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BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

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File Number: 616/91 - 3.5.2

Application No.: 85 201 497.6

Publication No.: 0 177 088

Title of invention: Compact disc player

Classification: G11B 17/22

DECISION
of 6 April 1992

Applicant : N.V. Philips' Gloeilampenfabrieken

Headword:

EPC Articles 52(1) and 56

Keyword: "Inventive step (main request and auxiliary requests 1 to 6 - no"; "auxiliary request 7 - yes")

Headnote

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number : T 616/91 - 3.5.2

D E C I S I O N
of the Technical Board of Appeal 3.5.2
of 6 April 1992

Appellant : N.V. Philips' Gloeilampenfabrieken
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Decision under appeal : **Decision of Examining Division of the European Patent Office dated 14 May 1990 refusing European patent application No. 85 201 497.6 pursuant to Article 97(1) EPC.**

Composition of the Board :

Chairman : E. Persson
Members : A. Hagenbucher
M. Villemin

Summary of Facts and Submissions

I. The appeal contests the decision of the Examining Division to refuse Appellant's European patent application No. 85 201 497.6 on the ground that the subject-matter of Claim 1 then on file did not involve an inventive step having regard to general knowledge and the following prior art documents:

D1: US-A-4 180 838,
D2: DE-A-3 310 422,
D3: GB-A-2 016 789 and
D4: FR-A-2 531 799.

II. In a communication accompanying summons to oral proceedings, the Rapporteur expressed doubts whether the subject-matter of Claim 1 on file involved an inventive step.

III. In preparation of oral proceedings held on 12 February 1992 the Appellant filed on 14 January 1992 two new sets of claims, one containing a main request (Claims 1 to 6) and six auxiliary requests (see below) and the other a seventh auxiliary request (g).

The following combinations of claims of the first set should be considered as auxiliary requests 1 to 6:

(1) combination c (Claims 1 and 4);

(2) combination a (Claims 1 and 2);

(3) combination b (Claims 1, 2 and 3);

(4) combination d (Claims 1 and 6);

(5) combination e (Claims 1, 4 and 5);

(6) combination f (Claims 1, 4, 5 and 6).

IV. The first set of claims and the independent claim of the second set (as amended during the oral proceedings) read as follows:

First set of claims

"1. Compact disc player for playing pieces of audible information recorded on a plurality of compact discs (9) in a sequence, the player comprising means (1) for storing a plurality of compact discs (9), entry means (81) for manually entering disc selection numbers, means (3,4) for playing the compact discs (9) indicated by the disc selection numbers supplied to the control means (5,6), characterized in that the player is provided with entry means (81) for manually entering music piece numbers, with means for playing from the selected compact disc the music piece indicated by a music piece selection number supplied to the control means under control of the control means, with random number generating means (82,83) for randomly generating disc selection numbers and music piece selection numbers, selection means (84) for manually selecting whether the randomly generated disc selection numbers and music piece selection numbers or the manually entered disc selection numbers and music piece selection numbers are supplied to the control means for causing a playback of the music piece indicated by the disc selection number and music piece selection number supplied to the control means.

2. Compact disc player as claimed in Claim 1, characterized in that the means for generating disc selection numbers and music piece selection numbers are

adapted to generate a disc selection number in a first time interval and to generate a music piece selection number for the disc indicated by the selected disc selection number in a time interval after the generation of the disc selection number has been terminated.

3. Compact disc player as claimed in Claim 2, characterized in that the player is provided with means for reading the total number of music pieces recorded on a disc before the music piece selection numbers are randomly generated for that disc, the means for generating the music piece selection numbers being adapted to randomly generate music piece selection numbers within a range determined by the total number read.

4. Compact disc player as claimed in Claim 1, 2 or 3, characterized in that the control means is adapted to prevent the playback of music pieces already played in the current sequence of playing.

5. Compact disc player as claimed in Claim 4, characterized by a memory for storing random generated numbers to be used to controlling the sequence of playing, the control means are adapted to prevent the playback of music pieces already played in the current sequence on basis of the random generated numbers stored in the memory.

6. Compact disc player as claimed in Claim 1, 2, 3, 4 or 5, characterized in that the player is provided with a program memory, the control means (5,6) comprising means for playing music pieces in a sequence defined by the contents of the program memory, the player being further provided means (81) for storing in the program memory the disc selection numbers and music piece selection supplied to the control means."

Second set of claims (auxiliary request g)

"1. A compact disc player for playing pieces of audio information recorded on a plurality of compact discs (9) in a selected sequence, the player comprising means (1) for storing a plurality of compact discs, means (2) for selecting one of the compact discs, means for selecting a music piece on a selected compact disc means (3,4) for playing the selected compact disc under control of control means, storage means for indicating the selected sequence, characterized in that it has random number generators (82,83) for disc and piece selection, a disc memory (in5) and a piece memory (in5), and comprises means for performing the steps of

(a) generating in the random number generator (82) for disc selection a sequence of disc selection numbers (1 to 20) and storing these random numbers generated for the first time in successive addresses on the disc memory;

(b) selecting the disc according to the disc selection number of the first address in the disc memory;

(c) generating in the random number generator for piece selection a sequence of piece selection numbers (1 to 15) and storing these random numbers generated for the first time in successive addresses of the piece memory;

(d) playing back all the pieces defined by the respective piece selection numbers in the order of the piece number addresses;

(e) repeating the steps (b) to (d) with respectively succeeding addresses in the disc memory until the last address has been selected."

Dependent Claims 2 and 3 of the second set of claims relate to particular embodiments of the compact disc player defined in Claim 1 of this set.

V. The Appellant argued in effect that the starting point for the present invention was a compact disc player for playing background music. The problem to be solved was to prevent that the listener's attention was unintentionally led away from his main activity, e.g. by anticipation of a known sequence of music pieces. Contrary to the reasoning in the attacked decision, the teaching device of D2 could not be considered as pertinent prior art because it was an interactive system which required continuous response and the attention of the user. The purpose of random selection in D2 was completely different from that of the present subject-matter.

According to the main request the above problem was solved by the following features:

(a) a random number generator for generating disc and music piece selection numbers,

(b) selection means for determining whether manually or randomly selected music piece and disc numbers are supplied to the access control means.

This solution had the advantage that the same access control means were used for both randomly and user selected music pieces, resulting in a low number of components for the implementation of said two functional features of the compact disc changer.

Although document D3 showed random disc selection in a juke box, this prior art implemented random selection by using a random time interval and did not use random numbers as claimed. Moreover, according to D3 the access control means for the user was not used for selecting music pieces on a randomly selected disc. Hence, D3 did not disclose the use of the same access control means for random and user selection. Contrary to that, D3 suggested

that the random selection mechanism bypassed the phonograph search unit.

Random selection on the basis of random numbers instead of a selection on the basis of random time intervals had the advantage that the random numbers indicating the music pieces already selected could easily be stored. This helped to avoid that the same music piece numbers were used twice in the same sequence.

VI. The Appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request (Claims 1 to 6) or auxiliary requests 1 to 7.

Reasons for the Decision

1. The appeal is admissible.

2. Amendments

The present application documents do not contain subject-matter extending beyond the contents of the application documents as originally filed (Article 123(2) EPC). The claims of the first and second set are supported by the originally filed claim in connection with the description and drawings.

3. Since none of the cited documents shows a compact disc player with random selection for playing background music, the subject-matter of the main and auxiliary requests is new. Thus, it remains to be decided whether the subject-matter of these requests involves an inventive step.

4. Main Request

D3 describes a disc player with control means allowing either individual manual selection of music pieces (normal mode) or random selection (random mode), the latter for playing background music in the form of a sequence of music pieces which cannot be anticipated and does not unintentionally lead a listener's attention away from his main activity. The music pieces are recorded on a plurality of discs stored in a disc player (juke box). User actuated selector units 466a and 466b represent number entry means for manual disc and music piece selection. Random selection is implemented by means of a random play unit which comes into operation when line 276a is reset, especially when a selectable time elapses after the playing of a manually selected record provided that switch 524 is in the second or third position and no normal mode selection has been carried out. Exclusive manual selection is determined by the final or "off" position of switch 524 and by the selector units.

In view of the alternative facilities "normal" and "random" modes, the latter for the purpose of background music, D3 is considered as the closest prior art to the present invention, irrespective of the fact that D3 does not concern a compact disc player as indicated in the preamble of Claim 1.

Starting from D3, in the Board's opinion the objective problem underlying the present invention is seen in improving the known disc player in such a way that selection from a greater number of music pieces is possible which helps to avoid anticipation during background music.

The main step in solving this problem consists in replacing the low capacity disc player of D3 by a more

modern high capacity disc player, namely a compact disc player which was well-known on the priority date of the present application (cf. D4). It is evident that in view of the trend to use modern equipment with higher capacity in combination with the desire to avoid repetition, a person skilled in the art would replace the disc player of D3 by a compact disc player.

The following differences exist between the disc player of D3 and the subject-matter of Claim 1:

(a) whereas D3 does not teach which piece of two pieces of music on a randomly selected disc is played, the subject-matter randomly selects the music pieces on a disc;

(b) D3 teaches analog random selection, the present subject-matter carries out digital random selection by means of random number generating means.

In the Board's opinion, however, these differences are only obvious consequences of replacing the disc player in D3 by a compact disc player.

Regarding a: if random selection was restricted only to compact discs following the solution in D3, a known sequence of about 20 pieces of music on the same disc would be played. After hearing the first two or three pieces of music the further sequence of that compact disc would be anticipated. Hence, it is clear to a person skilled in the art that random selection is also necessary for the pieces on a randomly selected compact disc.

Regarding b: random selection of music pieces within a selected compact disc in the analog way described in D3 could lead to a start in the middle of a piece of music. This would attract the user's attention contrary to the

principles of background music. Therefore, a person skilled in the art would look for a random selection method of blocks of information on a disc which ensures a start at the beginning of a block of indetermined length.

A solution to this specific problem by means of random numbers is known from D2, however, which was available to a skilled person under the same classification G11 B17 as D3 and the present subject-matter.

Contrary to the Appellant's arguments in this context, it is of no relevance in this respect whether the purpose of random selection in D2 is different from that of D3 or the claimed subject-matter. Essential is only a solution for random selection allowing to start at the beginning of a block of audible information.

It is normal practice to implement several selection steps within one machine uniformly, i.e. either in an analog or digital way. If for the claimed purpose music pieces can be randomly selected only digitally on a disc, one would also digitally select the disc.

Furthermore, although contrary to the Appellant's observations, Claim 1 of the main request does not define that the same access control means are used for random and user's selection, attention is drawn to the fact that at least switch 524 and a part of random play unit 500 in D3 is a common access control means. Search unit 464 is a common control means of which only memory 350 may be bypassed.

For the above reasons, the subject-matter of Claim 1 according to the main request is considered to lack an inventive step and not to be allowable.

5. First auxiliary request (combination c)

Claim 4 adds to Claim 1 only a mere and self-evident consequence of the teaching in D3 for avoiding repetition of music pieces and is likewise unallowable. In view of the present problem it is clear that already played music pieces in a current sequence of playing should not be played again.

6. Second auxiliary request (combination a)

D2 makes it clear that for random number selection of a block from a disc the number of blocks of audible information on this disc must be known beforehand. It follows therefrom that disc selection must be carried out before music pieces can be randomly selected based on the individual number of music pieces on that disc.

7. Third auxiliary request (combination b)

According to D2 the total number of blocks of audible information is digitally stored on the disc. It is clear that instead of using additional storage space for storing the total number of blocks of information, the total number can respectively be determined by reading and counting the number of such blocks if updating of the stored total number in a separate storage space on the disc is undesirable.

It follows therefrom that Claim 3 does not add anything inventive to the second auxiliary request.

8. Fourth auxiliary request (combination d)

Figure 8 of D4 shows that compact disc players normally have programming means such as defined in Claim 6.

Hence, Claim 6 does not add anything inventive to Claim 1.

9. Fifth auxiliary request (combination e)

Reference is made in this respect to the reasons set out with respect to the first auxiliary request. In order to make sure that a selected sequence of random numbers is not repeated it is necessary to compare new sequences with old ones. It is clear that this is only possible if such sequences are stored in a memory.

10. Sixth auxiliary request (combination f)

Combination f is not inventive for the reasons given with respect to the fourth and fifth auxiliary requests (cf. paragraphs 8 and 9 above). No unforeseeable combinational effect involving an inventive step can be recognised in the features in Claims 1, 4, 5 and 6 together.

11. Seventh auxiliary request (combination g)

Claim 1 of the second set of claims defines a compact disc player with random number generators for disc and music piece selection and teaches means for storing the generated numbers in a specific sequence in a disc and piece memory and for selecting stored numbers in a specific order for playback until all music pieces randomly selected for the first time are played. Claim 1 according to this request is drafted along the lines suggested and held acceptable by the Examining Division during oral proceedings held on 12 April 1991 but is directed to a product and not a method as suggested by the Examining Division.

The Board agrees that the subject-matter of Claim 1 according to the seventh auxiliary request cannot be derived in an obvious manner from the considered state of the art and accordingly constitutes a patentable invention.

This claim, together with Claims 2 and 3 as amended during the oral proceedings can therefore serve as a basis for the grant of a patent.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Examining Division for further prosecution on the basis of

Claims:	1 to 3 of the second set of claims (auxiliary request g) as amended during the oral proceedings;
Description:	to be amended under Rule 27(1)(c) including an indication of D2, D3 and D4 in the introduction as required in Rule 27(1)(b);
Drawings:	sheets 1/5 to 5/5 as originally filed.

The Registrar: The Chairman:

M. Kiehl E. Persson

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