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**D E C I S I O N**  
**of 12 June 1995**

**Case Number:** T 0022/94 - 3.5.1

**Application Number:** 89308769.2

**Publication Number:** 0357398

**IPC:** H04N 5/50

**Language of the proceedings:** EN

**Title of invention:**  
Liquid crystal television

**Applicant:**  
Citizen Watch Co. Ltd.

**Opponent:**

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**Headword:**

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**Relevant legal provisions:**  
EPC Art. 54(1), (2), 56, 84, 111(1), 123(2)

**Keyword:**  
"Inadmissible amendment remedied"  
"Novelty and inventive step (yes) - feature and underlying  
problem new and unobvious"  
"Remittal to first instance - not ready for grant (amendments  
in dependent claims and description still necessary)"

**Decisions cited:**

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**Catchword:**

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Case Number: T 0022/94 - 3.5.1

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.1  
of 12 June 1995

**Appellant:** Citizen Watch Co. Ltd.  
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Nishi-Shinjuku  
Shinjuku-ku  
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**Representative:** Eurolink  
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**Decision under appeal:** Decision of the Examining Division of the European Patent Office dated 9 September 1993 refusing European patent application No. 89 308 769.2 pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** P. K. J. van den Berg  
**Members:** W. B. Oettinger  
G. Davies

### Summary of Facts and Submissions

I. The appeal contests the Examining Division's decision to refuse the European patent application No. 89 308 769.2 filed on 30 August 1989 (publication No. 0 357 398).

II. That decision terminated an examination procedure in which, in a single Communication, the Primary Examiner raised the following objections against the claims as originally filed:

- The subject-matter of Claim 1 lacked novelty (Article 54 EPC) against the prior art document D1 represented by

D1a: Patent Abstracts of Japan, Vol. 10 No. 61 (E-387) &

D1b: JP-A-60-213182 (1985).

- The subject-matter of dependent Claims 2 to 5 did not involve an inventive step (Article 56 EPC).
- Claim 6 lacked clarity (Article 84 EPC).

It was added that the subject-matter of Claim 7 (comprising the clarified features of Claims 1 and 5 to 7) would meet the requirements for patentability (Article 52 EPC).

Furthermore, the Examiner recommended amendments based on the Implementing Regulations (Rules 29(1)(a)/(b), 27(1)(c) and (b), 29(7) EPC).

III. In Section II of the decision under appeal, headed "Reasons for the Decision", lack of novelty (Article 54 EPC) of the subject-matter of Claim 1 filed on 10 April

1993 against D1 was the expressly-stated ground (paragraphs 1, 2.1 to 2.3 and 7) for the refusal of the application.

Apart from this ground, the Examining Division gave the following further reasons (paragraphs 2 and 3, and 4 through 5.3) why Claim 1, and some of the dependent claims filed on the same day, were not allowable:

- One of the amendments made to Claim 1 extended beyond the content of the application as filed originally (Article 123(2) EPC).
- The subject-matter of Claims 2 and 3 did not involve an inventive step (Article 56 EPC).
- Claims 5 to 7 lacked clarity (Article 84 EPC).
- A claim based on Claim 6 but clarified would be anticipated by D1 (Article 54 EPC).

The Division added (paragraph 6) that the subject-matter of Claim 4 (comprising the features of Claims 1 and 4) would meet the requirements for patentability.

IV. The appeal against that decision, which was issued on 9 September 1993, was lodged on 4 November 1993.

The respective fee was paid on the next day.

On 7 January 1994, the Appellant filed a Statement of Grounds.

V. Together with the Statement of Grounds, the Appellant filed new claims and further stated that he was submitting revised pages of the description. But no such pages were in fact received.

VI. In a Communication, the Board's Rapporteur *inter alia* expressed the provisional opinion that, in particular on the basis of Figure 3 of D1b (drive circuits 42 and 43), it could be assumed that the maximum voltage amplitudes of the driving voltages for the image display and for the channel indicator would normally differ from each other, and that this would result in a difference in maximum contrast as claimed.

VII. In response, the Appellant on 24 March 1995 filed new Claims 1 to 6 of which the independent claim reads as follows:

"1. A liquid crystal television image display device comprising:

(a) a liquid crystal panel (34) provided with both image segment electrodes (605) for displaying an image based on an image signal; and indicator segment electrodes (606) for displaying an indication mark (503) for channel, both segment electrodes (605, 606) being arranged in matrix form with respect to the same common electrodes (604);

(b) an image segment drive circuit (36) for driving the image segment electrode (605) based on said image signal; and

(c) an indicator segment drive circuit (30) for driving the indicator segment electrode (606) based on said indicator signal;

wherein the image and the indication mark (503) are displayed simultaneously on the liquid crystal panel (34);

characterised in that the image segment electrodes (605) and the indicator segment electrodes (606) are driven by voltage waveforms which have different maximum voltage amplitudes so as to result in a difference in maximum contrast as between the indication mark (503) and the image."

Claims 2 to 6 refer back, either directly or indirectly, to this Claim 1.

VIII. The Appellant is thus understood to request that the decision under appeal be set aside and a patent granted on the basis of

- Claims 1 to 6 filed on 24 March 1995;
- description and drawings as published, with amendments to the description still to be made.

As an auxiliary request, the Appellant wishes to be heard.

In addition, he requested that reimbursement of the appeal fee be considered.

IX. In support of these requests, he argued essentially as follows:

- The lack of novelty and lack of clarity objections have been met by the amendments made to Claim 1;
- Claim 1 is not open to an objection of lack of inventive step;

- The refusal of the application after only one communication, where the first instance's reasoning was only made fully comprehensible in the decision under appeal, amounted to the issue of that decision having been premature and unreasonable.

In respect of the question of inventive step, the Appellant referred, *inter alia*, to US-A-3 976 362 and contended that the display device of D1b would be driven according to a driving method as disclosed, for instance, in this US document. With further reference to D1b (of which he submitted a translation), in particular to Figure 6, he contested that the image part (12) and the channel indicator part (13) of the display (15) would be driven by signals the maximum amplitudes of which are different; on the contrary, it would appear from that figure, that the voltages *S* applied to the liquid crystal display are supplied to the drive portions 75 and 56 in common.

### **Reasons for the Decision**

1. The appeal (cf. paragraph IV) is admissible.

It is clear from the appealed decision itself, and from the Notice of Appeal "against the Decision to Refuse", that cancellation of that decision is requested in its entirety (Rule 64(b) EPC)

2. No objection under Article 123(2) EPC arises against the amendments made to Claim 1 and to the dependent claims.

- 2.1 The objection of inadmissible claim broadening has been met.

Although differing vastly in wording from Claim 1 as originally filed, Claim 1 on file is based on that claim, with its last feature concerning the driving signals having different voltage waveforms being now specified as disclosed in the original description (published page 8, lines 1 to 3 and Fig. 9).

- 2.2 The dependent claims, although also differing in wording from the originally filed claims, are based on those claims, viz. Claims 2 and 3 on the original Claims 3 and 4, Claims 4 and 5 on the original Claim 7 and Claim 6 on the original claim 1.

3. Whether these claims meet the requirements of Article 84 and of Rule 29 EPC, is a different matter.

- 3.1 As to Claim 1, it is noted that the singular form of "electrode" in features (b) and (c) is formally inconsistent with the plural form "electrodes" in feature (a).

But Claim 1 can nevertheless be understood.

- 3.2 In its Communication, the Board raised the question whether Claim 1 contained all the features essential to the invention as disclosed. It was considered that the feature contained in Claim 2, that the maximum amplitude of the indicator drive signal is larger than that of the image drive signal, might be such an essential feature.

However, the Appellant submitted that, in effect, it would not matter in which direction the difference in maximum contrast is manifest; a useful result would be

achieved even with a lower maximum contrast in the marker than in the image.

To the Board, this submission appears acceptable.

- 3.3 In dependent claims, the reference to another claim has, as a matter of principle, to be construed as restricting them by including all the features of the claim on which they depend (Rule 29(4) EPC).

In accordance with this principle, "a liquid crystal image display device according to claim 1" as claimed in any of Claims 2 to 6 has to be construed as a liquid crystal television image display device having the features defined in Claim 1.

Even so, for the avoidance of any misunderstanding, i.e. for clarity reasons, it would appear appropriate to insert the word "television" also in the dependent claims.

- 3.4 In Claim 4, features (a) and (c) apparently do not define any substance that would be additional to what is defined in features (a) and (c) of Claim 1. Insofar this claim is not concise.

- 3.5 Claim 6 appears redundant in view of the restriction of feature (a) of Claim 1.

4. Following the reason for the refusal of the application as stated in the decision under appeal (cf. III), the first, and primary, issue to be decided is whether the subject-matter of Claim 1 is new against D1 (a and b).

- 4.1 In the submissions ("inventor's technical comments") filed on 24 March 1995, the Appellant with reference in particular to Figure 6 of D1b explained that, and why,

it should be assumed that in the display device of D1 the image segment (12) electrodes (Y1 ... Y160) and the indicator segment (13) electrodes (Y161) are driven by voltage waveforms which have equal maximum voltage amplitudes.

4.2 Thus, the Appellant has convincingly shown that D1 at least does not clearly and unambiguously disclose the opposite, namely that the said electrodes are driven by signals having different maximum voltage amplitudes.

4.3 Furthermore, contrary to the claim which was rejected in the decision under appeal, Claim 1 on file defines the difference between the maximum voltage amplitudes of the image drive signal and the indicator drive signal as being so as to result in a difference in maximum contrast as between the indication mark and the image.

Of course, this feature must be interpreted as requiring that the said difference is great enough to render the difference in maximum contrast easily perceivable.

4.4 No such feature concerning contrast can be derived from D1; more particularly, in the translation of D1b filed by the Appellant, the Board did not find any reference, either direct or indirect, to any requirement for the contrast of the image and/or channel indicator display.

This fact is further proof that the lack of novelty objection has been overcome by the amendments made to Claim 1.

4.5 No prior art document that would come nearer to the claimed invention having been cited, the subject-matter of Claim 1 is to be regarded as being new.

5. It would seem to follow from paragraph II.4.1 of the decision under appeal that the Examining Division would consider the subject-matter of Claim 1 now on file not to involve an inventive step.

This issue will therefore be dealt with now.

5.1 As already pointed out (4.4), D1 does not seem to tell anything about any requirement in respect of contrast in the image and channel indicator display segments.

Therefore, no incentive can be derived from D1 (a or b) to modify the known display device so as to achieve, by a difference in contrast, a better distinction of the channel indicator mark from the television image.

5.2 Nor has it been shown in the examination procedure, either by reference to another prior art document or by reference to common general knowledge, that it would be obvious for the person skilled in the art to deliberately make the contrast in the channel indicator segment different from that in the image segment in order to achieve a better distinction therebetween.

5.3 The problem underlying the claimed invention, as it is expressed in the "first object" in the description (page 1 lines 32/33), is in these circumstances not only to be regarded as novel, but also to be regarded as non-obvious.

5.4 The underlying problem thus being non-obvious, this fact may be regarded as an indication for non-obviousness of the claimed solution, namely to make the maximum voltage amplitudes of the image and indicator segment drive signals sufficiently different.

- 5.5 Summarising the above, in the existence of an indication of non-obviousness in the form of a non-obvious problem and in the absence of any indication in the prior art rendering the solution nevertheless obvious, the subject-matter of Claim 1 is regarded as involving an inventive step.
6. Since the reason given in the decision under appeal for the refusal of the application has thus been removed, the Appellant's request that that decision be set aside is to be allowed.
7. However, the application in suit does not appear to be ready for grant yet.
- 7.1 Minor amendments in the features (b) and (c) of Claim 1 (cf. 3.1) and in the preambles of the dependent claims (cf. 3.3) and, furthermore, some amendments in Claims 4 and 6 would appear appropriate or even necessary.
- 7.2 In addition, the Appellant has stated his intention to submit, revised pages of the description, but has not so far done so.
- 7.3 For these reasons, the Board finds it appropriate, making use of its discretion under Article 111(1) EPC, to remit the case to the Examining Division for further prosecution.
8. Since the Board finds Claim 1, apart from a minor point, allowable, and the question of patentability of the subject-matter of the dependent claims is, consequently, no longer at issue, it is not relevant whether the Appellant's auxiliary request "to be heard" is, or is not, to be interpreted as a request for oral proceedings in the sense of Article 116 EPC.

9. Reimbursement of the appeal fee as requested would require (Article 67 EPC), as a first condition, that the Board deems the appeal to be allowable, and, as a second condition, that such reimbursement would be equitable by reason of a substantial procedural violation.

9.1 It may be arguable whether, in the present case, the first of these two conditions is met, given that the appeal is successful only because Claim 1 has been amended in substance.

In any case, the second of said conditions is considered not to be met.

9.2 Had the Examining Division based its decision on a ground on which the applicant had not had an opportunity to present its comments, that would have to be considered as a substantial procedural violation, (Article 113(1) EPC).

However, neither the Appellant's submissions (cf. IX) nor the facts of the case (cf. III) would point to an incorrect procedure of such kind.

9.3 The ground for refusal, lack of novelty against D1, was clearly the same as was raised in the preceding Communication.

The Appellant's submission that it was only in the decision under appeal that it became apparent (by an added sentence) that it was based upon a fundamental misunderstanding of the claimed invention, may allow the conclusion that the said Communication was perhaps not clear enough in the particulars of the objection made; but this is not considered to be a sufficient reason for

concluding that the actual ground for refusal was not stated clearly enough for the applicant to have had the opportunity to present his comments on that ground.

- 9.4 It may further be regarded as not entirely correct to include under the heading "Reasons for the Decision" such objections (II.3 ff.), which were not intended to be grounds for the decision as it was taken; but in any case it was made clear by Section II.7 of that decision that the objection in Section II.1 to 2.3 was to be taken as the only ground for the decision.
- 9.5 The Board therefore maintains its view, as explained in the said Communication, that reimbursement of the appeal fee would not be equitable by reason of a substantial procedural violation.

### **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 for further prosecution on the basis of Claims 1 to 6 filed on 24 March 1995 and the description and drawings as published.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg