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Datasheet for the decision of 17 December 2009

Case Number: T 0583/07 - 3.5.04

Application Number: 98200842.7

Publication Number: 0868083

IPC: H04N 7/16

Language of the proceedings: EN

Title of invention:
Digital television system

Patentee:
Irdeto Access B.V.

Opponent:
IGR GmbH & Co. KG

Headword:
-

Relevant legal provisions:
RPBA Art. 12(2), 13(1)

Relevant legal provisions (EPC 1973):
EPC Art. 56, 100(a)

Keyword:
"Inventive step - no"
"Auxiliary requests - not admitted"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0583/07 - 3.5.04

D E C I S I O N
of the Technical Board of Appeal 3.5.04
of 17 December 2009

Appellant: (Patent Proprietor)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 9 February 2007 revoking European patent No. 0868083 pursuant to Article 102(1) EPC 1973.**

Composition of the Board:

Chairman: F. Edlinger
Members: C. Kunzelmann
T. Karamanli

Summary of Facts and Submissions

I. The appeal is against the decision of the opposition division to revoke European patent No. 0 868 083.

II. Claim 1 of the patent as granted reads as follows.

"A digital television system comprising a bus (1), a television set (2) connected to said bus (1), a decoder (3), a signal source (4) connected to said bus, and a Conditional Access module (5), connected to said bus (1), characterized in that the bus (1) is a communication network bus, and in that the communication between the signal source (4), the Conditional Access module (5) and the television set (2) or the decoder (3) takes place via said bus (1) according to a certain protocol."

III. The opposition to the patent was based on a sole ground for opposition (Article 100(a) EPC 1973), namely lack of inventive step (Article 56 EPC 1973). In opposition proceedings the patent was revoked because the digital television system according to claim 1 did not involve an inventive step over either of the following documents taken separately.

D1: EBU Project Group B/CA: 'Functional model of a conditional access system.' Preprint from the EBU Technical Review No. 266 (Winter 1995/6), or

D2: GIACHETTI, J. L. et al. 'A Common Conditional Access Interface for Digital Video Broadcasting Decoders.' In: IEEE Transactions on Consumer Electronics. Vol. 41, No. 3, August 1995.

IV. The reasons for the decision under appeal can be summarised as follows.

Figure 8 of D1 disclosed a digital television system comprising a bus. This bus was the DVB common interface, which was based on the PCMCIA PC card standard known as Cardbus. The digital television system comprised a decoder (a demultiplexer and an MPEG video and audio decoder in figure 8), a signal source and a Conditional Access module (the Proprietory CA system in figure 8), all connected to the bus. The expression "source" was a broad concept and could be given several interpretations. One possible interpretation was that the ensemble of dish/antenna, tuner and modulator in figure 8 constituted an MPEG transport stream source. Communication took place between the signal source, the Conditional Access module and the decoder because a scrambled MPEG stream passed from the source via the Conditional Access module to the decoder. Hence the bus was a communication bus as specified in claim 1 and implied the use of a protocol.

Figure 3 of D2 described the same system as figure 8 of D1. D2 additionally addressed the technical characteristics of the DVB Common Interface.

D1 and D2 did not disclose a television set connected to the bus. But the decoder produced an A/V picture signal. Thus the connection of a television set to the decoder was obvious. The television set would thus be connected to the bus via the decoder and hence the subject-matter of claim 1 lacked an inventive step.

V. The patentee appealed and requested that the decision be set aside. In the statement of grounds of appeal the appellant requested that the patent be maintained as granted. With the statement of grounds of appeal the appellant also filed the following documents.

A017:"Common Interface Specification for Conditional Access and other Digital Video Broadcasting Decoder Applications" and

European Standard EN 50221.

VI. The respondent replied with a letter dated 2 November 2007 and requested that the appeal be dismissed.

VII. The board issued a communication dated 20 July 2009 accompanying the summons to oral proceedings. In this communication the board identified aspects which appeared to be undisputed between the parties. Furthermore the communication comprised the following statement. "However it is clear from the file that the parties disagree whether the DVB common interface is a "communication network bus" within the meaning of the term in the opposed patent. In particular the meaning of the term "communication network bus" may be decisive for the assessment of inventive step. It is questionable whether the differences emphasised by the appellant, such as addressing, topology, protocol, etc., are differences which are implied by this term in the context of claim 1 as granted. The respondent appears to deny this."

VIII. In response the appellant filed further observations and claims according to a first, second, third and

fourth auxiliary request with a letter dated 17 November 2009.
Claim 1 of the first, second and third auxiliary requests comprised a feature that "the television set (2), the signal source (4) and the Conditional Access module (5) are directly connected to said communication network bus" (emphasis by the board). Claim 1 of the fourth auxiliary request comprised the feature that "the television set (2), the signal source (4) and the two or more Conditional Access modules (5) are directly connected to said communication network bus" (emphasis by the board).

IX. Oral proceedings before the board took place on 17 December 2009. In the oral proceedings the respondent raised objections as to the admissibility of the first to fourth auxiliary requests. At the end of the oral proceedings the chairman announced the board's decision.

X. The appellant's arguments can be summarised as follows.

According to claim 1, communication between the signal source, the Conditional Access module and the television set or the decoder took place via a communication network bus. This communication network bus allowed all the devices connected to it to communicate with each other directly and on a point-to-point basis.
A network was defined as "a number of interconnected computers, machines, or operations" (see, for instance, the 1998 edition of the New Oxford Dictionary of English), and in computer networks a network bus referred to a known topology, specifically a network

architecture in which a set of clients shared a common communication line, namely the bus. Also the bus specified in claim 1 was a communication line shared by all the devices connected to the bus, specifically a serial bus. The protocol specified in claim 1 was a shared protocol associated with the bus as described in paragraph [0013] of the patent specification, namely a serial protocol. In the technical field of digital broadcasting the DVB Common Interface would not be called a communication network bus.

The DVB Common Interface referred to in D1 and D2 was specified in A017 and the essentially identical European Standard EN 50221. The DVB Common Interface defined only the interface between a host and a module, in practice a set-top box and a smart card module. Several modules could be connected to a host, but then each module communicated only with the host via a dedicated instance of the DVB Common Interface. In practice several PCMCIA modules could be inserted in a number of PCMCIA sockets in a set-top box. Communication of the host with several of these modules was possible, but two modules could not communicate directly with each other. Instead modules could communicate with each other only through a daisy chain via the host. The DVB Common Interface was a parallel interface and hence the corresponding protocol was defined for use on a parallel interface. In D1 the television set and the signal source were connected to the host instead of being connected to a bus (the DVB Common Interface). The DVB Common Interface was not suitable for connecting the signal source to the Conditional Access module or the television set to the Conditional Access module. Thus the DVB Common

Interface was not a communication network bus as specified in claim 1.

The auxiliary requests should be admitted in the appeal proceedings because the claimed subject-matter was disclosed in the description, which was very short. Thus it had been possible for the respondent to search the features of the claims of the auxiliary requests which were disclosed only in the description. These features clarified that all the elements were directly connected to the communication network bus, as disclosed, for instance, in figure 1 and paragraphs [0006] and [0010] of the patent specification. In the appellant's understanding, the direct connection was already implied in the main request. The auxiliary requests were filed when it became clear that the appellant's argumentation in this respect might not convince the board.

XI. The respondent's arguments can be summarised as follows.

Claim 1 did not specify that all the devices connected to the bus could communicate directly with each other. The claim allowed indirect communication between two devices connected to the bus. For instance the claim allowed the television set to be connected with the signal source via a separate decoder and the bus, as shown in figure 1 and described in paragraph [0012] of the patent specification. The expression "communication network bus" was not a standardised expression which implied defined technical features beyond that of a bus for communication within a network. Furthermore claim 1 did not specify that there was only one shared protocol. Claim 1 allowed several protocols for the communication.

Upon proper construction, claim 1 was broader than argued by the patent proprietor, and thus the argumentation of the opposition division as to why there was a lack of inventive step over D1 or D2 was convincing.

The auxiliary requests should not be admitted in the appeal proceedings as they changed the appellant's case in a surprising manner. The opponent had not had a reason for searching prior art in which the television set was directly connected to the bus because the patent specification made it clear that this was not necessarily the case. In the embodiment shown in figure 1 the television set was connected to the bus via a separate decoder. A speculative search for features not present in the granted claims could not reasonably be expected from an opponent.

XII. The final requests of the parties were as follows.

The appellant (patentee) requested that the decision under appeal be set aside and the patent be maintained as granted (main request) and, as an auxiliary measure, the maintenance of the patent in amended form according to the first to fourth auxiliary requests filed with the letter of 17 November 2009.

The respondent (opponent) requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

2. *Main request: ground for opposition under Article 100(a) EPC 1973 and inventive step (Article 56 EPC 1973)*

2.1 *Claim 1: claim construction*

2.1.1 The technical meaning of the expression "communication network bus" in the characterising portion of claim 1 is particularly relevant for the assessment of inventive step.

2.1.2 It is undisputed, and the board agrees, that the "communication network bus" specified in claim 1 is at least a bus for communication between devices within a network. But there is disagreement between the parties as to whether it implies further technical features.

2.1.3 The appellant's argument that the "communication network bus" specified in claim 1 allowed in particular the television set, the Conditional Access module and the signal source to communicate with each other directly and on a point-to-point basis is not based on the patent specification taken as a whole. Even though, according to paragraph [0012] of the patent specification, a separate decoder 3 may be capable of communication with television set 2 via bus 1, this arrangement is only one of the possible means of communication between a decoder and the television set. Another possibility specified in paragraph [0012] is, for instance, that a separate decoder may be fitted between the television set 2 and the bus 1, or built into the television set 2. Thus, in the context of the patent specification taken as a whole, the decoder is (electrically) connected to bus 1, and the television

set communicates with the signal source indirectly, namely via a separate or built-in decoder and the bus. The fact that claim 1 specifies communication with the television set 2 or the decoder 3 as alternatives is also compatible with the disclosed arrangements. However this does not necessarily mean that communication between the devices connected to the bus, in particular between the signal source and the television set, has to take place directly on a point-to-point basis.

2.1.4 Claim 1 and the whole patent specification concern a digital television system. Thus the appellant's argument that in computer networks a network bus was specifically a network architecture in which a set of clients shared a common communication line, namely the bus, is based on the meaning of the expression "communication network bus" in a technical area different from that of the patent specification. But even if one equated the elements of the digital television system of claim 1 with the "clients" of a computer network, this would not exclude the existence of a central "server" in the network, wherein clients can communicate with each other only via the server and the bus. At least, a television set which receives decoded signals from a separate decoder via the bus need not necessarily itself communicate with the signal source (or a Conditional Access module). Thus direct "point-to-point" communication of the elements of the network is not implied in the communication network bus specified in claim 1.

2.1.5 The appellant's argument, that the specified protocol was a shared protocol associated with the bus as

described in paragraph [0013] of the patent specification, namely a serial protocol, is reflected in the feature of claim 1 that the communication takes place "via said bus (1) according to a certain protocol". This feature specifies in very general terms that communication between two devices connected to the bus requires a protocol which can be understood by each of the communicating devices. However this does not mean that communication has to take place without the intervention of a third device (for instance a host) connected to the bus. Also the patent specification specifies in paragraph [0013] that the devices connected to the bus may require a respective interface converting the signals of the device in question into the protocol that has been selected for communication via the bus. A specific network topology or a specific manner of communication is not implied by the use of an unspecified, shared protocol associated with the bus. Thus the decision under appeal was correct in its assessment that a communication network bus implied the use of a protocol. But the explicit mentioning of "a certain protocol" in claim 1 does not specify further technical features of the protocol. In particular, it does not specify that the protocol is a serial protocol.

2.1.6 Hence the board comes to the conclusion that, upon proper construction, the expression "communication network bus" in claim 1 has the broad undisputed meaning of a bus for communication between devices within a network (see point 2.1.2 above), but does not imply further technical features. Furthermore the last feature in claim 1, relating to communication, specifies that communication between the signal

source (4), the Conditional Access module (5) and the television set (2) or the decoder (3) takes place via said bus (1). However it does not specify further technical features as to how communication via the bus is carried out and whether any of the devices controls communication between other devices.

2.1.7 A further disputed issue is the meaning of the expression "signal source (4) connected to said bus" in claim 1. In this context the board agrees with the decision under appeal that the signal source specified in claim 1 need not be a satellite dish or an antenna. The signal source may also be the source of an MPEG transport stream. For instance, the signal source may also include a tuner and a demodulator cooperating with a satellite dish or an antenna (see, for instance, figure 8 of D1). As a further example, the signal source may be a satellite receiver (see paragraph [0009] of the patent specification).

2.2 *The closest prior art*

2.2.1 It is undisputed that either of D1 and D2 may be considered as the closest prior art. The patent specification specifically states that D2 discloses a television system according to the preamble of claim 1.

It is also undisputed that both D1 and D2 disclose a digital television system which uses, or at least may use, the standardised DVB Common Interface. In particular, both D1 and D2 (see the bibliographic references) explicitly refer to the DVB Common Interface and the "Common interface specification for conditional access and other DVB decoder applications",

which is reproduced in A017 and in European Standard EN 50221. Thus a person skilled in the art of digital television systems reading D1 or D2 would have been familiar with the DVB Common Interface as specified in A017 (or European Standard EN 50221), or would at least have consulted this reference background document.

2.2.2 The appellant's argument, that the DVB Common Interface referred to in D1 and D2 was not a communication network bus, is based on a narrow interpretation given to the expression "communication network bus" which the board, upon proper construction of claim 1, finds unconvincing (see section 2.1 above).

2.2.3 In particular, the DVB Common Interface is a communication network bus within the broad undisputed meaning for the following reasons.

It is undisputed that in both D1 (figure 8) and D2 (figure 3) the signal source (see point 2.1.7 above), the decoder and the Conditional Access module are at least indirectly connected to the DVB Common Interface and that thereby a network is formed.

According to A017, the DVB Common Interface may be a PC card interface providing *inter alia* a Command Interface for command traffic between a host (corresponding to, for instance, the integrated receiver/decoder in figure 8 of D1, or the corresponding unit in figure 3 of D2) and a module (corresponding to, for instance, the Conditional Access modules in figure 8 of D1 and figure 3 of D2) within the network. This command traffic is a kind of communication. The Command Interface consists of an 8-bit bi-directional data bus

together with address and control signals (see A017, Annex A.1.1). The DVB Common interface may furthermore provide a transport stream interface so that MPEG-2 data from the host is presented to the module via an 8-bit data bus and a descrambled transport stream returns from the module via another 8-bit data bus (see A017, Annex A.2.1 and figure A.1.1). Also this transport of MPEG-2 data is a kind of communication. Thus the DVB Common Interface may comprise a bus for communication within the network.

2.2.4 According to D1 (see for instance figure 8) and D2 (see for instance figure 3), there is a data flow (MPEG-2 transport stream) from the signal source through the DVB Common Interface to the Conditional Access module and further, a data flow (a descrambled transport stream) from the Conditional Access module through the DVB Common Interface to the decoder within the network. This data flow constitutes communication between the signal source, the Conditional Access module and the decoder via the DVB Common Interface. It is implicit that this communication takes place according to a protocol. The board agrees with this finding in the decision under appeal because, in the judgment of the board, a "certain protocol" in the context of claim 1 does not imply further technical features as to how communication is carried out (see points 2.1.5 and 2.1.6 above).

2.3 Thus the features of the characterising portion of claim 1, relating to communication with the decoder, are disclosed in D1 and D2 for a person skilled in the art of digital television systems and familiar with the specification of the DVB Common Interface.

2.4 The appellant's argument, that with the DVB Common Interface each module could only communicate with the host via a dedicated instance of the DVB Common Interface, but two modules could not communicate directly with each other, is based on the understanding that the expression "communication" has the narrow meaning of direct, point-to-point communication. However claim 1 does not specify that communication between the specified elements of the network is direct communication (see point 2.1.4 above). Furthermore claim 1 does not specify that more than one module is present in the digital television system. Thus communication between Conditional Access modules is not specified in claim 1, either.

2.5 Despite the fact that the patent specification expressly states that D2 discloses a television system according to the preamble of claim 1, one point of dispute between the parties was whether D2 (or D1) disclosed a television set connected to the bus. The appellant argued in this respect that claim 1 implied a direct connection of a television set to the bus and that the DVB Common Interface was not defined or suitable for connecting the television set to the Conditional Access module.

2.6 In this respect the board agrees with the decision under appeal that D1 and D2 do not disclose a television set connected to the bus. D1 and D2 merely disclose audio and video signals output from the decoder, but do not unambiguously disclose their use in a television set, video recorder, or the like.

2.7 In view of the above, the board agrees with the decision under appeal that the feature of a television set being connected to the bus establishes the novelty of the claimed digital television system.

2.8 It is common general knowledge that the "picture" and "sound" outputs of an MPEG decoder in D1, figure 8, or the "video" and "audio" outputs of the decoder in D2, figure 3, may be used as inputs to a television set for reproduction of the audio and video signals. Thus a person skilled in the art of digital television systems would have connected a television set to the decoder outputs of the digital television system disclosed in D1 or D2. In doing so the television set would also be connected, via the decoder (as in embodiments of the opposed patent, see point 2.1.3 above), to the communication network bus of the digital television system. Hence the digital television system according to claim 1 does not involve an inventive step (Article 56 EPC 1973). Consequently the ground for opposition under Article 100(a) EPC 1973 prejudices the maintenance of the granted patent.

3. *Auxiliary requests: admissibility*

3.1 According to Article 13(1) of the Rules of Procedure of the Boards of Appeal (RPBA), **any** amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the board's discretion (emphasis by the board). In the present case, the appellant has maintained the main request considered by the opposition division as his sole request when filing the statement of grounds of appeal. The appellant then filed auxiliary requests one month

before the date of the oral proceedings. Thus the auxiliary requests are an amendment to the appellant's case within the meaning of Article 13 RPBA. Hence the auxiliary requests may be admitted and considered at the board's discretion.

3.2 In claim 1 of the auxiliary requests the connection between *inter alia* the television set and the communication network bus is specified. In particular, they have in common the technical feature of direct communication between the television set and the communication network bus. This feature raises a number of issues which have not been part of the appellant's case before the filing of the auxiliary requests and have not been considered in the decision under appeal.

3.2.1 For instance, in the only embodiment illustrated in figure 1 of the patent specification the television set is connected to the communication network bus via the decoder. The only illustrated embodiment is thus not encompassed by the claims of the auxiliary requests. Hence there is an essential amendment as to the features of the alleged invention.

3.2.2 The technical meaning of direct connection of the television set to the communication network bus and its impact on the relevance of documents D1 and D2 would need to be further analysed. For instance, an analysis would be required whether this feature specified an additional interface of the television set which converts the signals of the television set into the protocol that has been selected for communication via the bus (see paragraph [0013] of the patent specification).

3.2.3 The basis in the application as filed for the direct connection of the television set to the communication network bus and the point-to-point communication between the different devices given by the appellant would necessitate further discussion (see also section 2.1 above). In particular, in figure 1 of the patent specification the television set is not directly connected to the communication network bus. Paragraphs [0006] and [0010] both specify that "two or more CA modules can be connected to the bus", but do not specify explicitly that the television set is directly connected to the communication network bus.

3.2.4 In view of the appellant's argumentation that in D1 the television set and the signal source were connected to the host instead of the DVB Common Interface and that the DVB Common Interface was not a communication network bus, claim 1 of each of the auxiliary requests appears to attempt to distinguish the claimed system from the relevant prior art using features concerning the manner in which the devices are connected and how communication is carried out. But the mechanical or electrical connections of the devices to the bus are specific implementation issues which are not dealt with in D1 or D2. Thus prior art may need to be considered which was not referred to in the decision under appeal or in the appeal proceedings before filing the auxiliary requests.

3.3 The appellant filed the auxiliary requests after notification of the board's communication dated 20 July 2009. This communication was based on the statement of grounds of appeal and the reply, which were the only

submissions on file at that time and should have contained the parties' complete cases (see Article 12(2) RPBA). In this communication the board had identified the essential disputed issues in these *inter partes* appeal proceedings, as they appeared from the file (see point VII above). In particular, the meaning of the term "communication network bus" was identified as being potentially decisive for the assessment of inventive step. However the communication did not introduce new issues and did not comprise any direction of the board within the meaning of Article 12(1)(c) RPBA other than setting a deadline for replying to the communication. The subject-matter of the auxiliary requests thus introduced a number of new complex issues at a time when this was not appropriate from the point of view of procedural economy and the state of the proceedings.

3.4 In view of the above the board has decided not to admit the auxiliary requests submitted with the letter dated 17 November 2009 in the appeal proceedings in application of Article 13(1) RPBA.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

L. Fernández Gómez F. Edlinger