment it in D3 because the signal to be displayed is a standard signal. The appellant's contention that incrementing the vertical deflection would be obvious is therefore based on hindsight.

Hence the subject-matter of claim 1 involves an inventive step.

### **Reasons for the Decision**

1. The appeal is admissible.
2. Appellant II has withdrawn his opposition. According to decision G 8/93 (EPO OJ 1994, 887), this can only be regarded as withdrawal of his appeal. As a consequence, opponent 01 has ceased to be a party to the proceedings and the sole pending appeal is that of appellant I, referred to as "the appellant" in the following.
3. *Articles 84 and 123(2) EPC (amendments)*
  - 3.1 The Board is satisfied that the amendments made by the proprietor of the patent on appeal meet the requirements of Article 123(2) EPC (see column 3, line 53 to column 4, line 3 of the published application) and do not give rise to objections under Article 84 EPC. The appellant has not disputed this conclusion.



4. *Interpretation of claim 1*
- 4.1 Claim 1 states, on the one hand, that there are means for displaying a user selectable fraction of the stored television or video lines over the whole of the screen "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".
- 4.2 On the other hand, claim 1 also states 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" and dependent claims 6, 7 and 9 and the description (see, for instance, paragraph [0016]) further specify that the manual adjustment means are not limited to the two extreme vertical positions with no image information loss either at the top or at the bottom of the image on the screen.
- 4.3 During the oral proceedings before the Board the appellant and the respondent agreed that this ambiguity in claim 1 should be resolved by interpreting the claim in the broadest manner as meaning that one or more intermediate vertical positions are possible between the two extreme vertical positions.
- 4.4 The Board is satisfied with this interpretation because claim 1 specifies that a part of the "original image" (pixels) is lost, but the displayed fraction is selectable by the user so that there is no image "information" loss, for example no loss of an essential

part of the image, as might otherwise happen without user control (cf paragraph [0014] of the patent specification). This construction of claim 1 will thus be adopted when assessing novelty and inventive step.

5. *Inventive step (Article 56 EPC)*

5.1 The novelty of the subject-matter of present claim 1 has not been contested.

5.2 The parties agree that document D3 represents the closest prior art.

5.3 D3 discloses an NTSC-HDTV up-converter for an HDTV receiver. The NTSC-HDTV up-converter adapts NTSC pictures so that they can be displayed on an HDTV receiver. One problem addressed in D3 is how to display an image having a 4:3 aspect ratio (NTSC) on a screen having a 16:9 aspect ratio (HDTV). D3 describes three possible solutions to this problem, one of which consists in displaying only 3/4 of the lines of the original NTSC picture in order to obtain an image having a 16:9 aspect ratio. D3 further indicates that the position of the displayed area can be arbitrarily selected by the user. Finally, in order to display the selected block of lines as a standard NTSC signal, the number of lines of the selected block is increased by one third (to the number of lines prescribed by the NTSC standard; cf D3, point 3.2: "3 to 4 Line Scanning Conversion for Mode II" and Figures 3 and 7) using a line-interpolation technique.

5.4 The television or video image reproducing apparatus of claim 1 therefore differs from an HDTV receiver

equipped with the above up-converter of D3 essentially by the following features:

- (a) a memory for storing all transmitted television or video lines and
- (b) displaying the user selectable fraction by incrementing the vertical deflection of the image in the same ratio.

5.5 The technical effect achieved by these distinguishing features is that a user selectable fraction of the stored television or video lines can be displayed directly on the display device as a non-standard signal without having to convert the selected fraction of lines - for example by interpolation - to the standard number of lines.

5.6 The appellant argued that it was known from D1 to store all transmitted lines and that incrementing the vertical deflection of the image would be an obvious alternative to increasing the number of lines by interpolation.

5.7 The appellant's arguments however fail to convince the Board because neither D1 nor D3 suggests incrementing the vertical deflection of the screen. Both documents disclose displaying standard numbers of lines. In D3 the number of lines of the selected fraction is increased by line-interpolation in order to obtain a standard number of lines. In D1 a standard number (525, NTSC) of horizontal lines is produced by a known line-interpolation method from the total number of lines (1125, HDTV) stored in a memory. The horizontal position of a selected number of samples (910 of 1134)

of the lines may be selected by a user by varying the read start address (D1, column 5, lines 23 to 67 and Figures 2 and 3). The selected portion of the original image thus has no influence on the number of lines since only left and/or right side portions of the original image are removed. D1 is silent on how a conversion of a 4:3 image onto a 16:9 screen (the opposite direction to that disclosed in the embodiments) would be performed. Even if a person skilled in the art had applied the teaching of D1 to such a conversion he would not have found an incentive to display a selected non-standard number of lines.

5.8 Regarding this last argument, the Board notes that the feature concerning the vertical deflection, even though it was only introduced into claim 1 during the oral proceedings before the Board, has been central to most of the discussions about inventive step since the previous appeal T 1157/97 which ordered the grant of the opposed patent. Despite this, the appellant did not cite any evidence that changing the vertical deflection was known in a similar context or would be obvious from common general knowledge. The Board is thus not convinced that a skilled person would have had any incentive, starting from D3, to replace the line-interpolation by an increment of the vertical deflection inside the display device.

5.9 For the above reasons the Board concludes that the subject-matter of claim 1 and its dependent claims 2 to 9 is not rendered obvious by the prior art documents cited on appeal.

6. Hence, the Board is satisfied that the patent and the invention to which it relates, with the amendments made by the proprietor, meets the requirements of the EPC.

## **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 maintain the patent in amended form on the basis of the documents filed in the oral proceedings on 19 June 2006:

claim 1 (extra sheet) and claims 2 to 9 (page 4)  
cover sheet, and pages 1, 2, 3 of the description and  
drawings (page 6).

The Registrar:

The Chairman:

D. Sauter

F. Edlinger