BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

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

File Number: T 857/90 - 3.5.1

Application No.: 84 307 469.1

Publication No.: 0 140 704

Title of invention: Television scrambling and descrambling method and apparatus

Classification: H04N 7/167

# D E C I S I O N
of 16 December 1991

Applicant: RF MONOLITHICS, INC.

Headword:

EPC Article 54

Keyword: "Narrower scope of the claim (no)" - "Remittance to the first instance (no)" - "Refund of the appeal fee (no)"

## Headnote

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

**Case Number** : T 857/90 - 3.5.1

# D E C I S I O N
## of the Technical Board of Appeal 3.5.1
## of 16 December 1991

**Appellant** : RF MONOLITHICS, INC.
4441 Sigma Road
Dallas, TX 75234 (US)

**Representative** : Brunner, Michael John
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**Decision under appeal** : **Decision of Examining Division 2.2.02.058 of the European Patent Office dated 27 June 1990, refusing European patent application No. 84 307 469.1 pursuant to Article 97(1) EPC.**

**Composition of the Board** :

**Chairman** : P.K.J. van den Berg
**Members** : C.G.F. Biggio
C. Holtz

**Summary of Facts and Submissions**

I. The European patent application No. 84 307 469.1, claiming its right of priority from the patent application No. 0 546 919 filed on 31 October 1983 in the United States of America, was filed at the EPO on 30 October 1984; it was published under the No. EP-A2-0 140 704 on 8 May 1985 and refused, pursuant to Article 97(1) EPC, by decision of Examining Division dated 27 June 1990.

II. The decision was based on the following application documents:

(i) Description: Pages 1, 2, 5 and 7 to 10 as originally filed, and Pages 3, 4 and 6 as filed with Applicant's letter dated 2 February 1990, received by the EPO on 5 February 1990;

(ii) Claims: Nos. 1 to 18 as filed with Applicant's letter dated 2 February 1990, received by the EPO on 5 February 1990;

(iii) Drawings: Sheet 1/1 as originally filed.

III. The independent Claim 1, as filed on 5 February 1990, i.e. as refused by the Examining Division, reads as follows:

"A method of transmitting and receiving a television signal of the type having a plurality of horizontal sweeps occurring during a single vertical sweep, characterised by the steps of switching (16, 18) the television signal between at least two scrambling signal paths (12, 14) having delay times which differ from each other by a significant fraction of the horizontal sweep time so that display of an acceptable signal is impossible without

compensating for the difference in delay time of the switched television signal; transmitting (21) the switched television signal; receiving (32) the switched television signal; and, switching (40, 42) the received television signal between at least two descrambling signal paths (36, 38) in a manner complementary to the switching between the scrambling signal paths, whereby the total delay time of any time segment of television signal through the combination of scrambling and descrambling signal paths substantially equals the total delay time of any other time segment thereby compensating for the difference in delay time of the scrambling signal paths".

IV. The reasons given for the refusal was that the subject matter of Claim 1, as filed on 5 February 1990, lacked novelty, pursuant to Article 54 EPC, in respect of the teaching disclosed by each one of the following citations:

D1 = US-A-3 453 380 and
D2 = GB-A-2 113 940,

whereas the subject matter of Claims 2 to 5, respectively 6 to 18, as filed on 5 February 1990, lacked an inventive step, pursuant to Article 56 EPC, in respect of the combined teaching from the above mentioned citations D1 and D2.

V. On 9 August 1990 the Appellant lodged an appeal against the decision of the Examining Division; the appropriate Appeal Fee has been received at the EPO on 29 August 1990.

VI. On 15 October 1990 the Appellant filed his Grounds for Appeal.

He argued that the Examining Division was wrong in contending that Claim 1 does not specify that a carrier frequency modulated with the video signal is to be scrambled.

In this regard, the Appellant filed a sworn affidavit by Mr. Darrell L. Ash, one of the inventors, who declares that the expression "television signal" is generally accepted in the field of the invention to mean: "the carrier signal modulated with the video signal".

The Appellant pointed out that in Figure 2 of the application the television signal received at the receiver 32, descrambled and passed through the notch filter 56 via the circuitry 67 is to be construed, according to the invention, as being a RF (Radio Frequency) signal, because:

(a) the amplifier 34 is a radio frequency amplifier (see page 6, line 18 and Figure 2),

(b) the signal passes through a SAW (Surface Acoustic Waves) device 37 which can only operate at radio frequency and cannot operate at video frequency (on this point reference was made to the mentioned sworn affidavit by Mr. Darrell L. Ash), and

(c) the notch filter 56 is described on page 7, lines 21 to 23 of the application as operating in the same way as described in US-A-4 074 311, where it is clear that the descrambler 18 of that patent specification operates to remove an interfering signal from the transmitted RF (Radio Frequency) band (see column 5, lines 23 to 24 and the claims of

said US patent, which also clearly refer to a television signal as including the carrier frequencies).

The Appellant pointed further out that the TV signal, passing into circuitry 67 of the television scrambler (see Figure 1 of the application), is also to be construed, according to the invention, as being a RF (Radio Frequency) signal, because:

(a) the SAW (Surface Acoustic Waves) device 22 can only operate on a radio frequency signal and cannot operate at video frequency as it would be required by the Examining Division's appreciation,

(b) US-A-4 074 311, referred to on page 6, lines 3 to 6, of the application, clearly describes in the context of its television scrambler that the interfering signal is added between the visual carrier and the audio carrier (see column 3, lines 49 to 53 of said US patent specification), and

(c) the above, put in the context of the application, means that the interfering signal from the generator 28 is added to the television signal (including the carriers) delivered from the circuitry 67 in the summing means 30.

The Appellant pointed furthermore out that the application (see page 8, lines 14 to 17) reads: "The delays in some of the scrambler and descrambler paths can be implemented at radio frequencies, obviating demodulation and remodulation of video signal in add-on descrambler boxes for use in homes" and argued subsequently that:

(a) if the delays can be implemented at radio frequencies to obviate demodulation and remodulation of video signal, then it is clear that, according to the invention, the signal being scrambled and descrambled must be a video signal combined with a radio frequency (RF) carrier,

(b) the invention does not merely use delays in the video signal, which is proposed by the prior art and already discussed in the application as filed,

(c) the Examining Division was wrong in indicating (on page 5 of the appealed decision) that "evidently" the video signal (the Examining Division referred to "TV signal") is not modulated onto a carrier frequency, and

(d) construing the expression: "television signal" in the application to mean: "the carrier frequency plus modulated video signal" does not represent any broadening of the subject matter disclosed by the application as originally filed, since the expression: "television signal" cannot be construed in any other way.

Relying on the above, the Appellant concluded that, not only independent Claim 1, but also the other independent Claims 6, 7 10 and 15 are not anticipated by any of the cited documents and that the remaining claims are all dependent claims and, when read back on their respective independent claim, are also not anticipated.

The Appellant pointed finally out that, as already discussed during the Examination Procedure (letter dated 2 February 1990), the invention was devised in order to overcome the problems associated with the prior art and

that there is no suggestion in any of the documents cited of scrambling the whole television signal comprising a carrier plus modulated video signal.

VII. In a Supplemental Statement of Ground, filed on 18 October 1990, the Appellant pointed out that, in the Examination Procedure concerning the co-pending application No. 84 307 470.9 and taking place before the same Examining Division (2.2.02) having refused the present application, the Examining Division has plainly accepted that the expression:

"television signal" should be construed as meaning "the RF (Radio Frequency) carrier together with a video signal".

VIII. The Appellant requested that the appealed decision be cancelled in its entirety and that the application be returned to the Examining Division for resumption of the examination.

He further requested that the appeal fee be refunded.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is therefore admissible.

2. The cause for the refusal of the application lies in the fact that the Appellant and the Examining Division have different appreciations as to the scope of independent method Claim 1, said scope depending on the technical meaning of the expression: "television signal", mentioned in said claim.

The Examining Division considered that said expression, within the context of the present application as filed, comprises merely a video or "picture" signal and concluded hence that Claim 1, having such a narrow scope, lacked novelty, pursuant to Article 54 EPC, in respect of the teaching disclosed by each one of the citations D1 and D2, which are exclusively concerned with the latter kind of "television signals".

The Appellant, on the contrary, alleged and maintains that, within the context of the present application, the expression: "television signal" should be construed as having the specific meaning: "a carrier frequency modulated with the video signal".

He accordingly submits, although implicitly, that the scope of independent method Claim 1 should be considered as restricted to such a kind of "television signal" only, and that mere video or "picture" signals, should be considered as excluded from the scope of said claim. The Appellant consequently considers that a claim having that scope is not anticipated at all by the cited documents.

3. The Board notices that the Appellant nevertheless does not dispute, expressis verbis, the negative appreciation by the Examining Division in respect of the novelty of the subject matter of said claim. In fact the Appellant's fundamental and single argument against the appealed decision is that the Examining Division was wrong only insofar as it has contended that Claim 1 does not specify the single and unique kind of "television signal" which is to be scrambled according to the claimed method as being: "a carrier frequency modulated with the video signal".

4. The Appellant, by making extensive reference to the whole subject-matter disclosed by the application as filed (see:

Item VI), provides respectable evidences that, having indeed regard to the whole disclosure of the application, the expression: "television signal" could be open to be construed as meaning: "a carrier frequency modulated with the video signal", and seems to think that such a more specific wording, i.e.: "a carrier frequency modulated with the video signal", would have been fully admissible pursuant to Article 123(2) EPC, as a feature of an amended independent method Claim 1.

5. The Board notices however that, although he would, under the Examining Division's interpretation of the expression: "television signal" and on the basis of the whole disclosure of the application as filed, have been entitled to replace the broader wording: "television signal" by the more specific and consequently narrower wording: "a carrier frequency modulated with the video signal", neither during the Examination Procedure, nor after the Examining Division's refusal of the application, the Appellant has even tried to amend independent method Claim 1 accordingly, in order to avoid the Examining Division's objection of lack of novelty.

6. The question to be answered by the Board will therefore be what is to be understood under the expression "television signal". In particular:

- whether it only has the specific meaning: "a carrier frequency modulated with the video signal", or

- whether it has a broader meaning: so as to comprise also a "picture signal" as such, or

- whether it only comprises the latter kind of signal.

7. The Board is of the opinion that, on the basis of the general technical knowledge of any person skilled in the art, the expression: "television signal" should be construed as meaning both:

(a) the pure video signal (up to ~5,5 MHz), i.e. nothing else than the "picture signal" as such, and

(b) a carrier, in the radio frequency range, modulated with the "picture signal", as so defined.

8. Apart from this, the Board notices that the application, as originally filed, also discloses both the above mentioned possible kinds - (a) and (b) - of "television signals".

The SAW (Surface Acoustic Waves) devices mentioned in the application as filed (see, inter alia original Claims 10, 14, 19 and so on), which can only operate on a radio frequency signal and cannot operate at video frequencies, are in fact clearly intended to apply the delays, produced by scrambling and descrambling circuits in which they are comprised, to a television signal of the kind (b): "carrier, in the radio frequency range, modulated with the picture signal".

On the contrary, the CCD (Charge Coupled Devices), mentioned as an alternative embodiment for the scrambler-descrambler circuit on page 4 (line 17 to 24) and shown on Figure 3 of the application as filed, are in fact clearly intended to apply the delays, produced by the scrambling and descrambling circuits in which they are comprised, to a television signal of the kind (a): "picture signal" as such (see page 9, line 4, to page 10, line 10, of the application as filed).

Reference is in particular made to the sentence: "It is understood by those skilled in the art that CCD's operate at a lower frequency than SAW devices and will therefore require the use of demodulators to translate frequencies into the frequency range of the CCD" (page 10, lines 3 to 7).

9. The precharacterising clause of independent method Claim 1 reads: "A method of transmitting and receiving a television signal of the type having a plurality of horizontal sweeps occurring during a single vertical sweep ..." and does not mention the carrier, but merely the usual, standard features of a video or "picture" signal.

On the basis of its interpretation given in previous reason 7, the Board concludes that the expression: "television signal", in said claim, is to be construed as comprising each of signal kinds (a) and (b).

In view of previous reason 8, the claim is properly based on the application as originally filed.

The Board therefore summarises as follows:

- none of the above two kinds of "television signals" - kind (a) not in particular - may be considered as excluded from the scope of independent method Claim 1, contrary to the Appellant's allegations, and,

- said Claim 1 beyond any doubt claims a scrambling - descrambling method which is intended to be used with both

- (a) and (b) - said two kinds of "television signals".

10. Apart from the difference in the interpretation of the expression: "television signal", there is no difference of opinion between the Appellant and the Examining Division, concerning the fact that all the features of independent method Claim 1 are known from each of the citations D1 and D2, separately.

The Board shares this common view.

Since both the opposed citations D1 and D2, beyond any doubt, disclose a method in which the delays produced by the scrambling and descrambling circuits are applied to the "picture signal" as such, only, each of them anticipates the subject matter of independent method Claim 1, which is hence not novel and consequently not patentable, pursuant to Articles 52(1) and 54 EPC, as according to the finding of the Examining Division.

11. It is a fundamental principle in patent law that, if a claim, owing to its broad wording - as in the present case - covers two distinct subjects ("A" and "B"), the disclosure in the prior art of a single one of them (e.g. "A") destroys the novelty of the whole claim.

12. Under the circumstances, the Board cannot envisage any valid ground susceptible of leading to the grant of the Appellant's requests and is accordingly of the opinion that the present appeal should be dismissed.

The grant of the Appellant's request that the appealed decision be cancelled in its entirety and that the application be returned to the Examining Division for resumption of the examination would, in fact, be envisageable and justified only for the purpose, ruled by many decisions of the Boards of Appeal, of not depriving

the Appellant of his right to have a full substantive examination of his invention in two instances.

Such a consideration does not apply to the present case.

The grant of the Appellant's request to have the appeal fee refunded would only have to be considered if the present appeal would have been successful.

**Order**

**For these reasons, it is decided that:**

The appeal is dismissed.

The Registrar: The Chairman:

M. Kiehl P.K.J. van den Berg