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Datasheet for the decision of 14 September 2012

Case Number: T 2483/11 - 3.5.04

Application Number: 03719229.1

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Title of invention:
RECORDING DEVICE AND RECORDING METHOD

Applicants:
Sony Corporation
Pioneer Corporation

Headword:

Relevant legal provisions:
EPC 1973 Art. 56

Keyword:
Inventive step - (no)

Decisions cited:

Catchword:

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Case Number: T 2483/11 - 3.5.04

D E C I S I O N
of the Technical Board of Appeal 3.5.04
of 14 September 2012

Appellant I: (Applicant 1)	Sony Corporation 1-7-1 Konan Minato-ku Tokyo 108-0075 (JP)
Appellant II: (Applicant 2)	Pioneer Corporation 1-1, Shin-ogura Saiwai-ku Kawasaki-shi Kanagawa 212-0031 (JP)
Representative:	Haines, Miles John L.S. D Young & Co LLP 120 Holborn London EC1N 2DY (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted 27 July 2011 refusing European patent application No. 03719229.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: F. Edlinger
Members: R. Gerdes
C. Vallet

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division to refuse European patent application No. 03719229.1.

II. In the decision under appeal the examining division held *inter alia* that the application did not comply with Articles 54(1) and (2) EPC because the subject-matter of claim 1 of the main and of the auxiliary request was not new in view of prior art document

D1: US 6 215 746 B1.

III. Together with the statement setting out the grounds of appeal the appellants filed amended claims according to a main and first to third auxiliary requests.

IV. In a communication annexed to the summons to oral proceedings the board expressed doubts, concerning at least the main request and the first auxiliary request, that the claimed subject-matter involved an inventive step (Article 56 EPC 1973).

V. With a letter of reply dated 26 June 2012 the appellant filed claims according to a fourth auxiliary request.

VI. Oral proceedings were held on 14 September 2012. After discussion of the different requests the appellants withdrew the fourth auxiliary request and submitted as their final requests that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the main request or one of the first to third auxiliary requests, all filed with the statement of grounds of appeal.

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

"A recording apparatus (1) operable to manage a program area according to a management table recorded in a predetermined area of a recording medium (2) to record a desired file to the program area, the apparatus (1) comprising:
a management information generating means operable to generate management information for the file;
a recording means (18, 19, 20, 21) operable to record the file in combination with the management information for the file to the program area; and
a control means (4) operable to control the operations of at least the management information generating means and recording means;
the control means being operable to control the management information generating means and recording means to:
record, when the file is a moving picture file having a format for reproduction by a dedicated reproducing apparatus for the recording medium, the moving picture file in combination with the management information to the program area, while recording the address of the management information to the management table;
record, when the file is an extension file other than the moving picture file, the extension file in combination with management information for the extension file to the program area with selection of a recording format for the extension file, the format for the extension file being different from the format of the moving picture file;
record guide information for the extension file, including at least the address of the extension-file management information, to the recording medium; and
record the address of the extension-file guide information to the management table,

wherein the control means is operable to control the operation of the management information generating means and the recording means on the basis of the management table to:
generate first file management data from the management information for the file together with the management information for all files recorded in the recording medium, and
record the first file management data to a first management information recording area of the recording medium; and
generate second file management data from the management information for the file and the management information for only the moving picture files recorded in the recording medium, and record the second file management data to a second management information recording area of the recording medium; and
wherein the control means is operable to select a recording format for the file and management information by recording the file and management information, when the file is the moving picture file, in such a manner that the moving picture file management information, moving picture file and backup information for the management information are recorded sequentially, and when the file is the extension file, in such a manner that the extension file and extension-file management information are recorded sequentially."

VIII. Claim 1 of the first auxiliary request is distinguished from claim 1 of the main request in that the last paragraph of claim 1 reads (amendments to claim 1 of the main request have been indicated by "underlining" the new or amended passages and by "striking through" the omitted passages):

"wherein the control means is operable to select a recording format for the file and management information by recording the file and management information, when the file is the moving picture file, in such a manner that the moving picture file management information, moving picture file and backup information for the management information are recorded ~~sequentially~~ next to one another, and when the file is the extension file, in such a manner that the extension file and extension-file management information are recorded ~~sequentially~~ next to one another."

IX. Claim 1 of the second auxiliary request differs from claim 1 of the main request in that the following feature was appended to the claim:

"wherein the control means is operable to record, when recording management information for an additionally recorded extension file, the management information for the already recorded extension file together with that for the added extension file next to the added extension file, and update the extension-file guide information for correspondence to the management information recorded together."

X. Claim 1 of the third auxiliary request results from the attachment of the above feature to claim 1 of the first auxiliary request.

XI. The appellants' arguments with respect to novelty and inventive step can be summarised as follows:

Re: main request and first auxiliary request

There is no teaching in D1 that extension files and their management information are recorded sequentially on the medium. In particular, figure 23 of D1 shows a directory structure. The fact that "specific management/control information" and "specific object information" are stored as two files in the same directory does not imply that these files are stored sequentially in the sense of "next to one another" (first auxiliary request) on the medium. The sequence of steps shown in the flow chart of figure 27 furthermore has no implications on the physical position of files on the medium.

The distinguishing feature can provide for improved space management of the recordable area on the medium and potentially quicker access to the data represented by the extension files. While D1 is silent on the physical location of the files, this effect is disclosed in the present application (see pages 47 to 51, in particular, page 48, lines 8 to 12 and page 51, lines 10 to 13). Also figures 1 and 2 of the present application, which refer to the DVD video format of previously known optical disks are not to be understood as showing content being recorded sequentially in the sense of "next to one another". Instead, the figures refer to the layout of zones or annular regions on the disk, i.e. to placeholders for content, which does not imply that the content is recorded sequentially.
It is accepted that it may be natural, as a general consideration, to record moving picture data sequentially on a DVD. However, the constraints for storing computer readable data are different as is commonly known from file systems for magnetic disks.

Re: second and third auxiliary requests

The additional feature of claim 1 refers to the embodiment of figure 7 of the application. This embodiment provides a convenient way of keeping the extension-file management information together on the storage medium as a contiguously stored group of data. It would be impractical to split the extension file management information between disk locations if additional data were to be added to existing extension-file management information. It would be similarly impractical to shuffle other recorded data to new positions so as to make room for the additional data or to reserve a large amount of disk space for extension files.

The alternative to split or fragment management information between disk locations is commonly used for computer file systems and would be the natural choice for the skilled person. The recording apparatus of claim 1 of the second auxiliary request provides the technical effect that the "management information can be accessed in one place", which ensures a quick access. It also prevents the optical disk "from being accessed frequently" (see page 48, lines 8 to 12 and page 51, lines 6 to 13). The same is true for the third auxiliary request where the expression "next to one another" has been used in claim 1 to clarify the term "sequentially".

Reasons for the Decision

1. The appeal is admissible.

2. *Main request*

2.1 It is common ground that document D1 constitutes the closest prior art.

D1 discloses a recording apparatus, such as a DVD recorder, which comprises management information generating means, recording means and control means (figure 10: 1536, 101, 1530 and column 16, line 59 to column 17, line 15). A first part of the recorded information (common information 2001 according to the terminology of D1) complies with the DVD video standard and may therefore be played back by a multitude of DVD players from different manufacturers (see figure 12, column 2, lines 38 to 48 and column 26, line 61 to column 27, line 48). This common information is separated into management/control information 2005, 1011 and object information including video information 2007, 1012, which contains data from moving picture files (see column 8, lines 66 and 67). Both the management/control information and the object information as well as backup information for the management/control information are each stored in a single file and "continuously recorded in a single file" on the DVD (see figure 1: 1011, 1012, figure 2 and column 36, lines 7 to 22). The appellant has not contested that these passages disclose that these pieces of information are "recorded sequentially" in the context of the moving picture file (DVD format).

D1 also discloses recording the address of the management/control information to a management table (anchor pointer 1015), which is stored at the beginning of the audio and video data area 1009 and, hence, in a predetermined area of the disk (see figure 1: 1015 and column 5, lines 56 to 61).

To allow for extensions of the DVD standard, D1 discloses storage of information pertaining to a specific manufacturer. This specific information is stored separately from the common information and divided into specific object information, which corresponds to an extension file in the present application, and specific control information corresponding to management information for the extension file (see column 27, lines 9 to 48). The specific object information is not restricted to moving picture files but may also contain program data (see column 47, line 64 to column 48, line 2). In addition, guide information for the extension files is stored as first priority link designation information for the specific information (see figures 13A-C: 2055). This guide information is contained in the link information and thus stored as an element of the control information 1011 (see column 36, lines 48 to 64). It follows that the guide information is indirectly referenced by the anchor pointer 1015 corresponding to the management table of the present application.

D1 also discloses first and second file management data generated from management information for all files recorded on the medium and for only the moving picture files, respectively. Both the first and second file management data are recorded to respective recording areas on the medium (see figure 1, column 7, lines 4 to 10 and column 12, lines 11 to 37).

2.2 As a consequence, D1 discloses all the features of claim 1 except for the feature that "the control means is operable to select a recording format for the file and management information by recording the file and management information", "when the file is the

extension file, in such a manner that the extension file and extension-file management information are recorded sequentially".

2.3 The appellants argued that the distinguishing feature has the technical effects of improved space management of the recordable area on the medium and potentially quicker access to the sequentially recorded data. However, a significant effect of an improved space management can hardly be achieved by sequential recording of management and file information because management information is insignificant in terms of required storage space. With respect to the second effect the board holds that, contrary to the appellants' assertion, quicker access to a sequentially recorded extension file and associated management information is not explicitly disclosed in the application as filed. The application relates to the effect that "a desired one of recorded files can be searched more quickly" (see page 6, last paragraph). The passages on page 48, lines 8 to 12 and page 51, line 10 to 13 relate to the latter effect in the context of the extension-file management information, which is stored "in one place" such that it may be read in one piece. However, quick access to management information being recorded in one place and as a single file is not the same as quick access to sequentially recorded files. Hence, a technical effect originating from sequential recording of an extension file and the extension-file management information is not explicitly addressed by these passages.

2.4 It is established case law that as a matter of principle, any effect provided by the invention may be used as a basis for reformulating the technical problem, as long as that effect is derivable from the

application as filed. Regarding the effect of the invention, reformulation of the problem can be allowed provided the skilled person could recognise the same as implied or related to the problem initially suggested (see Case Law of the Boards of Appeal of the European Patent Office, 6th edition, 2010, section I.D.4.4).

2.5 The board considers the adverse effect of fragmentation of recorded information on access time to be well known in the art. As a consequence, the skilled person would regard it to be implied in the application that the access time to the extension file together with its associated management information can be reduced if these pieces of information are stored sequentially, in the meaning of next to one another, thereby avoiding a search for this information across different places on the disk (and corresponding head movements). Hence, the technical problem can be regarded as how to reduce the access time for the extension file and associated management information.

2.6 D1 discloses that moving picture file management information and associated moving picture files are each stored in a single file and are continuously recorded on an optical disk (see point 2.1 above). Similarly, the present application refers to the conventional restricted overwrite (ROW) method. According to this method, video title sets (VTS) consisting of moving picture files (VTSTT VOBS) and associated management information (VTSI, VTSM VOBS) are "sequentially recorded" (see figure 2 together with pages 4 and 5). Moreover, as set out above (see point 2.5) the skilled person was aware of the adverse effect of fragmentation of information. Thus, it would have been obvious to the skilled person also to apply

sequential recording to an extension file and associated management information.

2.7 As a result, starting from D1 the skilled person would have arrived at the subject-matter of claim 1 without an inventive step (Article 56 EPC 1973).

3. *First auxiliary request*

3.1 Claim 1 of the first auxiliary request is identical in substance to claim 1 of the main request, except that the term "sequentially" has been replaced by "next to one another". To take account of this situation, the board has already based its reasoning in section 2 above on the more limited interpretation of this term.

3.2 Hence, for the reasons given above (see point 2), the subject-matter of claim 1 according to the first auxiliary request also lacks an inventive step (Article 56 EPC 1973).

4. *Second auxiliary request*

4.1 The additional feature of claim 1 according to the second auxiliary request refers to the embodiment of figure 7 and pages 30 and 31 of the description. According to this embodiment and as specified in claim 1, extension-file management information (DK, CI, EXF1 to EXF3) is recorded next to the corresponding extension files (EF1 to EF3). If one or more additional extension files (EF4 to EF6) are recorded after recording of the extension-file management information is finished, management information relating to all extension files together (CI, EXF1 to EXF6) is generated and recorded next to the additional extension files. The previously recorded extension-file

management information is discarded by updating the pointer to the extension-file management information in the extension-file guide information (TE).

4.2 D1 discloses that the extension-file management information relating to extension files of a specific manufacturer may be recorded as a single file (see column 37, lines 39 to 57 and column 38, lines 1 to 18). However, it is not disclosed how this file is modified if extension files are added to previously recorded ones. The corresponding feature of present claim 1 ensures that the extension-file management information is always recorded in one place. This provides the technical effect that the extension-file management information can be accessed in a short time (see, for example, page 48, lines 8 to 12 and page 51, lines 10 to 13). The corresponding technical problem can be regarded as how to reduce the access time for the extension-files and associated management information in an efficient manner when additional extension files are to be recorded (updating).

4.3 The board holds that the skilled person only has a limited number of options for how to update the extension-file management information when additional extension files are recorded. Apart from the proposed solution, and as argued by the appellants, the management information could be split between disk locations, other data could be shuffled to new positions so as to make room for the newly added management information or a sufficient amount of disk space could be reserved for the extension-file management information from the beginning. It would have been apparent to the skilled person that each of these solutions has its advantages and disadvantages. In particular, the disadvantages of fragmentation of

files are considered to be well known to the skilled person. The skilled person would therefore have considered recording the added extension files and the updated extension-file management information sequentially.

4.4 Hence, the subject-matter of claim 1 according to the second auxiliary request lacks an inventive step (Article 56 EPC 1973).

5. Third *auxiliary request*

5.1 Claim 1 of the second auxiliary request and claim 1 of the third auxiliary request are identical in substance, except for the replacement of the term "sequentially" by "next to one another". Since the board has already taken account of this more limited meaning of sequentially (see point 3.1 above), the reasons given under point 4 above equally apply.

5.2 It follows from the above that the subject-matter of claim 1 according to the third auxiliary request lacks an inventive step (Article 56 EPC 1973).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

K. Boelicke F. Edlinger

Decision electronically authenticated