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D E C I S I O N
of 29 November 2005

Case Number: T 1050/02 - 3.5.01

Application Number: 98931718.5

Publication Number: 0995309

IPC: H04N 5/44

Language of the proceedings: EN

Title of invention:
A system for forming and processing program map information suitable for terrestrial, cable or satellite broadcast

Applicant:
THOMSON CONSUMER ELECTRONICS, INC.

Opponent:
-

Headword:
Program map information/THOMSON CONSUMER ELECTRONICS

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 1050/02 - 3.5.01

D E C I S I O N
of the Technical Board of Appeal 3.5.01
of 29 November 2005

Appellant: THOMSON CONSUMER ELECTRONICS, INC.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 17 May 2002 refusing European application No. 98931718.5 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: S. Steinbrener
Members: R. Wibergh
A. Pignatelli

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse European patent application No. 98 931 718.5.

II. The following documents will be referred to in the present decision:

D1: European Telecommunication Standard ETS 300 468 (October 1995)

D2: US-A-5 600 378

D3: US-A-5 594 492.

III. The examining division held that the invention as defined in claim 1 in the version before them did not involve an inventive step over each of the documents D1 and D2. D3 was considered to contain closely related prior art.

IV. With the statement of grounds of appeal, the appellant requested that the decision be set aside and a patent be granted on the basis of the claims as filed together with the grounds of appeal.

V. In a communication from the Board the opinion was expressed that the invention as set out in claim 1 might not be new with respect to D3. Moreover, it appeared that even if the claim was interpreted in accordance with the description the basic idea believed to be underlying the invention was hardly inventive in view of the cited prior art.

VI. By letter dated 24 October 2005, the appellant filed a new set of claims 1 to 10. Claim 1 read:

"Apparatus for decoding a datastream of MPEG compatible packetized program information containing MPEG program map table (PMT) information and additionally a Channel Information Table (CIT) to provide decoded program data, comprising:
means for identifying said Channel Information Table conveyed within said packetized program information, and characterised in that it comprises:
means for assembling channel map information from said Channel Information Table (CIT) including a Service Location Descriptor (SLD) for identifying said individual packetized datastreams constituting said program, and in that
said Service Locator Descriptor (SLD) replicates information conveyed in said MPEG program map table (PMT) and said replicated information associates a broadcast channel with packet identifiers used to identify individual packetized datastreams that constitute a program transmitted on said broadcast channel, and
said CIT and SLD enable the apparatus to directly configure the apparatus to receive the broadcast channel."

VII. Oral proceedings were held on 29 November 2005. The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of claims 1 to 10 as filed with the letter dated 24 October 2005.

VIII. At the end of the oral proceedings the Board announced its decision.

Reasons for the Decision

1. *The prior art*

D3 is regarded as the closest prior art document. It describes a cable TV distribution system based on MPEG-2 transport streams (Figure 4 and associated text). The connected terminals are TV receivers having additionally the capability to send messages to the transmitter. During operation, the Program Association Table (PAT) is extracted and stored (see column 6, line 61 to column 7, line 22). Also extracted are the Program Map Table (PMT), the information contained in the video sequence headers of the video elementary streams defining frame rates, etc. Data entries for a particular program are updated when that program is selected for reception. Alternatively, the information is preloaded during an initialization sequence when the terminal orders the transmitter to send PSI information (Program Specific Information, containing MPEG-2 tables including the PAT and the PMT; see column 8, lines 54 to 65). This information allows rapid channel changes without the need to wait for the transport packets containing the information required to set up the transport stream demultiplexer and the elementary stream decoders. In Figure 5 a table of the stored information is shown. The table relates each service (CBS, NBC etc.) to the PIDs (Packet IDentifiers) of the corresponding elementary streams.

2. *Novelty*

The central feature in claim 1 is the provision in the MPEG-2 data stream of a single table (CIT) which contains all the program information necessary to locate the PIDs of the elementary streams associated with a service. With the aid of the CIT it is no longer necessary to look up the tables PAT and PMT whenever a new channel is selected, as required by the MPEG 2 standard. D3 discloses that such program information is transmitted to the terminals during initialization, eg using the standard tables PAT and PMT. Both in the invention and the prior art this program information is redundant since the data streams are compatible with the MPEG-2 standard containing the conventional PSI information. The difference is the way the redundant information is broadcast. The invention proposes to include it in a new table which is an integral part of the MPEG data stream, whereas in D3 it is sent on request.

Thus, the invention is new (Article 54 EPC).

3. *Inventive step*

3.1 The appellant has argued as follows. In D3, the data transmission requires a handshake procedure on a two-way signal line. Only after completion of this initialization phase the true MPEG transmission occurs, including the transmission of the table PMT referred to in claim 1. The skilled person desiring to adapt this system to a TV receiver without signalling capabilities would regard the initialization procedure as inapplicable and instead turn to column 3, lines 43

to 62, of D3, where it was suggested to speed up the channel switching by increasing the frequency of the header transmissions, albeit resulting in a loss of bandwidth. The invention, however, involved neither an initialization phase nor an increase in the frequency of the data table transmissions and hence allowed quick channel selection without unduly sacrificing transmission bandwidth.

3.2 The Board is nevertheless of the opinion that D3 would have led the skilled person to the invention as claimed in claim 1 for reasons which will be set out below.

From Figure 5 of D3 it is clear what the overall goal is, namely to keep a data table in the receiver which immediately provides the relations between all channel numbers and the corresponding transmission data, such as the PIDs for the audio and video elementary streams. Once established, this table permits quick switching between channels. D3 proposes two different ways to build up the table. The first method is to assemble the data as the viewer selects and receives different programs, which means slowly building up the table on the basis of the standard MPEG-2 tables PAT and PMT. The other method requires the terminal to order the transmitter to send all the necessary data in one go. In the first alternative no extra data tables have to be transmitted, but building up the table will take considerable time. Downloading the necessary data, on the other hand, is fast although it requires extra data transmissions. In spite of this drawback the second alternative must be regarded as a clear suggestion to transmit all the necessary program data together in order to obtain the required program table as quickly

as possible, without having to wait for all the PMT tables.

3.3 Claim 1 requires that a table CIT be transmitted (continually) as a part of the normal MPEG stream, whereas according to D3 the program information is sent only during initialization. A further question is therefore if omitting the initialization sequence involves an inventive step.

The known system includes a signal path which allows a receiver to inform the transmitter when to perform the initialization. The invention, on the other hand, concerns a receiver having no such signal path and therefore the required program information cannot be sent on request. Still, D3 does provide the solution to the problem of building up quickly a program table, namely by transmitting the complete program information in one go. How often the transmissions should take place to serve a useful purpose (and to avoid an undue loss of transmission bandwidth) is a consideration with which claim 1 is not concerned since it only requires the presence of a table CIT in the data stream. As to the particular form chosen for the data transmission - a table containing descriptors - the appellant has not argued that it goes beyond the standard formats defined by MPEG-2. The only modification required was thus to send the information within the MPEG-2 stream instead of on demand. The Board cannot see that this represents an inventive approach considering that MPEG-2 provides no other way of transmitting information.

3.4 The appellant has argued that the skilled person trying to adapt the teaching of D3 to a system without

signalling capability would rather have increased the frequency of the data headers of the conventional MPEG data packets. The Board agrees that this might also have been an option, but it was not the only one.

4. Additionally, the Board would like to make the following observation. The person skilled in the art of data transmission knows that bandwidth is a valuable asset. He will therefore as a matter of course avoid any data redundancy. Nevertheless, according to the MPEG-2 standard important data, such as the control data necessary for the demultiplexing and decoding processes, are transmitted repeatedly to avoid latencies at the receiver. If it is known that the receiver will work better (here: switch faster between services) if certain data are present at the receiver (here: the data shown in Figure 5 of D3), the Board judges that it cannot be inventive simply to suggest that a redundant table containing exactly these data is transmitted to the receiver, and accept any loss in bandwidth. Thus, even if D3 had not disclosed downloading all the necessary program specific data during an initialization phase, the invention would have been obvious.

5. For these reasons, the subject-matter of claim 1 does not involve an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

P. Guidi S. Steinbrener