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**Datasheet for the decision
of 9 August 2011**

Case Number: T 1218/07 - 3.5.04

Application Number: 00119284.8

Publication Number: 1085750

IPC: H04N 5/00

Language of the proceedings: EN

Title of invention:

Reception system and digital broadcasting system

Applicant:

Panasonic Corporation

Opponent:

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Headword:

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Relevant legal provisions:

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Relevant legal provisions (EPC 1973):

EPC Art. 56

Keyword:

"Inventive step - all request (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 1218/07 - 3.5.04

D E C I S I O N
of the Technical Board of Appeal 3.5.04
of 9 August 2011

Appellant: Panasonic Corporation
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 1 February 2007
refusing European patent application
No. 00119284.8 pursuant to Article 97(1) EPC
1973.

Composition of the Board:

Chairman: F. Edlinger
Members: A. Dumont
B. Müller

Summary of Facts and Submissions

- I. The appeal is directed against the decision to refuse European patent application No. 00 119 284.8.
- II. The examining division decided that the subject-matter of the claims then on file lacked inventive step in view of the prior art document:

D1: EP 0 917 355 A1.
- III. With the statement of grounds of appeal, the appellant filed new sets of claims of a first auxiliary request and of a second auxiliary request. In reply to the summons to oral proceedings, with a letter of 7 July 2011 the appellant filed new claims of a third auxiliary request and of a fourth auxiliary request.
- IV. Oral proceedings before the board took place on 9 August 2011. The appellant declared in the oral proceedings that he did not wish to pursue the claims of the second auxiliary request any further.
- V. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the main request filed with the letter of 27 May 2005 (annexed to the decision under appeal) or on the basis of the claims of the first auxiliary request filed with the statement of grounds of appeal or alternatively on the basis of the claims of the third or fourth auxiliary request, both filed with the letter of 7 July 2011.
- VI. Claim 3 of the main request reads as follows.

"A reception system, comprising:
a receiving unit which is configured to receive a transport stream transmitted from a transmission system which multiplexes at least (1) compression coded contents of a program, (2) program specific information having at least an NIT, a PAT, and a PMT, and (3) service information having at least an SDT and an EIT;
and
a replacing unit which is configured to replace a packet having the EIT with a SIT packet."

VII. Claim 1 of the first auxiliary request reads as follows.

"A reception system comprising:
a receiving unit which is configured to receive a transport stream transmitted from a transmission system which multiplexes at least (1) compression coded contents of a program, (2) program specific information having at least an NIT, a PAT, and a PMT, and (3) service information having at least an SDT and an EIT;
and
a replacing unit which is configured to replace a packet having an EIT with a SIT packet,
wherein the reception system further comprises:
a designating unit which is configured to designate a PID of a packet having the EIT; and
wherein the replacing unit is configured to replace a packet having the EIT which is having the designed [sic] PID with the SIT packet."

VIII. Claim 3 of the third auxiliary request reads as follows.

"A reception system comprising:
a receiving unit which is configured to receive a transport stream transmitted from a transmission system which multiplexes at least (1) compression coded contents of a program, (2) program specific information having at least a network information table, NIT; a program association table; PAT, and a program map table, PMT, and (3) service information having at least a service description table, SDT and an event information table, EIT; and
a replacing unit which is configured to replace a packet having an EIT with a SIT packet."

IX. Claim 3 of the fourth auxiliary request reads as follows.

"A reception system comprising:
a receiving unit which is configured to receive a transport stream transmitted from a transmission system which multiplexes at least (1) compression coded contents of a program, (2) program specific information having at least a network information table, NIT; a program association table; PAT, and a program map table, PMT, and (3) service information having at least a service description table, SDT and an event information table, EIT; and
a replacing unit which is configured to replace a packet having an NIT and EIT with a SIT packet."

- X. The reasoning in the decision under appeal may be summarised as follows.

D1 discloses a reception system which differs from that of claim 3 only in that D1 does not disclose a packet replacement unit which is configured to replace a packet having the EIT with a SIT packet. The technical problem can be formulated as ensuring that SIT packets are inserted as frequently as necessary. A skilled person knows that EIT and SDT packets originally present in the incoming transport stream are no longer necessary in a partial transport stream. Therefore, the skilled person would obviously consider EIT and SDT packet locations as first candidates for the insertion of SIT packets and would arrive at the subject-matter of claim 3 in an obvious manner.

- XI. The appellant's arguments may be summarised as follows.

It is an object of the invention to provide a reception system such that SIT packets are provided sufficiently often in the partial transport stream. The partial transport stream resulting from filtering out most of the incoming services provides major gaps for inserting SIT packets in D1, which thus can be inserted at any location in the gaps, based on a required repetition rate.

In contrast, the inventors of the system of the invention have recognised that EIT packets are provided sufficiently often in the stream and constitute suitable candidates for replacement with a SIT packet. The system further ensures that a SIT packet is inserted at the location of EIT packets, in particular

by designating the PID of the EIT packet to exactly determine its location in the partial transport stream. Replacing EIT packets based on this concept simplifies the system in that it dispenses with having to monitor the repetition rate of the inserted packets, as is the case in D1.

A person skilled in the art starting from D1 would have had to substantially modify the reception system of D1, in which the location of (filtered-out) EIT packets cannot be determined in the replacing unit. This modification was not suggested in the prior art.

Reasons for the Decision

1. The appeal is admissible.
2. Main request
 - 2.1 Both D1 and the present invention relate to a digital video broadcasting (DVB) system receiving transport streams complying with the MPEG-2 standard. Where only selected services of the received transport stream are used for distribution, for instance to produce a record transport stream (see paragraph [0026] of the present application and D1, paragraphs [0009] and [0020]), a partial transport stream is created, which includes SIT (Selection Information Table) packets containing table information created from table information contained in SDT and EIT packets of a received transport stream. The SIT packets must be incorporated in the partial transport stream at a suitable repetition rate. According to the standards, unneeded packets, in

particular packets containing SDT, EIT and NIT table information, are filtered out, so that the resulting partial transport stream shows many gaps where the SIT packets may be inserted (see D1, figure 6). Different minimum repetition rates may be required for the various tables in a transport stream ("transmission interval", see paragraph [0059] of the present application).

- 2.2 It is not contested that the system of claim 3 differs from that of D1 only in "a replacing unit which is configured to replace a packet having the EIT with a SIT packet". D1 mentions that the insertion of the tables (amongst others the SIT table) into the partial transport stream takes place in an injector (11 in figure 7) and is governed by the required repetition rate defined in the MPEG-2 and DVB-SI standards (see D1, column 6, lines 44 to 49, and column 7, lines 21 to 32). D1 leaves open the location of the packets containing these tables, in particular the exact location of the packets containing the SIT table (see D1, figure 6).
- 2.3 The technical problem may thus be formulated as designing a way of inserting SIT packets at a suitable repetition rate into the partial transport stream.
- 2.4 SIT packets are formed in a generator (10 in figure 7 of D1) by extracting service information from EIT and SDT packets, at a repetition rate depending on the repetition rate of these EIT and SDT tables (see D1, column 5, lines 43 to 47, and figure 5). Since these EIT packets are filtered out of the transport stream, it would be an obvious matter of design choice to use

- the gaps they leave to insert SIT packets, i.e. to replace a packet having the EIT with a SIT packet.
- 2.5 D1 merely mentions that the insertion should be governed by the required repetition rate. This does not require that the repetition rate be (continuously) monitored. The board is thus not convinced by the appellant's argument that, having recognised that the repetition rate of EIT packets makes them suitable candidates for replacement, a person skilled in the art would still be obliged to substantially modify the prior-art system. In fact this is regarded as an obvious practical way of implementing the teaching of D1.
- 2.6 The appellant further argues that a SIT packet is inserted exactly at the location of an EIT packet. However, replacing an EIT packet when it arrives with a SIT packet would lead to the insertion of the SIT packet at the same relative location as the EIT packet in the sequence of packets constituting the partial transport stream, and substantially at the same time as the EIT packet, possibly with a slight time difference due to a differing processing time in the various paths of the system, that delay however being insignificant in the context of transport streams. Claim 3 does not set out features relating to a more precise location of the packets in the stream. This effect ascribed to the invention thus directly derives from the obvious choice of EIT packets as suitable replacement candidates.
- 2.7 As a result, the subject-matter of claim 3 of the main request lacks inventive step (Article 56 EPC 1973).

3. First auxiliary request
 - 3.1 Claim 1 of the first auxiliary request essentially differs from claim 3 of the main request in that the reception system further comprises a designating unit which is configured to designate a PID of a packet having the EIT, and in that the replacing unit is configured to replace a packet having the EIT which is having the "designed" (actually the designated) PID with the SIT packet.
 - 3.2 In the system according to figure 7 of D1, compression-coded content (i.e. audio and video packets) not belonging to the selected services is removed in the filtered transport stream received in the replacing unit (injector 11). It appears that EIT packets are absent from the filtered transport stream (see D1, column 6, lines 27 to 30; and column 7, lines 10 to 20). D1 leaves it to the skilled person to choose a technique for identifying gaps in the stream for inserting SIT packets.
 - 3.3 According to the DVB standard, PIDs (Packet Identifiers) serve to identify and distinguish between packets in a transport stream, for instance those containing different types of service information such as EIT tables (see also D1, column 4, lines 5 to 15). Once the skilled person has decided to replace EIT information, it would be obvious to designate the PID values of the received EIT packets.
 - 3.4 The appellant argues that the EIT packet is not removed from the filtered transport stream reaching the replacing unit in the invention, contrary to the prior

art D1. The designating unit of the present invention is a unit (128 in figure 7) comprised in a section (116) de-multiplexing and filtering the transport stream. It is distinct from the replacing unit (see paragraphs [0182] and [0183] in the description). This section corresponds to the PID parser (9) and to the PID processor (8) of D1, which also designate PID values of packets to produce a filtered transport stream. Claim 1 defines the replacing unit by its function of replacing a packet having the EIT which has the designated PID. It is thus not restricted to a replacing unit receiving a filtered transport stream including an EIT packet and using the designated PID to perform the replacement.

3.5 As a result, designating the PID of EIT packets and replacing the packet having this PID do not add anything inventive to the reception system, and the subject-matter of claim 1 of the first auxiliary request lacks inventive step (Article 56 EPC 1973).

4. Third auxiliary request

4.1 Since the second auxiliary request filed with the statement of grounds of appeal is no longer part of the appellant's final requests (see point IV above), the third auxiliary request has to be examined next.

4.2 Claim 3 of the third auxiliary request sets out the definition of the acronyms NIT, PAT, PMT, SDT and EIT in accordance with the MPEG-2 standard (see also paragraphs [0006] and [0007] in the description of the present application). Its subject-matter is otherwise

identical to the subject-matter of claim 3 of the main request.

4.3 Since these definitions do not change the meaning of the claimed system when embodiments under the MPEG-2 and DVB-SI standards are considered as in section 3 above, the subject-matter of claim 3 of the third auxiliary request lacks inventive step for the same reasons (Article 56 EPC 1973).

5. Fourth auxiliary request

5.1 The system of claim 3 differs from that of D1 only in "a replacing unit which is configured to replace a packet having an NIT and EIT with a SIT packet". Thus, both NIT and EIT packets are replaced, instead of only EIT packets in claim 3 of the main request.

5.2 The standards give a lower limit for the required repetition rate of service information tables in a (partial) transport stream. Consequently, the skilled person would have chosen multiple candidates for replacement, if the actual repetition rate of the EIT table had proved not to be sufficient to achieve the required repetition rate of the SIT table, or more generally to reach a desired value for the particular usage. Since in particular the SDT, EIT and NIT tables are always removed in a standard-compliant partial transport stream, the particular choice of NIT and EIT packets set out in claim 3 is a mere matter of obvious design choice.

5.3 As a result, the subject-matter of claim 3 of the fourth auxiliary request lacks inventive step, essentially for the same reasons as the subject-matter of claim 3 of the main request (Article 56 EPC 1973).

6. In conclusion, none of the requests on file is allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

K. Boelicke

F. Edlinger