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D E C I S I O N
of 15 November 1999

Case Number: T 0456/98 - 3.5.1

Application Number: 90119655.0

Publication Number: 0425871

IPC: H04B 10/20

Language of the proceedings: EN

Title of invention:

Fibre optic telecommunication system employing continuous downlink, burst uplink transmission format with preset uplink guard band

Applicant:

Broadband Technologies, Inc.

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 52(1), 56, 114(2)

Keyword:

"Late-filed amendments (permission refused)"
"Inventive step (no)"

Decisions cited:

T 0095/83, T 0153/85, G 0002/92

Catchword:

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Boards of Appeal

Chambres de recours

Case Number: T 0456/98 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 15 November 1999

Appellant: Broadband Technologies, Inc.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 17 December 1997
refusing European patent application
No. 90 119 655.0 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: A. S. Clelland
V. Di Cerbo

Summary of Facts and Submissions

I. This is an appeal against the decision of the Examining Division to refuse application No. 90 119 655.0 on the ground that the subject-matter of claim 1 lacked an inventive step. The following documents were referred to by the Examining Division in their decision:

D2: IEEE Global Telecommunications Conference, Tokyo 15 to 18 November 1987, pages 1439 to 1443, article by TOKURA et al.

D3: NACHRICHTENTECHNISCHE BERICHTE, No. 4, May 1987, pages 92 to 101, Backnang, DE; L. GOHM et al, : "Auf dem Wege zu einem universellen Kommunikationsnetz"

D4: IEEE COMMUNICATIONS MAGAZINE, vol. 26, no. 1, January 1988, pages 34 to 43, New York, US; M.F. MESIYA: "Implementation of a broadband integrated services hybrid network"

D5: NACHRICHTENTECHNISCHE BERICHTE, No. 4, May 1987, pages 74 to 78, Backnang, DE; W. BONK et al, : "Breitbandkoppelfeld mit monolithisch integrierter (16x16)-Koppelmatrix"

D6: IEEE COMMUNICATIONS MAGAZINE, vol. 25, no. 1, January 1987, pages 69 to 79, New York, US; D.J. HARROLD et al: "The Broadband Universal Telecommunications Network"

II. The appellant maintained the claims considered by the examining division and in the statement of grounds of

appeal argued that the subject-matter of claim 1 could not be derived from the prior art without the exercise of invention. In particular, the skilled person, starting out from the system of D2, would not be led by the disclosure of any one of D3 to D5 to the claimed invention. D2 was concerned with a conditional-access system in which the subscriber paid for a decryption key which was sent upstream. All of the channels were transmitted all of the time to each subscriber, the necessary bandwidth being provided by a particular fibre optic loop topology. D2 contained no suggestion that particular channels be selected for transmission and was primarily concerned with the mechanics of encryption and decryption. The video-on-demand systems disclosed by D3 to D5 could not readily be incorporated in the D2 system.

In accordance with an auxiliary request the independent claim was based on claim 16 considered by the Examining Division and which was said to be concerned with a fibre-to-curb communications system, as opposed to the fibre-to-home system of claim 1 of the main request.

III. In a communication inviting the appellant to oral proceedings the Board stated that it would be necessary to consider the presence of an inventive step in claim 1 in the light of documents D2 to D6. The Board also expressed the preliminary view that claim 1 of the auxiliary request gave rise to objection of added subject-matter under Article 123(2) EPC.

IV. Oral proceedings were held on 14 September 1999. In the course of these proceedings the appellant asked to be allowed to withdraw the above requests and to file new

main and auxiliary requests. The proposed main request was based on a combination of claims 1, 3, 5, 6 and 7 of the withdrawn main request; the proposed first auxiliary request was based on claim 1 of the withdrawn main request and claim 20 of the application as originally filed, this claim relating to the provision of a subterranean battery unit for a remote site; and the proposed second auxiliary request was based on claim 21 as originally filed, directed to a subterranean battery unit.

V. After deliberation the Board announced that these requests would not be admitted because they were late-filed.

VI. The appellant thereupon withdrew the existing first auxiliary request and maintained the existing main request, i.e. the request considered by the Examining Division in its decision; accordingly he argued in favour of the patentability of the claims of this request.

VII. At the end of the oral proceedings the Board announced that the debate was closed and that the decision was reserved until two months after the date of the oral proceedings.

VIII. Claim 1 of the sole request at the time the Board declared the debate closed reads as follows:

"A fiber optic communication system for conveying digital telecommunication signal messages over a first optical fiber (21) from a master site (10) to a plurality of remote sites (30), geographically

separated from one another, and over a second optical fiber (22) from said plurality of remote sites to said master site, said remote sites being coupled to said first optical fiber by way of a first fiber coupling device at a first common location on said first optical fiber, and to said second optical fiber by way of a second fiber coupling device at a second common location on said second optical fiber, said system comprising:

at said master site (10),
first means (101, 120, 123, 126, 133), to which a plurality of telecommunication channels including television channels are provided, and being coupled to said first optical fiber (21), for transmitting first messages over said first optical fiber to said plurality of remote sites (30), said first messages containing first telecommunication signals including television signals requests for transmission of which have been received from remote sites, and second means (102, 104), coupled to said second optical fiber (22), for receiving successive bursts of second messages transmitted from remote sites, said second messages containing signals identifying the remote sites sourcing said second messages; and

at a respective remote site (30),
third means (201, 213, 221, 251) coupled to said second optical fiber (22), for transmitting said second messages over said second optical fiber to said master site (10) in time division multiple access format,

characterized in that
said second messages contain television channel request

messages in time division multiple access format requesting said master site to transmit specified television channel-representative signals as part of said first messages in timeslots of time division multiplex channels.

- IX. In a submission received on 9 November 1999 the appellant stated that a divisional application had been filed covering the subject-matter of original claims 1 to 20, i.e. including the above subject-matter. He requested that a patent be granted based on a new independent claim consisting of the subject-matter of original claim 21, directed to a subterranean battery unit (see point IV above).

Reasons for the Decision

1. *Late-filed claims*

1.1 As noted in the summary of facts and submissions the appellant filed three separate new requests in the course of the oral proceedings and a further request in a written submission after the Board had declared the debate closed.

1.2 If an appellant desires that the allowability of alternative sets of claims should be considered in an appeal, such alternative claims should normally be filed with the statement of grounds of appeal or as soon as possible thereafter, see e.g. decision T 153/85, OJ EPO 1988, 1. A Board of Appeal may refuse to consider alternative claims which have been filed at a late stage, e.g. during the oral proceedings, if such

claims are not clearly allowable. Only in the most exceptional cases, where there is some clear justification both for the amendment and for its late submission, is it likely that an amendment not submitted in good time before oral proceedings will be considered on its merits in those proceedings, see decision T 95/83, OJ EPO 1985, 75.

- 1.3 Dealing first with the request based on claims 1, 3, 5, 6 and 7, the Board notes that although the individual features comprised in such claims were present in the subordinate claims considered by the Examining Division, the particular combinations of features now presented have not been considered. These combinations would require a degree of re-examination which is incompatible with the conduct of oral proceedings. Similarly this also applies to the request based on claim 1 with claim 20 as originally filed.
- 1.4 The request based on claim 21 as originally filed, re-introduces to the proceedings subject-matter which was the subject of an objection by the Examining Division of lack of unity, in consequence of which claim 21 was no longer pursued. This claim was therefore never specifically considered by the examining division.
- 1.5 In the present circumstances the Board sees no justification for the late submission of these three requests. The appellant was informed in a communication preceding the oral proceedings that a party wishing to submit amendments to the patent documents in appeal proceedings should do so as early as possible and that the Board may disregard amendments which are not submitted in good time prior to oral proceedings (as a

rule four weeks before the date set for the oral proceedings). Such a period allows the Board time to give the revised documents the necessary consideration. No satisfactory explanation was given as to why the claims were not presented to the Board earlier. Nor is it clear that the proposed claims would meet the objections raised in the Board's communication. In the oral proceedings the Board accordingly refused to exercise its discretion to admit these requests.

1.6 The request based on original claim 21 subsequent to the oral proceedings was made after the Board had declared the debate closed. The Board accordingly refuses to consider this request.

2. *Inventive step*

2.1 The only issue to be decided by the Board is whether the subject-matter of claim 1 of the sole admissible request (i.e. claim 1 as considered by the Examining Division) involves an inventive step.

2.2 The application is concerned with the distribution by means of fibre-optic cables of both television and telephone signals. The problem to be solved is seen as reducing the cost and complexity of fibre-optic networks.

2.3 Claim 1 was refused by the Examining Division on the basis of the disclosure of D2 when read in the light of documents D3 to D6. The Board accepts that these latter documents represent the common general knowledge in the art.

2.4 In the Board's view the appropriate starting-point for a consideration of inventive step is the common general knowledge itself rather than document D2. All four documents D3 to D6 are concerned with developments in integrated broad band communications networks and look forward to the use of a high bandwidth fibre-optic network in which existing telephone services can be combined with television services and interactive services. With the exception of D5 they disclose little in the way of specific technical detail. Nevertheless they show that with one exception all of the features of the claim preamble were common general knowledge at the claimed priority date; the exception is that the upstream signals from the subscriber, the so-called "second messages", are specified in the claim as being in the form of "bursts" in time division multiple access format. In the characterising part the "second messages" are said to include television channel requests (i.e. video-on-demand) and the television signals to the subscribers are also specified as being in time division multiplex format.

2.5 Documents D3 to D6 explicitly refer to "video-on-demand" which permits a subscriber to select particular television channels, see D3 at page 94, D4 at pages 35 and 36, D5 at page 76 and D6 at page 72. Although the primary focus is on transport mechanisms rather than specific hardware, three documents also indicate that it was envisaged that a pair of fibres be used, one for each direction of transmission, see D3 at Figure 6 on page 98, D4 at page 39, first full paragraph and D6 at page 72, paragraph headed "Switched Star".

2.6 The subject-matter of claim 1 accordingly adds to the

common general knowledge in the art as represented by D3 to D6 the use of time division multiplex signals for both upstream and downstream communication.

2.7 However the use of this format for television signal distribution is known *per se* from D2. The skilled person, seeking to implement the system discussed in D3 to D6 would derive from D2 the use of time division multiplexing for both the upstream and downstream signals, see para 3.2 "Transmission Technologies" at pages 1441 and 1442.

2.8 Thus, starting out from the common general knowledge as exemplified by D3 to D6 the Board concludes that the subject-matter of claim 1 lacks an inventive step.

2.9 The appellant argues that because of the provision of encryption/decryption services in D2 the skilled person would be prejudiced against the additional provision of video-on-demand. The Board finds this argument unconvincing. As noted above, D2 discloses the use of time division multiplexing for video distribution. The claimed invention merely follows the direction in which the art was moving and makes use of a multiplexing protocol which is known *per se*.

3. Since claim 1 is not allowable and no further admissible requests have been made, it follows that the application must be refused.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg