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**Datasheet for the decision
of 13 June 2014**

Case Number: T 0447/11 - 3.5.04

Application Number: 06015769.0

Publication Number: 1768413

IPC: H04N7/24

Language of the proceedings: EN

Title of invention:

Providing broadcast channel information

Applicant:

Samsung Electronics Co., Ltd.

Headword:

Relevant legal provisions:

EPC 1973 Art. 56

Keyword:

Inventive step - (no)

Decisions cited:

Catchword:



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Chambres de recours

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Case Number: T 0447/11 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 13 June 2014

Appellant: Samsung Electronics Co., Ltd.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 9 September 2010 refusing European patent application No. 06015769.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman F. Edlinger
Members: R. Gerdes
B. Müller

Summary of Facts and Submissions

I. The appeal is directed against the decision to refuse European patent application No. 06 015 769.0, published as EP 1 768 413 A2.

II. The patent application was refused by the examining division on the grounds that the subject-matter of the independent claims of the main request lacked novelty in view of the following document:

D1: US 2005/0028206 A1.

The subject-matter of all claims of the auxiliary request then on file was found to lack an inventive step in view of D1 in combination with common general knowledge as embodied, for instance, in documents D3 and D4:

D3: US 6 381 747 B1 and

D4: GB 2 385 473 A.

III. The applicant appealed against this decision and with the statement of grounds of appeal submitted claims 1 to 5 of a main request. These claims were essentially identical to those of the auxiliary request underlying the decision under appeal.

IV. The board indicated in a communication annexed to a summons to oral proceedings that it tended to share the opinion set out in the decision under appeal.

V. In response the appellant submitted new claims 1 to 5 of a first auxiliary request with a letter of 13 May 2014.

VI. Oral proceedings were held before the board on 13 June 2014. 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 statement of grounds of appeal, or on the basis of the claims of the first auxiliary request filed with the letter dated 13 May 2014, or on the basis of the claims of the second auxiliary request received during oral proceedings before the board.

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

"A system for providing broadcast channel information, comprising: a broadcast channel information-providing server including a broadcast channel information table and a broadcast channel information multicast address in a first Internet Protocol, IP, packet, the broadcast channel information-providing server adapted to send the first IP packet to a network, the broadcast channel information multicast address being arranged to transmit/receive the broadcast channel information table; and a set-top box adapted

- to generate a first join message to join a broadcast channel information multicast group, to send the first join message to the network and to store the broadcast channel information table received from the network;

- to determine if there is an IPTV broadcast watch request by a user and if a broadcast channel has been input;

- if there is an IPTV broadcast watch request and a broadcast channel has been input, to generate a second join message to join a multicast group for transmitting/receiving broadcast data of a desired

broadcast channel according to an access request for the desired broadcast channel included in the broadcast channel information table, and to send the second join message to the network, wherein the broadcast channel information table includes entries indicating broadcast channel numbers, describing broadcast channels, representing broadcast channel multicast addresses arranged to transmit/receive broadcast data of broadcast channels, and indicating whether or not broadcast data of the broadcast channels can be copied[.]

- to generate a third join message to join a multicast group for transmitting/receiving broadcast data of a last watched broadcast channel, and to send the third join message to the network, if there is an IPTV broadcast watch request and no broadcast channel has been input by a user and any broadcast channel has been watched ahead of the IPTV broadcast watch request;

- to generate a fourth join message to join a multicast group for transmitting/receiving broadcast data of the first broadcast channel in the broadcast channel information table and to send the fourth join message to the network, if there is an IPTV broadcast watch request and no broadcast channel has been input and no broadcast channel has been watched ahead of the IPTV broadcast watch request; and

- to output the broadcast data of the broadcast channel received from the network in response to the sending of the second respectively the third respectively the fourth join message."

VIII. Claim 1 of the first auxiliary request differs from claim 1 of the main request firstly in the following

additional feature that has been inserted after the phrase "- to determine if there is an IPTV broadcast watch request by a user and if a broadcast channel has been input;":

"- to determine if the broadcast channel has been input after the broadcast channel information table was displayed on a TV screen according to an IPTV broadcast access request or has been input directly regardless of when the broadcast channel information table was displayed on the TV screen;".

The subsequent reference to "an access request" has been amended to refer to "the access request" (emphasis by the board).

Secondly, claim 1 of the first auxiliary request contains the following features that have been appended to the claim:

"- to determine if the broadcast data of the broadcast channel received from the network can be copied to a storage medium using information included in the broadcast channel information table as to whether or not the broadcast data can be copied;

- to not activate a copy guard function and thus to allow the broadcast data received from the network to be stored in the storage medium if the information as to whether or not the broadcast data can be copied indicates that the broadcast data can be copied; and

- to activate the copy guard function and thus to not allow the broadcast data received from the network to be stored in the storage medium if the information as

to whether or not the broadcast data can be copied indicates that the broadcast data cannot be copied."

IX. Claim 1 of the second auxiliary request corresponds to claim 1 of the first auxiliary request, with the first additional feature of the first auxiliary request having been deleted and the following feature inserted after "to determine if there is an IPTV broadcast watch request by a user and if a broadcast channel has been input":

", said broadcast channel input can be received after the broadcast channel information table is displayed on a screen of a display unit and can be received regardless of when the broadcast channel information table is displayed on said screen".

In addition, in claim 1 of the second auxiliary request all references to "an IPTV broadcast watch request" have been replaced by "an IPTV broadcast access request" except for those in the last words of the features relating to the third and fourth join messages.

X. In the decision under appeal the examining division held that the subject-matter of claim 1 of the then auxiliary request was distinguished from D1 by the following features:

- (a) "an entry indicating whether or not broadcast data of the broadcast channels can be copied"
- (b) a decision mechanism to display either the last watched channel or the first channel in the table when the user starts IPTV but does not make a specific channel selection.

According to the examining division, these features constituted an aggregation or juxtaposition. The skilled person would have recognised that copy protection was one option in implementing the system disclosed in D1. He would have used part of the programme guide data to transport the copy protection flags to control copying at the receiver side, without exercising any inventive skills.

With respect to feature (b) the examining division argued that D1 disclosed means to start retrieving a channel based on user selection and to tune to a channel without an active user selection at that instant. D1 did not disclose the displaying of the last watched channel or the first channel in the table if the user had not made a channel selection upon starting the IPTV receiver. The examining division formulated the technical problem as "minimizing unnecessary user interactions for channel selection." It considered the presentation of the last watched channel as well as the display of a first available channel after an interruption to be well-known in the technical field and cited D4 as an example of this common general knowledge of the skilled person.

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

Apart from the features (a) and (b) above, D1 also did not disclose the determination "if there is an IPTV broadcast watch request by a user and if a broadcast channel has been input". The distinguishing features provided the technical effect that time could be saved when the set-top box (STB) was switched on. The technical problem was therefore "minimizing the necessary user interaction for channel selection, while maintaining the user's full discretion for selecting a

particular available channel and while remotely controlling admissibility of copying of broadcast data at the STB" (see statement of grounds, paragraph bridging pages 6 and 7).

D4 disclosed automatically switching to the last watched channel without previously allowing a user to actively make a channel selection. It was accepted that D4 also disclosed direct channel selection using a numerical keypad, but not as a first action when switching on the STB or TV. A direct channel selection - under the condition of an IPTV broadcast watch request and if a channel had been input - was disclosed neither in D1 nor in D4. Hence, the combination of D1 and D4 did not lead to the claimed subject-matter.

Regarding feature (a), the appellant argued that the copy protection delivered by the Macrovision technology was "not at all related to transmitting broadcast channel information via an (IPTV or any other) broadcast system to a STB and controlling admission for copying at the latter" (see statement of grounds, page 8).

Claim 1 of the first and second auxiliary requests had been amended to more clearly specify the differences with respect to D1. In particular, claim 1 of the second auxiliary request specified clearly that the user was provided with two options for user input, either after the broadcast channel information table was displayed or, alternatively, regardless of when the broadcast channel information table was displayed on the screen.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. It is common ground that D1 may be considered as the closest prior art with respect to the subject-matter of claim 1.

- 2.1 D1 discloses a system for providing broadcast channel information, in which a broadcast channel information-providing server transmits a broadcast channel information table via IP multicast to several user devices including set-top boxes (see abstract and paragraphs [0030] to [0032], [0034], [0046], [0047], [0050] as well as figure 4). The user devices receive download information for configuration and retrieve an interactive programme guide (IPG) corresponding to a broadcast channel information table. The IPG includes entries indicating broadcast channel numbers, descriptive information, and broadcast channel multicast addresses for the respective broadcast channels (see paragraphs [0009], [0011], [0051] and [0071]).

In order to retrieve the IPG data, the user device "periodically joins the IP Multicast group for the IPG related data for the specified IP address and port, waits for the beginning of the stream and downloads the IPG data until the end of the stream ...". It then extracts and stores the programme information. In response to a user selection of an entry in the IPG, "the system checks for the source type of the channel

and ... gets the IP multicast address and port of the selected channel ... and 'tunes' into the channel by joining the multicast address" (see paragraphs [0070] and [0071]). Hence D1 discloses the first and second join messages in the sense of claim 1.

2.2 The subject-matter of claim 1 is distinguished from D1 by the following features (essentially those cited in the decision under appeal; see point X above):

(a) entries in the broadcast channel information table indicating whether or not broadcast data of the broadcast channels can be copied and

(b) a decision mechanism to display either the last watched channel or the first channel in the table when the user starts IPTV but does not make a specific channel selection.

The appellant argued that, in addition, D1 did not disclose the following feature:

(c) to determine if there is an IPTV broadcast watch request by a user and if a broadcast channel has been input.

Based on the present application, page 11, lines 9 to 13 and page 20, lines 21 to 29, and in the context of claim 1, this feature should be interpreted as determining whether a specific channel selection watch request has been made by the user. Two options for this channel selection request by a user are disclosed. Firstly, a user could select a channel "after the broadcast channel information table is displayed on the TV screen according to the IPTV broadcast access request", for example using cursor keys and a select

button on the remote control. Secondly, the broadcast channel can be "directly input regardless of when the broadcast channel information table is displayed on the TV screen", for example using a numerical key on the remote control to directly select the desired channel (see also point XI above).

The wording of claim 1 does not unambiguously specify a direct input of a specific channel request as the sole or one of two options for the user input. In this respect the board disagrees with the appellant. Nevertheless, since in the board's judgement it makes no difference whether feature (c) is construed as indicated by the appellant or not and, since a feature providing these options will have to be dealt with in the context of the second auxiliary request, the board adopts this more limited interpretation suggested by the appellant for its evaluation of inventive step below.

2.3 There is no additional technical effect resulting from the combination of the presence of a copy protection flag in the broadcast channel information table corresponding to feature (a) and the decision mechanism for issuing join messages corresponding to features (b) and (c). Hence, distinguishing feature (a) and features (b) and (c) constitute an aggregation or juxtaposition of two groups of features and each group can be considered independently for the evaluation of inventive step.

2.4 The technical effect associated with feature (a) is the availability of copy protection information at the user's set-top box. Hence, the corresponding partial technical problem can be considered as remotely

controlling admissibility of the copying of broadcast data at the STB.

Mechanisms for copy protection are ubiquitous in the technical field of audio/video broadcast transmission systems. D1 refers to a well-known copy protection mechanism under the brand name of Macrovision (see paragraph [0087]), even though it does not explicitly refer to its use in the disclosed digital interactive delivery system. D3 discloses the presence of an "on/off/mode byte", which "determines which components of the copy protection process will be activated" and which may be part of the EPG data that are transmitted from the server (see D3, column 6, lines 12 to 26). In view of this common general knowledge and the fact that a copy protection flag is usually an attribute associated with either a channel or a programme, it was obvious for the skilled person to incorporate a copy protection flag for each channel in the programme guide data of D1 so as to control the copying of the channel data at the user's STB.

- 2.5 Features (b) and (c) both relate to the selection of the channel that is initially displayed to the user. It was argued that the technical effect associated with the channel selection via direct input of the desired broadcast channel was to save time if the desired channel was known to the user. In addition, the decision mechanism according to feature (b) provided the user with an initial view of a channel having a high probability of being the desired channel. The board considers these effects to be correctly reflected in the second partial technical problem as formulated by the appellant, i.e. "minimizing the necessary user interaction for channel selection, while maintaining the user's full discretion for selecting a particular

available channel" (see also statement of grounds of appeal, pages 7 and 8).

Remote control devices having numerical keypads were well-known at the priority date of the application, as is evidenced by D4. In addition, D4 refers to the option of directly selecting a channel by inputting a numerical value (see, for example, figure 2 and page 9, fourth paragraph). There is no information in D4 whether such a direct input of a numerical value was possible without the prior display of a broadcast channel information table. However, it is common in all technical fields to constantly adapt user interfaces so as to minimise the necessary user interaction. In particular, it is always desirable to avoid the need to activate a sequence of buttons in order to perform a function, ultimately with the goal to enhance the ease of use of the interface. This desire is also reflected by D4, see page 20, first to fourth paragraphs. Hence, in the present context and with the knowledge of remote controls having numerical keypads, it was obvious to allow direct channel selection, for example using a numerical keypad on the remote control, regardless of the prior display of the broadcast channel information table, so as to minimise the necessary user interaction for channel selection. No particular problem is apparent from the description which would have had to be overcome in the pursuit of that goal.

The board also considers the presentation of the last watched channel, as well as the display of a first available channel if no specific channel was selected and the user device was switched on, to be well-known measures in the pertinent technical field. The board agrees with the examining division that this belonged to the common general knowledge of the skilled person

(see point X above). Whether the "first available channel" is displayed as in D4 or the "first broadcast channel in the broadcast channel information table" is a mere matter of choice. In both cases channel information has to be stored for it to be retrievable when no specific channel selection has been made. Whether this is done when the channel information table is initially stored (and/or later updated), or when a user finishes IPTV broadcast channel watching, constitutes a straightforward implementation of complying with a user's preference. Hence, the board holds that neither distinguishing feature (a) nor features (b) and (c) can confer inventive step on the claimed subject-matter.

- 2.6 As a result, the subject-matter of claim 1 was obvious to a person skilled in the art in view of D1 and thus lacks an inventive step (Article 56 EPC 1973).

First and second auxiliary requests

3. Claim 1 according to the first auxiliary request has been amended to clarify the options for channel selection, in particular that of a direct channel selection "regardless of when the broadcast channel information table was displayed on the TV screen". In addition, it contains features that further specify the copy protection functionality.

- 3.1 The reasoning above with respect to claim 1 of the main request was based on the restrictive interpretation of feature (c) suggested by the appellant (see point 2.2). Hence, that reasoning applies equally with respect to the reformulated feature (c) of claim 1 of the first auxiliary request.

- 3.2 The further additional features relating to the function of the copy protection information only specify the usual functionality implicit in such information; this has not been contested by the appellant.
- 3.3 As a result, the board finds that the subject-matter of claim 1 according to the first auxiliary request lacks an inventive step (Article 56 EPC 1973).
4. Claim 1 according to the second auxiliary request has been reformulated to emphasise that the two options for channel selection, i.e. selection of a broadcast channel after the broadcast channel information table is displayed and selection of a broadcast channel regardless of when the broadcast channel information table is displayed, are alternative options that are both available to the user.
 - 4.1 One of these two options for channel selection (direct input "regardless of ...") has already been considered to be implicit in claim 1 of the main request (see point 2.2). The second option of selecting a broadcast channel from the display of the channel information table is already disclosed in D1 (selection of an entry in the IPG; see point 2.1 above). Giving the user the opportunity to choose one of these options for the selection of a specific channel has the usual advantages and disadvantages of the individual options at the expense of increased complexity. Both options are usual in combination for selecting a broadcast programme either from a programme guide (such as the IPG in D1) or from a numerical keypad. Hence, the corresponding reasoning applies equally with respect to claim 1 of the second auxiliary request.

4.2 As a consequence, the subject-matter of claim 1 according to the second auxiliary request does not involve an inventive step (Article 56 EPC 1973).

Conclusion

5. It follows from the above that none of the appellant's requests is allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



K. Boelicke

F. Edlinger

Decision electronically authenticated