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Datasheet for the decision of 24 June 2009

Case Number: T 1396/05 - 3.5.01

Application Number: 98102727.9

Publication Number: 0859322

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Language of the proceedings: EN

Title of invention:
Determination of device sub-functions in a P1394 environment

Applicant:
Sony Corporation

Headword:
Determining device sub-functions/SONY

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 56

Keyword:
"Inventive step - searching for converters inside A/V equipment (yes - after amendment)"

Decisions cited:
-

Catchword:
-

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Case Number: T 1396/05 - 3.5.01

D E C I S I O N
of the Technical Board of Appeal 3.5.01
of 24 June 2009

Appellant: Sony Corporation
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 17 May 2005 refusing European patent application No. 98102727.9 pursuant to Article 97(1) EPC 1973.**

Composition of the Board:

Chairman: S. Steinbrener
Members: W. Chandler
P. Schmitz

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse the European patent application No. 98102727.9 on the ground that the subject-matter of claim 1 of the second auxiliary request (and the subsets of its features in the main and first auxiliary requests) did not involve an inventive step (Article 56 EPC 1973) over EP-A-0 637 157 (D1) and the skilled person's common general knowledge. WO-A-96/42169 (D4), faxed to the applicant prior to the oral proceedings, was cited, but not used in the decision.

II. In the statement setting out the grounds of appeal, the appellant requested that a patent be granted on the basis of a new main request, corresponding essentially to the refused main request.

III. In a communication, the Board considered that claim 1 was unclear and tended to consider that its wording encompassed subject-matter that was not new or, at least, did not involve an inventive step.

IV. In a reply, the appellant filed an amended main request and a first auxiliary request. The appellant also made an auxiliary request for oral proceedings.

V. In the communication accompanying the summons to oral proceedings, the Board summarised the issues to be discussed and continued to express doubts about the inventive step of the controlling system as set out in claim 1 of both requests.

VI. In a response, the appellant filed a minor amendment to claims 1 and 16 of the first auxiliary request and provided further arguments in favour of inventive step.

VII. At the oral proceedings, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 20 of the main request filed during the oral proceedings before the Board and an amended description. At the end of the proceedings the Chairman announced the decision.

VIII. Claim 1 reads as follows:

"An electronic equipment controlling system comprising an electronic equipment controlling apparatus and electronic equipments (2,3,4,5,6) connected to the electronic equipment controlling apparatus by a communication line (7), said electronic equipments (2,3,4,5,6) including function units (21,22,23,31,41,51,61,62,63), whereby each function unit (21,22,23,31,41,51,61,62,63) has at least one input and/or one output and a first electronic equipment (3) of said electronic equipments comprises a first function unit (31) adapted to output data in a first data format, and a second electronic equipment (5) of said electronic equipments comprises a second function unit (51) adapted to receive data in a second data format, said first data format being different from said second data format, the electronic equipment controlling apparatus (1) comprising:
- communication means (357) for communicating with said electronic equipments (2,3,4,5,6) through said communication line (7),

- control means (351,371) being adapted for requesting from each of said electronic equipments (2,3,4,5,6) a transmission of information concerning said function units (21,22,23,31,41,51,61,62,63) included in the electronic equipments, wherein said information identifies the output data format of said first function unit and the input data format of said second function unit,
- storage means (372) for storing the information concerning the function units transmitted from said electronic equipments (2,3,4,5,6) to said electronic equipment controlling apparatus (1) through said communication line (7), and
- selection means (211,381,382) being adapted for selecting information concerning at least one of the function units from the information concerning the function units (21,22,23,31,41,51,61,62,63),

whereby

the control means (351,371) is further adapted to search, when the information of at least two function units is selected from the information concerning the function units, based on the selection, for a route enabling a transmission of audio and/or video data from said first function unit (21,22,23,31,41,51,61,62,63) to said second function unit (21,22,23,31,41,51,61,62,63), whereby the search for the route enabling the transmission of data comprises searching the information concerning the function units for one or more further function units (41,21) in electronic equipment (2,4) different from said first and second electronic equipment, said one or more further function units enabling a conversion of the data to be transmitted from the first data format into the second data format."

Independent claim 11 relates to a corresponding method for controlling a system comprising electronic equipments connected to an electronic equipment controlling apparatus.

Reasons for the Decision

1. The appeal complies with the requirements referred to in Rule 65(1) EPC 1973 and is therefore admissible.

The application

2. The application relates to controlling audiovisual equipment to improve its interoperability (see column 2, lines 46 to 52 of the published application).

3. When a user wants to record data from one piece of equipment to another, the data formats of the equipment must match. Thus, when recording data onto a CD-R drive that can only accept MPEG 1 data, from a magneto-optical disk that outputs MPEG 2 data, an MPEG 2 to MPEG 1 conversion is required. This is generally provided by a separate converter, e.g. a PC (see columns 1 and 2 of the published application and Figure 30: 291).

4. The invention (see Figure 20) aims to exploit already existing converters as much as possible to perform the required conversions. Thus the above MPEG 2 to MPEG 1 conversion might be performed using an MPEG 2 to JPEG decoder (41A) already existing in the DVD player (4A) in conjunction with a JPEG to MPEG1 encoder (21A)

possibly existing in another piece of equipment, e.g. a video deck module (2A).

5. Accordingly, the control system of the invention (e.g. PC Module 1 in Figure 1) requests information over a communication line (serial bus 7) about the types and capabilities of all the units in the system (see Figures 1, 9 and column 13, line 8 to 45). Thus, for example, the above-mentioned DVD player reports that it has an MPEG 2 decoder that has an MPEG 2 data input and a JPEG output (Figure 13). When the user selects a source and destination equipment for a recording operation (Figures 18, 19 and column 15, line 52 to column 17, line 20), the system uses this information to “search” for a suitable copy route (column 17, line 21 to 45), such as the above-mentioned path via the MPEG 2 to JPEG decoder in the DVD player and the JPEG to MPEG 1 encoder in the MPEG video deck module (Figure 20).

Document D1

6. It is common ground that D1 also concerns a versatile system for controlling multimedia devices. It essentially uses a communication line to determine control information stored in peripheral devices and control the devices (see column 1, lines 38 to 57). The Board therefore considers D1 as the closest prior art. The Board is not convinced by the appellant’s argument that there must be an inventive step because a document is not the "closest" prior art. In the Board’s view, that might apply if the document is an unrealistic starting point, but that can hardly be said to be the case here since, as mentioned above, D1, like the

invention, relates to controlling multimedia devices over a communication line.

7. The bulk of D1 is concerned with the idea of representing the multimedia devices as objects sending their own functions and control means to the controller, which eliminates the need for the controller to have device drivers and application software for every possible device (column 6, line 54 to column 7, line 5).

8. The "second" embodiment of D1 starts in column 29 with an abstract description of a data transfer between multimedia devices. There is a specific example of a transfer from a digital camera to a digital VTR at column 34, line 40. These devices are capable of “accepting” a number of formats as shown in Figures 51(a) and (b), respectively. The user can drag a cursor from one device to the other in the interface of Figure 36 and, if matching formats are found, a link is formed to enable the transfer (column 31, lines 15 to 32). The linking process is shown in Figure 39. In step S3 of this processing there is what is described at column 35, lines 26 to 44 as a "search" for a coincident file type, which in the specific case is a so-called Movie2 format. The embodiment also describes at column 38, lines 8 to 15, that on the basis of the link information, the data transmitting means in the camera output object “converts” the file type of the read data into the file type Movie2. This involves selecting a Movie2 format converter from the converters available to the digital camera.

9. The third embodiment starting at column 39, line 11 describes a multimedia controller that essentially has

software to control and display all the devices in the system instead of individually as in the previous embodiments. This software can be a user interface for displaying and editing connections between devices (Figure 44 and column 40, lines 7 to 40). The controller determines whether links are valid in the same way as in the above mentioned Figure 39 (column 42, lines 31 to 46), and thus automatically adjusts the file formats (column 43, lines 17 to 22).

Inventive step

10. The examining division found that claim 1 of the then second auxiliary request, which was the most limited claim, lacked an inventive step starting from D1.

11. The invention essentially differs from D1 in that the control means searches for a route in one or more further function units to enable a conversion between the two units if their data formats do not match.

12. The examining division formulated the problem at point 2.4 of the decision under appeal as how to generate a route that allowed traffic to be carried between units when the formats did not match. In the Board’s view this formulation assumes that the skilled person would recognise that if it is not possible to connect two devices using the interface of Figure 44 of D1, this is due to the fact that the formats do not match and that the skilled person would then try to solve this problem. The Board accepts that these assumptions are basically correct.

13. The division considered that the skilled person would solve this problem by manually selecting a route. The existence of and the arrows on the links in the interface of the third embodiment shown in Figure 44 of D1, which show the data sending and receiving relationships between the devices, would show which routes were possible. Thus, forming a route between any two devices was merely a matter of finding allowable links on the interface. This was implicitly a "search" for further function units. It was not considered inventive to automate this procedure.

14. However, at least the presently worded claim 1 specifies in the last feature a "search for the route enabling the transmission of data comprises searching the information concerning the function units for one or more further function units *in* electronic equipment different from said first and second electronic equipment" (with Board's emphasis). In the Board's view, this defines a search that not only considers the regular conversion capabilities of the transmitting and receiving devices such as those shown in Figure 44 of D1, but also conversion possibilities *inside* any devices already present in the system, for example an MPEG2 to JPEG converter in a DVD player, as mentioned above. As set out in claim 1, all of these converters or function units are individually accessible, and their capabilities are communicated to the controller, thus allowing the search for a specific transmission route by the controller. In the Board's view, D1 does not allow access to converters inside devices, so that the examining division's manual "search" would not find one. Thus, the mere automation of such a manual operation would not result in the claimed functionality.

15. Furthermore, the appellant's amendment to search in electronic equipment "different" from said first and second electronic equipment also avoids a possible interpretation that the "search" mentioned in the second embodiment of D1 (see point 8, above), which is in fact only an attempt to match the available output formats with the accepted input format between the two pieces of equipment involved, falls under claim 1, as initially discussed in the Board's communications.

16. In the Board's view, D1 does not provide any hint to modify the system to search for further function units in different existing electronic equipment either. Faced with the problem of trying to find a route between units in the interface of Figure 44 of D1 when the formats do not match, and even after possibly trying different routes through other equipment, the Board finds no suggestion of exposing any internal converters for consideration in such a route. Setting up valid links between devices in Figure 44 may involve finding a compatible format between the devices, but will only ever result in the regular overall function of the receiving device, e.g. amplifier 376 amplifying the data from the CD player 371 or display 373 displaying the data from the VTR 372. There is no indication or hint in D1 that such regular overall functions can be bypassed for format conversion purposes. In the Board's view, the skilled person would at most only consider adding a separate converter to convert between the two formats as already known from the prior art.

Document D4

17. Although not mentioned in the reasoning of the decision, according to the minutes at point 8, the examining division discussed D4 at the oral proceedings. D4 concerns a computer system for MPEG decoding that avoids the use of expensive dedicated hardware chips by off-loading some of the decoding processes onto already available elements in the computer system, such as the microprocessor and graphics accelerator (see page 2, line 28 to page 3, line 24). The examining division apparently considered that the skilled person would apply this specific idea, or the general idea of utilising already available elements, to the system of D1 and make the internal converters available in the search for a route.

18. In this case, however, the Board finds that this would not be obvious to the skilled person. Firstly, the Board agrees with the appellant that the skilled person faced with the problem of finding a route between consumer units in an audio-video control system would not consider D4, which concerns the internal construction of an MPEG decoder. Thus the Board considers that D4 can at best only be used to show the generally known principle that it is a good idea to construct systems making use of already available elements. However, the Board again agrees with the appellant that this would only result in a *static* use of the elements, for the purposes of constructing a specific device. In the Board's view what is missing from the prior art is the idea of an *adaptive* use of the elements, being checked for each new route, for which another general principle would need to be found

and invoked. Similarly, the Board investigated arguments that the general principle of object-oriented reuse would lead to making the objects representing the converters available outside their host device. Here, however, the Board comes to the conclusion that this analogy is too abstract to be applicable to the present situation without a further suggestion for the skilled person to apply the principle.

19. Accordingly, in the Board’s view claim 1 involves an inventive step (Article 56 EPC 1973). The same applies to corresponding method claim 11.

20. In appeal, claim 1 has been further clarified to specify that the control system actually comprises the electronic equipments, rather than “for being connected” to them. The dependent claims have been amended accordingly. The description has been brought into line with the claims, in particular by deleting the duplication of various features of the claims, but keeping the specification of the advantages of those features. Accordingly, the Board considers that the application is in a state for grant.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to grant a patent on the basis of:
   - claims 1-20 of the main request filed during the oral proceedings before the Board,
   - pages 6-13, page 60 of the description filed during the oral proceedings before the Board,
   - pages 1-4, pages 18-59 as originally filed, original pages 14-17 being deleted,
   - page 5 filed with letter of 22 May 2009,
   - drawings as originally filed.

The Registrar: The Chairman:

T. Buschek S. Steinbrener