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D E C I S I O N
of 7 December 2001

Case Number: T 0420/99 - 3.5.1

Application Number: 91203283.6

Publication Number: 0492701

IPC: H04N 5/44

Language of the proceedings: EN

Title of invention:

Video signal processing system and apparatus for use in such a system

Patentee:

D2B Systems Co. Ltd.

Opponent:

Interessengemeinschaft für Rundfunkschutzrechte e.V.

Headword:

Video signal processing system/D2B SYSTEMS

Relevant legal provisions:

EPC Art. 52(1), 54(3), 87(1)

Keyword:

"Entitlement to claimed priority date (claims 1 and 7, yes)"
"Novelty (claim 7, no)"

Decisions cited:

G 0002/98

Catchword:

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Case Number: T 0420/99 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 7 December 2001

Appellant: Interessengemeinschaft
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 1 April 1999
rejecting the opposition filed against European
patent No. 0 492 701 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: S. V. Steinbrener
Members: A. S. Clelland
P. Muehlens

Summary of Facts and Submissions

- I. This is an appeal against the decision of the Opposition Division to reject an opposition against European patent No. 0 492 701.
- II. The opposition was on the grounds of lack of novelty and lack of inventive step, and was based *inter alia* on the following documents, the Board adopting the opponent's nomenclature:
- D1: EP-A-0 437 882
- D2: Journal "Fernseh- und Kino-Technik", No. 4/1988, pages 177 to 184
- D3: EP-A-0 387 517
- D5: EP-A-0 400 745.
- III. The patent claims the priority of GB application No. 9 027 840 (hereinafter referred to as the priority document) filed in the United Kingdom on 21 December 1990.
- IV. The objection of lack of novelty was against claims 1 and 7 and based on the disclosure of D1, a document falling within the Article 54(3) and (4) EPC field and thus relevant to novelty but not inventive step for those elements of the patent in suit covered by the priority claimed. During the opposition proceedings the opponent disputed the right to priority of claims 1 and 7.
- V. The claims have remained unamended during the

examination, opposition and appeal proceedings. Claim 1 reads as follows:

"A video signal processing system comprising a plurality of video signal processing apparatuses, at least one of the apparatuses including a facility for conversion of the aspect ratio of video signals, the apparatuses being connected so as to provide a video signal path from a source one of the apparatuses to a destination one of the apparatuses, characterized in that the system further comprises control means for systematically interrogating each apparatus in the signal path to determine whether aspect ratio conversion is necessary in the signal path and for selectively enabling or disabling the or each aspect ratio conversion facility in the signal path to effect such necessary conversion."

VI. Claim 7 is directed to video signal processing apparatus and reads as follows:

"A video signal processing apparatus for use in a system as claimed in any preceding claim, the apparatus including control means for initiating the systematic interrogation of connected apparatuses to determine whether aspect ratio conversion is necessary in a signal path."

VII. Claim 1 of the priority document differs from claim 1 of the patent solely in that it is directed to a "domestic" video signal processing system. Claim 9 of the priority document similarly differs from the corresponding claim 7 of the patent by the use of the term "domestic".

VIII. In its decision to reject the opposition the Opposition Division held that the priority claim was valid because the term "domestic" did not have a precise technical meaning, and that the claims were novel and inventive. The subject-matter of claim 1 was held to be novel with respect to D1 since it differed from D1 in providing firstly means for interrogating each apparatus in the signal path and secondly a facility for conversion of the aspect ratio.

The subject-matter of claim 7 was also held to be novel since D1 did not disclose means for the systematic interrogation of connected apparatuses or means to determine whether aspect ratio conversion was necessary in a signal path.

IX. The opponent (appellant) appealed, requesting that the decision be set aside and the patent revoked in its entirety. An auxiliary request was made for oral proceedings.

In the statement of grounds of appeal the appellant relied essentially on the arguments raised in the opposition proceedings. The validity of the priority claim was disputed; claims 1, 7 and 9 were argued to lack novelty in view of the disclosure of D1 and to lack an inventive step in view of the disclosure of D3.

X. The respondent (patentee) argued that priority was validly claimed, and that the claims were novel and inventive. It was requested that the patent be maintained as granted; an auxiliary request was made for oral proceedings.

XI. The parties were summoned to oral proceedings. In an

annex to the summons the Board expressed the preliminary opinion that the claims appeared to be entitled to priority and questioned whether claims 7 and 9 were dependent or independent. The Board also drew attention to a PAL system known as "PAL-plus" which used a picture aspect ratio of 16:9, so that it was not necessarily the case that the MAC-PAL converter shown in D1 carried out aspect ratio conversion.

XII. Oral proceedings were held before the Board on 7 December 2001.

The appellant's arguments can be summarised as follows. The priority document related solely to domestic video signal processing; page 3, line 6 mentioned the "D2B standard", meaning the "**Domestic** Digital Bus" (emphasis added by the Board). The claims now covered professional video signal processing systems. Technical differences existed between domestic and professional video signal processing equipment, a different recording standard being used, making domestic equipment incompatible with professional equipment. D2 showed that conversion between different TV standards always raised the issue of aspect ratio conversion (see page 178, left column, first paragraph; page 182, section 4; page 184, left column, first paragraph and the reference to format selection in Figure 15). Hence it was directly and unambiguously derivable from D1 that the MAC-PAL converter in Figure 10 was also an aspect ratio converter.

If the "domestic" feature had been regarded as optional when drafting the priority document, then it would not have been included in each independent claim. The fact that "domestic" appeared in each independent claim

meant that it was essential.

As to novelty, the two features identified in the appealed decision as distinguishing the subject matter of claim 1 from that of D1 were known from D1 at column 2, lines 5 to 27 and column 3, lines 5 to 11; these passages referred to the individual devices being interconnected by a bus carrying bidirectional signals concerning the signals which could be processed. Moreover the MAC-PAL converter 81 shown in Figure 10 of D1 constituted a facility for conversion of aspect ratio, since MAC signals had an aspect ratio of 16:9, as shown by D5 (column 5, lines 53 to column 6, line 4) whilst PAL signals had an aspect ratio of 4:3. The skilled person would recognise that there was no reason in D1 to add a time slot relating to aspect ratio if conversion did not occur. The subject matter of *inter alia* claims 1 and 7 was thus known from D1.

The respondent's arguments can be summarised as follows. The claims were not directed to a video recorder but to video signal processing. The difference between professional and domestic equipment was in price and quality, the continual fall in the price of electronic goods meaning that equipment which today might be considered "professional" might tomorrow be considered "domestic". Hence no meaningful distinction, technical or otherwise, could be made between the two categories. Moreover, although the D2B bus could be used for domestic equipment, it was clearly applicable to video signal processing systems in general. The claims were accordingly entitled to the priority date.

On novelty, the respondent argued that MAC-PAL conversion did not necessarily imply aspect ratio

conversion; both standards foresaw signals with aspect ratios of either 16:9 or 4:3. The provision of an extra time slot mentioned in D1 for the video signal generating device 1' to indicate the aspect ratio of the signal it produced was aimed at identifying commonly supported features, such as whether devices could handle 16:9 or only 4:3 (column 15, line 50). It followed that all apparatuses supported at least 4:3 so that if some devices supported 16:9 and 4:3, but others only 4:3, the outcome was not necessarily aspect ratio conversion; all devices could simply default to 4:3 instead. Thus D1 failed to mention establishing whether aspect ratio conversion was necessary.

The appellant was moreover inconsistent in calling for a rigorous and explicit novelty test when looking at the teaching of the priority document, but introducing common general knowledge when interpreting D1 for the purposes of assessing the novelty of claim 1.

XIII. At the end of the oral proceedings the Board announced its decision to revoke the patent.

Reasons for the Decision

1. Admissibility

The appeal fulfils the requirements of Rule 65(1) EPC and is admissible.

2. Background

2.1 In the television art a transition has been taking place from the standard screen aspect ratio of 4:3 to a

widescreen aspect ratio of 16:9. A typical video system may comprise a mixture of devices and the problem arises of ensuring uniformity in the aspect ratio of a signal processed by the different devices. Thus, some older devices may only support 4:3 and newer devices both 4:3 and 16:9; some devices may also offer conversion between the two aspect ratios. The selection of aspect ratio and possibly also aspect ratio conversion is comparatively user-unfriendly and must be reconsidered every time a new device is attached to the system (see column 1, lines 12 to 42 of the patent in suit).

- 2.2 The patent (see Figure 1) solves this problem by automating the selection process. Each device in a video system is provided with an audio/video controller (AVC), all the AVCs being linked by a data bus. One or more AVCs interrogate all the devices in the system to establish what aspect ratio(s) and conversion capabilities each device supports and then set the devices accordingly, the conversion (if any) taking place as far downstream as possible.

3. *Priority*

- 3.1 Article 87(1) EPC requires that for a European patent application to claim a valid priority from an earlier filing the European application must relate to the same invention as the earlier filing. In its opinion G2/98 (OJ EPO 2001, 413) the Enlarged Board of Appeal interpreted the "same invention" requirement to mean that the subject-matter claimed by the later application must be directly and unambiguously derivable from the contents of the earlier filing as a whole.

- 3.2 In the present case, granted claims 1 and 7 differ from corresponding claims 1 and 9 of the priority document essentially in the deletion of the term "domestic".
- 3.3 The Opposition Division took the view that the term "domestic" was vague and without a precise technical meaning so that its deletion did not change the scope of the claims. The Board agrees; there is no simple criterion which the skilled person could use to divide video signal processing equipment into "domestic" and "non-domestic" or "professional". The distinction appears to be as much one of physical robustness and component quality as of technical specification. As manufacturing costs have decreased and quality has increased, equipment which in the past would have been considered "professional", or at least "non-domestic", because of its price is more affordable and is now considered "domestic".
- 3.4 It was argued by the appellant that in respect of video recording apparatus there was a clear distinction to be made between the domestic VHS standard and the standards used in studios. The Board would observe that the opposite of "domestic" is not necessarily "studio" and that so-called "professional" VHS recorders also exist.
- 3.5 The Board therefore concludes that even after deletion of the word "domestic" the subject matter of granted claims 1 and 7 is directly and unambiguously derivable from the corresponding claims of the priority document. Granted claims 1 and 7 therefore relate to the same invention as the priority document, Article 87(1) EPC, and are entitled to the claimed priority date.

4. *The status of claim 7*

4.1 Claim 7 is directed to video processing apparatus "for use in a system as claimed in any preceding claim", the apparatus including control means for initiating the systematic interrogation to determine whether aspect ratio conversion is necessary. According to the established case law of the boards of appeal, the expression "for use in a system as claimed in any preceding claim" limits the subject-matter of claim 7 only to the extent that the apparatus must be suitable for the use desired. Hence not all of the features of the claims referred to are automatically included in claim 7. The broadest preceding claim is claim 1, which is directed to a system made up of a plurality of video signal processing apparatuses which are interconnected, and which is characterised by control means for systematically interrogating each apparatus to determine whether aspect ratio conversion is necessary. The only features of claim 1 which could limit the video processing apparatus of claim 7 are that at least one of the apparatuses includes a facility for aspect ratio conversion and that this is also controlled by said control means, but claim 7 does not require such a facility. All that is required is that the control means included in the apparatus initiate interrogation to determine whether aspect ratio conversion is necessary. Since claim 7 is not in fact limited by any feature of claim 1 it is an independent claim; indeed, in the Board's view it is the single broadest claim in the patent.

4.2 The Board therefore agrees with the Opposition Division that claims 1 and 7 must be assessed separately. This finding was not contested by the parties.

5. *Novelty: claim 1*

5.1 The Board also agrees with the Opposition Division that document D1 forms the closest prior art, the document being relevant to the assessment of novelty under Article 54(3) and (4) EPC for the designated states DE, FR and GB which it has in common with the patent.

5.2 It is common ground between the parties that D1 discloses (see Figure 2) a video signal processing system comprising a plurality of video signal processing apparatuses (1', 2', 3'), the apparatuses being connected so as to provide a video signal path from a source one of the apparatuses (1') to a destination one of the apparatuses (2'), the system further comprising control means (14') for systematically interrogating each apparatus in the signal path (see Figure 3a).

5.3 The respondent has disputed that D1 discloses the following features:

- (i) at least one of the apparatuses including a facility for conversion of the aspect ratio of video signals;
- (ii) determining whether aspect ratio conversion is necessary in the signal path; and
- (iii) selectively enabling or disabling the or each aspect ratio conversion facility in the signal path.

5.4 The appellant argues that the MAC-PAL converter 81 shown in Figure 10 carries out aspect ratio conversion

from a 16:9 MAC picture to a 4:3 PAL picture. The Board agrees that D5 (column 5, line 55 to column 6, line 4) shows that a MAC picture can have a 16:9 aspect ratio. The Board notes however that the same passage in D5 shows that a MAC picture can equally well have a 4:3 aspect ratio. Moreover, in view of the PAL-plus standard, a PAL picture can have a 16:9 aspect ratio.

Thus, although the MAC-PAL conversion in D1 could involve a 16:9 MAC picture and a 4:3 PAL picture, implying an aspect ratio conversion of 16:9 to 4:3, the standard conversion could be from a 4:3 MAC to 4:3 PAL picture or a 16:9 MAC to 16:9 PAL-plus picture. The abovementioned features (i) to (iii) do not therefore follow automatically from the provision of standards conversion.

- 5.6 D1 discloses a video system in which, referring to the Figure 2 embodiment, a systematic interrogation is carried out by control means to determine whether various video processing apparatuses have common features and can work together, e.g. the facility to handle Y/C or MAC video signals. As can be seen from Figure 3, an interrogating signal (a) from one apparatus is sent to the other apparatuses, different features being addressed in sequence in respective time slots; in the example shown it can be seen that the only common feature is Y/C, which gives a "high" output, all other signals being "low". At column 15, lines 44 to 51, D1 states that control (interrogating) signals can be extended by still further information: "an additional time interval in the serial data stream of Figure 3a can be reserved for indicating whether the video signal generating device is capable of generating a video signal having pictures with a 16:9 aspect ratio

or only a video signal with the standard 4:3 aspect ratio". In other words, the control means can carry out a systematic interrogation to see whether a common aspect ratio exists. The result will be a signal which is "high" if all devices support 16:9 and "low" if they do not. The signal thus provides a determination of whether aspect ratio conversion is necessary. Hence the Board finds that feature (ii) is known from D1.

5.7 The appellant argued, relying on D2, that conversion between TV standards always involves the consideration of aspect ratio conversion so that the skilled person reading D1 would automatically think of aspect ratio conversion. The Board accepts that, as the citations in D2 show, standards conversion sometimes involves aspect ratio conversion, page 178, left column, line 12 mentioning a conversion from 16:9 to 4:3. The point at issue is however whether standards conversion always and inevitably implies aspect ratio conversion. The Board is for the reasons given above not persuaded that this is the case in D1; it is not directly and unambiguously derivable from D1 that aspect ratio conversion occurs. D1 does not therefore disclose features (i) and (iii).

5.8 It follows that the subject matter of claim 1 is novel, Articles 52(1) and 54(3) and (4) EPC, having regard to the disclosure of D1.

6. *Novelty: claim 7*

6.1 As noted at point 4.1 above, claim 7 is in effect an independent claim whose sole limiting feature is that the apparatus includes control means "for initiating the systematic interrogation of connected apparatuses

to determine whether aspect ratio conversion is necessary in a signal path". It is observed that the claim requires neither means for aspect ratio conversion, separately or as part of the apparatus (feature (i) above), nor does it require means for selectively enabling or disabling aspect ratio conversion in other video processing apparatus (feature (iii) above).

6.3 Document D1 discloses a video system in which, as noted at point 5.6 above, a systematic interrogation is carried out by control means to determine whether various video processing apparatuses have common features and can work together; the control means can provide an additional time slot to carry out a systematic interrogation to see whether a common aspect ratio exists. The result will be a signal which is "high" if all devices support 16:9 and "low" if they do not. If a 16:9 signal is received but not all system elements can operate with a 16:9 aspect ratio, a "low" signal is generated and in effect a determination has taken place that aspect ratio conversion is necessary. D1 accordingly permits a determination of whether aspect ratio conversion is necessary, even if it provides no means for effecting such a conversion.

6.4 The Board furthermore takes the view that a video signal generating device 1' as known from D1 would be suitable for use in the system according to claim 1. The subject matter of claim 7 therefore lacks novelty in view of D1.

6.5 Hence the patent according to the Respondent's only request does not comply with Articles 52(1) and 54 EPC, since claim 7 lacks novelty in view of the disclosure

of D1 for the commonly designated contracting states
DE, FR and GB.

8. There being no other requests by the patentee, it follows that the patent must be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside, and
2. the patent is revoked.

The Registrar:

The Chairman:

M. Kiehl

S.V. Steinbrener