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Veröffentlichung im Amtsblatt Ja/Nein
Publication in the Official Journal Yes/No
Publication au Journal Officiel Oui/Non

Aktenzeichen / Case Number / N° du recours : T 57/87 - 3.5.1

Anmeldenummer / Filing No / N° de la demande : 83 903 012.9

Veröffentlichungs-Nr. / Publication No / N° de la publication : 121 523

Bezeichnung der Erfindung: Monoscopic and stereoscopic television device
Title of invention:
Titre de l'invention :

Klassifikation / Classification / Classement : H04N 5/64

ENTSCHEIDUNG / DECISION

vom / of / du 14 November 1988

Anmelder / Applicant / Demandeur : Sakariassen, Arnvid

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Article 56

Schlagwort / Keyword / Mot clé : Inventive step (no)

Leitsatz / Headnote / Sommaire

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Case Number : T 57/87 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 14 November 1988

Appellant : SAKARIASSEN, Arnvid
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Decision under appeal : Decision of Examining Division 058 of the European Patent Office dated 22 August 1986 refusing European patent application No. 83 903 012.9 pursuant to Article 97(1) EPC

Composition of the Board :

Chairman : P.K.J. van den Berg
Members : W.J.L. Wheeler
E. Persson

Summary of Facts and Submissions

I. European patent application No. 83 903 012.9 (publication Nos. WO 84/01 680 and EP-A-0 121 523), claiming priority from a previous application in Norway (NO 82 3425) of 14 October 1982, was accorded a filing date of 28 September 1983. The application was refused by a decision of Examining Division 058 of the European Patent Office dated 22 August 1986. That decision was based on Claims 1 to 9 filed with a letter dated 20 May 1986.

II. The reason given for the refusal was that the subject-matter of the claims did not involve an inventive step, having regard to the prior art disclosed in the following documents:

(1) US-A-3 670 097

(2) US-A-4 310 849.

III. With a letter dated 29 September 1986, received on 1 October 1986, the Appellant filed a notice of appeal against this decision. The fee for appeal was paid on 30 September 1986. A statement of grounds dated 11 December 1986 was received on 13 December 1986. It included a request for oral proceedings, and was accompanied by a new set of Claims 1 to 9 and the following appendices:

- Appendix 1: Three informal illustrations of the claimed receiver device using different optics and screen sizes;

- Appendix 2: Electronics, 30 June 1982, page 74;

- Appendix 2.1: JEE, March 1983, pages 81 and 82;

- Appendix 3: Pictures from Aftenposten, Oslo, 13 May 1983, and Verden Gang, Oslo, 13 May 1983;

- Appendix 4: Electronics Week, 18 February 1985, page 63;

- Appendix 5: Electronics, 19 May 1986, page 80,
  Electronics, 4 November 1985, page 42,
  Sinclair leaflet (no date);

- Appendix 6: New Scientist, 9 October 1986, page 26;

- Appendix 7: Collection of extracts from various newspapers, magazines and journals, dates ranging from 21 March 1983 to 6 October 1986 (9 pages);

- Appendix 8: Stereovisjon A/S, 3-D monitor/TV til industrianvendelser;

- Appendix 9: Statement signed by Stein Krogdahl of the University of Oslo.

IV. With a letter dated 7 May 1987, received on 9 May 1987, the Appellant filed a statement signed by Egil Edvardsen and Endre Hellerud of the Upper Secondary School of Sogn, Oslo.

V. On 21 March 1988, the Board issued a communication, in which it gave reasons why it was unlikely that the Board would decide to grant a patent on the basis of the claims filed on 13 December 1986. It was stated that in view of the very sparse description it was difficult to see how the application could be amended to make it acceptable.

VI. In a letter of 24 May 1988, the Appellant withdrew the request for oral proceedings.

VII. With a letter dated 23 September 1988, received on 26 September 1988, the Appellant filed a new set of Claims 1 to 8 and the following supporting documents, which do not form part of the application itself:

- Illustrating drawing containing two figures;

- Description corresponding to the illustrating drawing.

VIII. The Appellant requests that the decision under appeal be set aside and a patent granted on the basis of Claims 1 to 8 filed with the letter dated 23 September 1988.

IX. Claim 1 is worded as follows:

"1. A personal television device for the display of images in pairs, especially stereoscopic images, comprising a receiver unit, including circuits for the reception and production of video signals corresponding to said images, possibly along with sound, and a display unit, including possible optical means, adapted to produce one image for each eye of a human being, said display unit being assembled and mounted in a frame adapted to be placed in sufficiently close proximity to the eyes to enable separate display of each image for each eye, c h a r a c t e r i z e d in that

- said display unit comprises two liquid crystal displays (1, 2);

- said receiver unit consists of integrated circuits; and

- said display and receiver units are incorporated in a spectacle or binocular type frame with the liquid crystal displays (1, 2) located side by side and with optical means, such as a lense (3, 4), located in front of each display, so that the frame can be worn or carried by the user with said optical means located in close proximity of the user's eyes."

Claims 2 to 8 are dependent upon Claim 1.

X. The Appellant argues in effect that the stereo video devices known from (1) and (2) provided a separate image for each eye, but required inconvenient connections between the receiver, which was remote from the user, and the viewing part carried by the user. The invention as now claimed differed from the closest prior art (1) in that the display and receiver units were incorporated in a spectacle or binocular type frame, the display unit comprised two separate liquid crystal displays, one for each eye, with optical means in front of each display, and the invention used integrated circuits. Appendices 6 and 7 showed that many different approaches to the problem of how to provide stereoscopic display have been attempted. The invention appeared simple in retrospect, but it could not have been obvious or it would have been envisaged a long time ago because of its obvious advantages. A corresponding patent had been granted in Norway.

Furthermore, the Appellant argues that the disclosure in the application was sufficient because integrated circuits, liquid crystal displays and small batteries were all known per se, as may be seen from Appendices 2, 2.1, 3, 4 and 5. A person skilled in the art would have no difficulty in designing a suitable spectacle or binocular type frame and arranging the components in it, as shown, for example, in Appendix 1 and the illustrating drawing and corresponding

description submitted with the letter of 23 September 1988. Functioning prototypes had been built and favourably evaluated, as may be seen from Appendices 8 and 9 and the statement signed by Edvardsen and Hellerud submitted with the letter of 7 May 1987.

Reasons for the Decision

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

2. The Board agrees with the Appellant that the personal television device claimed in Claim 1 is new.

3. Regarding the question of inventive step, the fact that a corresponding patent has been issued in Norway is not relevant to the present proceedings, which have to be decided in compliance with the EPC.

4. A prior art personal television device for the display of images in pairs in accordance with the prior art part of Claim 1 is known from (1) US-A-3 670 097. This known device comprises a receiver unit (38, Fig. 1) for the reception and reproduction of video signals corresponding to said images and a display unit in the form of a TV tube (42, Fig. 1; 82, Fig. 3 and 4) producing a pair of images (52, 54, Fig. 1) side by side on its screen. The TV tube is mounted in a frame together with optical means to present the images separately to respective eyes of a human being. The frame in which the display device is mounted can be worn or carried by a human being with the optical means in close proximity to his eyes (see Fig. 3).

5. In the device known from (1) the receiver unit is remote from the user so that cables are necessary between the receiver unit and the apparatus carried by the user.

6. In the prior art personal television device known from (2) US-A-4 310 849 the receiver unit and part of the display unit are remote from the user and connected by a fibre optic bundle to the apparatus carried by the user.

7. The receiver units in the prior art known from (1) and (2) were bulky, so that the disadvantage of having to have a connection between the receiver unit and the apparatus carried by the user was preferable to having to carry the receiver unit.

8. The device according to Claim 1 differs from the device known from (1) in that the display unit comprises two liquid crystal displays, the receiver unit consists of integrated circuits, and the display and receiver units are incorporated in a spectacle or binocular type frame.

9. The problem solved thereby is that of providing a more compact, self-contained personal television device.

10. In the opinion of the Board, the connections to the receiver units in (1) and (2) were obviously inconvenient, so that it was obvious to want to provide a self-contained personal television device in which the receiver and display units were as compact as possible, so that the device could be easily carried by the user. Furthermore, a general trend towards more compact electronic apparatus, using the most compact components available, was prevailing at the priority date of the present application.

11. A suitably compact LCD driver circuit and receiver unit consisting of integrated circuits became available shortly

before the priority date of the present application, as may be deduced from Appendix 2. In the opinion of the Board, it was obvious to take advantage of their compactness and incorporate the receiver and display units in as small a housing as possible. Since the display unit was required to present a separate image for each eye, it was obvious that the housing or frame must be of "binocular type".

12. In view of the above considerations, the Board considers that the subject-matter of Claim 1, does not involve an inventive step within the meaning of Article 56 EPC and therefore does not meet the requirements of Article 52(1) EPC.

13. It follows that Claim 1 cannot be allowed. Claims 2 to 8, which are dependent on Claim 1, cannot be allowed either, since their allowableness is conditional on that of Claim 1. Furthermore, the Board is of the opinion that the features of the receiver unit specified in Claims 2 to 6 are conventional, that it is obvious to provide sound reproduction means including earphones, and that it is obvious to include means for providing power to the device. In the opinion of the Board the subject-matter of Claims 2 to 8 does not involve an inventive step.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar

S. Fabiani

The Chairman

P.K.J. van den Berg

5.12.88
6.12.88