

Publication in the Official Journal ~~Yes~~ / No

File Number: W 37/91 - 3.5.1
Application No.: PCT/NL 91/00021
Publication No.:
Title of invention: HD-MAC TELEVISION DECODER

Classification: H04N 7/00

D E C I S I O N
of 28 April 1992

Applicant: N.V. Philips' Gloeilampenfabrieken et al

Headword:

PCT Article 17(3)(a) and Rule 40

Keyword: "Lack of unity a priori - (yes, partly)"

Headnote



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International Application No. PCT/NL 91/00021

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 28 April 1992

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Subject of the Decision : Protest according to Rule 40.2(c) of the Patent
Cooperation Treaty made by the applicants against
the invitation (payment of additional fee) of the
European Patent Office (branch at The Hague)
dated 1 July 1991.

Composition of the Board :

Chairman : P.K.J. Van den Berg
Members : A.S. Clelland
M. Schar

Summary of Facts and Submissions

- I. International patent application PCT/NL 91/00021 was filed at the Netherlands Patent Office on 8 February 1991.

- II. On 1 July 1991, the European Patent Office, as competent International Search Authority (ISA), issued an invitation pursuant to Article 17(3)(a) and Rule 40.1 PCT to pay additional search fees.

The ISA considered that the application did not comply with the requirement of unity of invention as set forth in Rule 13 PCT and indicated that the subject-matter claimed related to the following four groups of inventions:

- 1. Claims 1-11, 26-28: Decoder apparatus for HD-MAC or HD-MAC type signals.

- 2. Claims 12-20: Multipurpose integrated circuit and decoder comprising such a circuit

- 3. Claims 21-25: Filter arrangement for filtering several types of input data.

- 4. Claims 29-31: HDTV decoder comprising means for up-converting a standard television signal.

- III. The Applicant paid additional search fees in respect of groups 2 and 3 but not group 4. The fees were paid under protest, the applicant arguing that the subject-matter of the three remaining groups of claims was so closely related that there was a common inventive concept. It was argued that the invitation was not accompanied by adequate reasoning and that the second and third groups related to

a single invention, various features of Claim 12 (the independent claim of the second group) being identifiable in Claim 21 (the independent claim of the third group). It was furthermore argued that the decoder apparatus of the first group was equipped with the filter circuit said to be claimed in the second and third groups.

Reasons for the Decision

1. The appeal complies with the formal requirements of Rules 40.2 and 40.3 PCT and is, therefore, admissible.
2. The present application includes a total of nine independent claims, which in accordance with the grouping of the ISA can be divided up as follows:

Claims 1, 2, 3, 8, 26, 27:	Decoder for HD-MAC or HD-MAC type signals
Claim 12:	Multipurpose integrated circuit and decoder comprising such a circuit
Claim 21:	Filter arrangement for filtering several types of input data
Claim 29:	HDTV decoder comprising means for up-converting a standard television signal

3. Since no search fee was paid in respect of the fourth group of claims, i.e. Claim 29 and those claims appendant to it, it follows from Article 17(3)(a) and Rule 40.2 PCT that these claims are not considered in the present Decision.

4. In accordance with Rule 40.1 PCT the invitation provided for in Article 17(3)(a) PCT to pay additional fees must specify the reasons for which the international application is not considered as complying with the requirement of unity of invention. It is the established jurisprudence of the Boards of Appeal (see W 04/85, OJ EPO 2/1987, pages 63 to 66, and W 07/86, OJ EPO 2/1987, pages 67 to 69) that in the absence of adequate reasoning such an invitation cannot be regarded as justified. In the first of the above-mentioned decisions it was moreover held that in straightforward cases all that may be necessary to substantiate lack of unity is a list of the claimed subject-matter, particularly when the list makes perfectly clear that the application does not relate to a single general concept within the meaning of Rule 13.1 PCT.

5. The application is concerned with the HD-MAC television system, in which in order to reduce the transmitted bandwidth to manageable proportions the signal is encoded at the transmitting end and decoded on reception; the coding consists of a combination of temporal and spatial filtering with corresponding decoding. The temporal filtering is effected by appropriate selection of the field rate, field interpolation and motion compensation being used at the decoder, whilst the spatial filtering relies on the technique of line shuffling with corresponding de-shuffling at the decoder. Different blocks of the image can be transmitted at differing resolutions. Thus, a stationary part of a scene requires low temporal resolution and high spatial resolution, so that the field rate might be 12.5Hz (the so-called 80ms path) whereas a moving part of the same scene would require high temporal resolution so that only low spatial resolution could be transmitted; in this case the field rate for the block in question might be 50 Hz

(corresponding to a refresh rate of 20ms), line shuffling being used to reduce bandwidth. A 40ms medium spatial/medium temporal resolution path is also used.

6. The invention has as its object a reduction in the number of field memories which are needed in order to decode the luminance component of the received signal, only three field memories being required in the luminance decoder of the described embodiments in order to derive four mutually delayed fields. From the output of the 40ms path the 80ms path can be derived by motion compensation interpolation and by appropriate switching in a selector stage.

7. Although at first sight the wording used by the ISA as regards the claim groups clearly indicates a lack of unity, the introductory wording of the claims cannot be viewed in isolation from the invention as described. A closer consideration of the claim groups in the light of the description leads to a somewhat different conclusion. Dealing first with the second and third group of claims, it can be seen from Figure 9 and the associated description that the "multipurpose integrated circuit" of Claim 12 is in fact used as a general-purpose filter, referred to as a "two-dimensional filter structure", for motion compensated interpolation; the same filter structure is used throughout the decoder of Figures 10a and 10b. It can moreover be seen that most of the integers of Claim 12 can be identified in different language in Claim 21; thus, using the terminology of Claim 12 with the terminology of Claim 21 in brackets, the claims both have a plurality of data inputs (data input means), a plurality of data outputs (combining means coupled ...to supply output signals), a plurality of processing circuits (a plurality of filter means), delay members (memory means), controllable selector means (selection means), and means

for furnishing selector control signals (control means ...for furnishing filtering mode control signals).

8. The Board accordingly considers that the subject-matter of Claims 12 and 21 is prima facie sufficiently similar as to relate to inventions so linked as to form a single general inventive concept.

9. As regards the relationship between on the one hand the first group of claims and on the other hand the second and third groups, the claims of the first group are all directed to decoder apparatus, Claims 2, 3 and 8 being specifically directed to an HDMAC decoder. Some but not all include the integer of a filter although not in terms which can be directly related to the integrated circuit of Claim 12 or the filter arrangement of Claim 21 as discussed above. The mere fact that the filter of Claim 21 may be suitable for use in a decoder of the first group as asserted by the applicant does not suffice to link the inventions sufficiently closely as to form a single general inventive concept. The Board accordingly concludes that there is a clear lack of unity between the claims of the first and second/third groups which is sufficiently straightforward for it to be adequately substantiated by a list of the claimed subject-matter.

10. Accordingly, the invitation to pay fees meets the requirement of Rule 40.1 PCT that the reasons be specified in respect of Claim group 2 but not as regards Claim group 3. The fee in respect of this claim group must therefore be reimbursed in accordance with Rule 40(2)(c) PCT.

11. It is observed that since the objection of lack of unity of invention was raised a priori, no examination of the

merits of the claimed subject-matter in comparison with the state of the art has been carried out.

Order

For these reasons, it is decided that:

Reimbursement of one additional search fee is ordered.

The Registrar

The Chairman

M. Kiehl

P.K.J. Van den Berg