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Datasheet for the decision of 5 December 2018

Case Number: T 0131/14 - 3.5.04

Application Number: 05808871.7

Publication Number: 1800479

IPC: H04N7/16, H04N5/50

Language of the proceedings: EN

Title of invention:
Speeding up channel change

Applicant:
OpenTV, Inc.

Headword:

Relevant legal provisions:
EPC 1973 Art. 84

Keyword:
Claims - clarity (no)

Decisions cited:

Catchword:

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Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0131/14 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 5 December 2018

Appellant: (Applicant)	OpenTV, Inc. 275 Sacramento Street San Francisco, CA 94111 (US)
Representative:	Wenger, Joel-Théophile Nagravision SA KIPI Departement Rte de Genève 22-24 1033 Cheseaux-sur-Lausanne (CH)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 4 September 2013 refusing European patent application No. 05808871.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	C. Kunzelmann
Members:	R. Gerdes
	G. Decker

Summary of Facts and Submissions

I. The appeal is against the decision to refuse European patent application No. 05 808 871.7, published as international application WO 2006/044547 A2.

II. The examining division refused the patent application on the grounds that the subject-matter of the independent claims of the main and auxiliary requests lacked inventive step. The examining division also stated in a chapter annexed to the decision that the independent claims of both requests lacked clarity.

III. The applicant filed notice of appeal against this decision and with its statement of grounds of appeal submitted claims of new main and auxiliary requests.

IV. The board issued a summons to oral proceedings together with a communication pursuant to Article 15(1) RPBA. In the communication the board raised objections under Article 84 EPC 1973 regarding the clarity of the claims of the appellant's main and first auxiliary requests.

V. In response, with a letter dated 29 November 2018, the appellant informed the board that it would not be attending the oral proceedings and requested a decision according to the state of the file.

VI. The board held oral proceedings on 5 December 2018 in the absence of the appellant. The Chairman noted that the appellant had requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims according to the main request or the auxiliary request filed with the statement of grounds of appeal.

VII. Claim 1 of the main request reads as follows:

"A method for reducing delay when changing channels in a television environment, the method comprising:

- receiving a plurality of television channels from a remote content provider, each channel including channel information required to display the channel, said channel information including Entitlement Control Messages comprising at least one control word for descrambling a television channel;

- identifying at least one channel of the plurality of channels as a stored channel, said channel being a channel other than a currently viewed channel;

- identifying an entry point of the stored channel corresponding to an I frame,

- updating a buffer corresponding to the stored channel so that only the most recent portion of each digital television signal is retained, each portion comprising an I frame and its subsequent P and B frames;

- storing a pointer location pointing in a location in the buffer corresponding to the I frame of the most recent portion, and

- transmitting the Entitlement Control Message of the stored channel to a conditional access device in charge of extracting the control word,

- re-encrypting the extracted control word by the conditional access device with a receiver specific secret and

- transmitting the re-encrypted control word to the control word manager,

- storing by the control word manager the control word in encrypted form,

- accessing in the buffer from the position of the latest I frame of the stored channel information and providing the stored control word for immediate descrambling upon selection of the at least one stored channel,

wherein the identification of at least one stored channel is specified by an operator."

VIII. Claim 1 of the first auxiliary request reads as follows:

"A method for reducing delay when changing channels in a television environment, the method comprising:

- receiving a plurality of television channels from a remote content provider, each channel including channel information required to display the channel, said channel information including Entitlement Control Messages comprising at least one control word for descrambling a television channel;

- receiving a list of the most important channels specified by an (sic) network operator as stored channels,

- identifying an entry point of the stored channels corresponding to an I frame,

- updating a buffer corresponding to a stored channels (sic) so that only the most recent portion of each digital television signal is retained, each portion comprising an I frame and its subsequent P and B frames;

- storing a pointer location pointing in a location in the buffer corresponding to the I frame of the most recent portion, and

- transmitting the Entitlement Control Message of the stored channels to a conditional access device in charge of extracting the control word,

- re-encrypting the extracted control word by the conditional access device with a receiver specific secret and

- transmitting the re-encrypted control word to the control word manager,

- storing by the control word manager the control word in encrypted form,

- accessing in the buffer from the position of the latest I frame of one of the stored channel information and providing the stored control word for immediate descrambling upon selection of the stored channel."

IX. Regarding the claims of the main request, the appellant argued in the statement of grounds of appeal that it had made some clarifications to specify that the operations concerning the buffering and the storing of the control word related to non-viewed channels, i.e. the stored channels. The claims of the auxiliary

request defined that the list of a plurality of channels was specified by the operator.

Reasons for the Decision

1. The appeal is admissible.

The invention

2. The application concerns a method and an apparatus to reduce delay when changing channels in a television environment. Due to data compression and encryption, channel switching in digital television systems is inherently slower than in analog television systems. Delays may be due to several cumulative factors, such as buffer access delay, MPEG sequencing delay, decrypting delay and decoding delay (see page 1, line 17 to page 3, line 18 and page 4, lines 25 to 30).

In an example embodiment, a circular buffer is provided to store a received MPEG signal for a non-viewed channel. By providing constant access to the latest MPEG frames, in particular, to the most recently transmitted entry point (typically an I-frame), the buffered channel signal can be viewed without having to wait through a buffer delay or an MPEG sequencing delay (see page 5, line 21 to page 6, line 6).

In another embodiment, decryption keys such as control words are decrypted from entitlement control messages (ECMs) for channels not currently selected and stored for immediate access when a user changes channels. Decryption may be effected by a conditional access card/device associated with the user's receiver. The conditional access card/device may transmit the control

words in encrypted form to the receiver to avoid descrambling movies without authorisation (see page 13, lines 11 to 21 and page 14, lines 11 to 28).

Main request - clarity

3. According to Article 84 EPC 1973, the claims shall define the matter for which protection is sought. They shall be clear and concise and be supported by the description.

3.1 Claim 1 of the main request specifies the method steps of

(i) "identifying at least one channel of the plurality of channels as a stored channel" and

(ii) "wherein the identification of at least one stored channel is specified by an operator."

3.2 Against the backdrop of the description (see page 13, line 22 to page 14, line 10, and claim 18 as originally filed), feature (ii) may be understood such that its "at least one stored channel" is the same as the "at least one channel" of feature (i). In addition, it may be inferred from the above passage that the "at least one stored channel" (and not the identification) is specified or identified by the operator (feature (ii)).

3.3 Even on the basis of this understanding, claim 1 is ambiguous.

3.3.1 Claim 1 does not specify whether the channel is stored at the receiver or at any other location such as the operator's facility or a remote content provider.

Storage of digital channels at the operator or at a remote content provider is considered inevitable in order to forward the channel content to the receivers or the operator, respectively. In contrast, storage of channels at a receiver is optional, in particular for non-viewed channels. Hence, depending on whether storage is effected at the receiver or the operator/the remote content provider, the wording "stored channel" is either an implicit or a limiting feature. As a consequence, claim 1 lacks clarity.

3.3.2 Furthermore, claim 1 is silent on whether the identified channel is stored in reaction to the identification. Since claim 1 does not specify any other consequence of the identification, the purpose of the identification "as a stored channel" is unclear.

3.3.3 It is also unclear how the step of

(iii) "updating a buffer corresponding to the stored channel ..."

relates to the identification of the stored channel, i.e. whether the updating of the buffer is (part of) the storage operation or an independent method step.

3.4 In summary, claim 1 lacks clarity because the method steps relating to the identification, storage and buffering of channels are ambiguous.

Auxiliary request - clarity

4. Claim 1 of the auxiliary request comprises the additional feature of "receiving a list of the most important channels specified by an (sic) network operator".

4.1 The expression "most important" is relative and unclear. In particular, it is not clear which criterion is applied to select the "most important" channels.

4.1.1 The description provides examples of possible criteria for selecting channels, such as "most frequently watched channels", "a list of favorite channels specified by the viewer" and "adjacent channels to the one the viewer is currently watching". However, these criteria are specified as alternatives to the "most important channels specified by an operator" (see page 13, line 27 to page 14, line 1). In addition, it is questionable whether information relating to the "most frequently watched channels" or "adjacent channels to the one the viewer is currently watching" is available at the operator or only at the user's television equipment. Hence, selection on the basis of the other criteria specified in the description may not be possible at the operator.

4.1.2 As a result, even if reference is made to the description, the protection conferred by the claims cannot be clearly determined.

4.2 It follows that claim 1 lacks clarity (Article 84 EPC 1973).

Conclusion

5. Neither the main nor the auxiliary request is allowable due to lack of clarity.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

K. Boelicke C. Kunzelmann

Decision electronically authenticated