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D E C I S I O N
of 10 December 2004

Case Number: T 1172/01 - 3.5.1

Application Number: 94108343.8

Publication Number: 0617555

IPC: H04N 5/44

Language of the proceedings: EN

Title of invention:

Wide-screen display device adapted to receive images with a
conventional aspect ratio

Applicant:

Thomson Consumer Electronics, Inc.

Opponent:

-

Headword:

Wide-screen display/THOMSON

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (no) "

Decisions cited:

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Catchword:

-



Case Number: T 1172/01 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 10 December 2004

Appellant: Thomson Consumer Electronics, Inc.
10333 north Meridian Street
Indianapolis, IN 46290 - 1024 (US)

Representative: Wördemann, Hermes, Dipl.-Ing.
Deutsche Thomson-Brandt GmbH
Licensing & Intellectual Property
Postfach 61 01 31
D-30601 Hannover (DE)

Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 8 March 2001
refusing European application No. 94108343.8
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: S. V. Steinbrener
Members: R. S. Wibergh
B. J. Schachenmann

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse European patent application No. 94 108 343.8.

II. According to the impugned decision, claim 1 of the then main request had been extended beyond the disclosure of the originally filed application (Article 123(2) EPC). Furthermore, the invention did not involve an inventive step with respect to

D1: JP-A-63 26174 (with translation) and
D2: GB-A-2 186 165,

either taken alone or in combination. Modified claims 1 to 9, filed as an auxiliary request at oral proceedings, were also found unacceptable having regard to D1 and D2.

III. On appeal, the appellant (applicant) requested grant of a patent based on the claims according to either the main request or the auxiliary request before the examining division.

IV. In a communication, the Board expressed the opinion that the invention as defined in claim 1 of either request did not involve an inventive step with respect to D1 together with

D3: WO-A-89/00369,

a document cited in the European Search Report.

- V. With letter dated 1 November 2004, the appellant abandoned the main request referred to above and replaced it by the auxiliary request. Claims 1 and 2 according to a new auxiliary request were filed with the same letter.
- VI. Claim 1 of the main request, corresponding to claim 1 of the auxiliary request before the examining division, reads:
- "A television apparatus, comprising:
a video display means having a wide aspect ratio;
means for effecting a single horizontal deflection width for said wide aspect ratio video display means;
means for effecting vertical deflection (2) at selectable vertical deflection heights, including a nominal vertical deflection height and at least one vertical deflection height larger than said nominal vertical deflection height; and
means for selecting (4) between said vertical deflection heights, said nominal and larger vertical deflection heights defining different vertical deflection formats appropriate for displaying pictures from different video sources, said selecting means (4) being responsive to a mode selection signal, which is generated by a button used to select said larger vertical deflection height when a displayed picture from one of said different video sources has an aspect ratio narrower than said wide aspect ratio,
whereby when said picture has an active picture portion bordered top and bottom by substantially inactive picture portions, said picture is displayed substantially only with said active picture portion and without substantial image aspect ratio distortion, and

when said picture has a substantially complete active picture portion, said picture is displayed in an enlarged size, with some of said active picture portion vertically cropped and without substantial image aspect ratio distortion."

VII. Claim 1 of the auxiliary request, filed with the letter dated 1 November 2004, reads:

"A method for displaying pictures in letterbox format on a video display means having a wide aspect ratio, comprising the steps of:
effecting a single horizontal deflection width for said wide format video display means;
effecting vertical deflection at selectable vertical deflection heights, including a nominal vertical deflection height suitable for pictures having wide aspect ratios and at least one vertical deflection height larger than said nominal vertical deflection height suitable for pictures in letterbox format in which an active picture portion is bordered top and bottom by substantially inactive picture portions; and selecting said larger vertical deflection height responsive to a control signal that can be generated by a viewer when a displayed picture has said letterbox format,
whereby when said picture having said letterbox format is displayed with said larger vertical deflection height, said active picture portion is displayed substantially completely, substantially without image aspect ratio distortion and in an enlarged size as compared to 4:3 video display means, and substantially only said inactive picture portions are not displayed."

VIII. Oral proceedings were held on 10 December 2004. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request, ie claims 1 to 9 filed as auxiliary request at the oral proceedings before the examining division, or on the basis of the auxiliary request, ie claims 1 and 2 filed with letter of 1 November 2004 (cf. points VI and VII *supra*).

IX. At the end of the oral proceedings the Board announced its decision.

Reasons for the Decision

1. Admissibility of the appeal

The appeal meets the requirements referred to in Rule 65(1) EPC and is therefore admissible.

The main request

2. The claimed invention (cf. point VI *supra*) concerns a TV apparatus having a wide "aspect ratio" (meaning image width to height), eg equal to 16:9 instead of the traditional 4:3. Received TV images having the same wide aspect ratio are displayed as they are, but images having a different aspect ratio must be differently treated in order not to appear distorted on the screen. According to the invention an image having an aspect ratio equal to eg 4:3 is "stretched" in the vertical direction by increasing the vertical deflection height while keeping the horizontal deflection width constant.

The result is a non-distorted image in 16:9 format whose upper and lower parts have however been cropped.

3. As acknowledged by the appellant, D1 describes the closest prior art. In figure 1 and 2 of that document a receiver is shown which is equipped with a 16:9 display and is capable of presenting either high definition TV images having 16:9 format or images having 4:3 format. In the latter case the viewer may choose to see either the complete 4:3 image but with black vertical bars left and right (figure 2a) or a magnified partial image filling up the entire screen but leaving out the top and bottom parts of the received image (figure 2b). It is furthermore mentioned in the description (see the translation, page 3, first paragraph) that conventional receivers are set up to display either the image shown in figure 2a or the one shown in figure 2b, whereas the invention in D1 gives the viewer the option to select between the two (see page 3, fourth paragraph). In particular, the screen completely filling the display can be used "in the absence of any important image at the top and bottom of the screen" (page 6, first paragraph). There is however no explanation how the vertical magnification necessary to achieve the image shown in figure 2b is performed.

4. The appellant identifies two problems with the receiver as disclosed in D1. First, if by mistake or due to lacking knowledge the viewer selects the image having blank areas left and right when a TV film in "letterbox" format is broadcast, the result is a complete but undersized image within a black frame. This problem is solved according to the invention by not allowing such a selection. Second, D1 gives no

indication as to how the vertical stretching of figure 2b should be performed. This problem is solved by a selectable vertical deflection height larger than the nominal vertical deflection height.

5. In the Board's view, the first problem is in fact recognised and even solved in D1. The new feature in D1 as compared with the then prior art is the possibility of choosing the kind of presentation of a 4:3 format image in accordance with either figure 2a or 2b. It follows that in the then prior art this was not permitted, in correspondence with the present invention. Both alternatives are thus mentioned in D1 and the respective advantages and disadvantages are immediately clear: if no choice is possible the presentation may not always be optimal (cf. page 6, first and second paragraphs) whereas by allowing the choice of presentation an inexperienced viewer may make mistakes. Therefore, overcoming this possible problem associated with the receiver described as the "invention" in D1 is regarded as obvious from D1 alone.

6. The solution to the second problem is known *per se* from D3, as acknowledged by the appellant. In figure 3b of this document the current to the vertical deflection circuits is shown to create a fast sweep when vertical magnification is desired, so that a smaller number of TV lines are shown on the display. Thus, a combination of D1 and D3, if permitted, yields the invention.

The appellant has contended that the skilled person would not have considered D3 since it relates not to image format conversion but to zooming in general. It is true that in D3 horizontal and vertical

magnification are always performed together. This is because the aim in D3 is to create a magnified version of a letterbox image in format 4:3 on a display also in format 4:3, something which calls for magnification of a suitable portion of the image ("Ausschnittsvergrößerung", page 1). Nevertheless, D3 does provide a solution to the problem mentioned. There is in D3 no interaction between the horizontal and vertical magnification operations which could have prevented the skilled person from using the vertical magnification only. On the contrary, it is explicitly stated in D3 that different principles are used in the horizontal and vertical directions (see page 1, paragraphs 3 and 4; claims 1 and 4). Since D3 concerns the display of TV images, and even images having different formats, the skilled person would have considered this document when searching for a solution to the second problem (cf. point 4 *supra*) and thus arrived at the subject-matter of claim 1 in an obvious manner (Article 56 EPC).

7. It follows that the appellant's main request must be refused.

The auxiliary request

8. The auxiliary request differs from the main request mainly in that claim 1 is directed to a method rather than an apparatus and that the pictures displayed are explicitly in letterbox format. The arguments presented above with respect to the main request are however applicable also to this claim. D1 explicitly mentions the possibility of selecting the vertically magnified display shown in figure 2b (which corresponds to the

present invention) "in the absence of any important image at the top and bottom of the screen" (something which anyway appears self-evident) and it is hard to imagine anything less important than the black horizontal bars typical for the letterbox format. Thus a viewer would be particularly apt to select the display shown in figure 2b in case of broadcasts in letterbox format. It follows that also the subject-matter of this claim lacks an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Kiehl

S. Steinbrener