

BESCHWERDEKAMMERN
DES EUROPÄISCHEN
PATENTAMTS

BOARDS OF APPEAL OF
THE EUROPEAN PATENT
OFFICE

CHAMBRES DE RECOURS
DE L'OFFICE EUROPEEN
DES BREVETS

Internal distribution code:

- (A) [] Publication in OJ
(B) [X] To Chairmen and Members
(C) [] To Chairmen

D E C I S I O N
of 13 June 1995

Case Number: T 0620/94 - 3.5.2

Application Number: 85103110.4

Publication Number: 0155664

IPC: G11B 20/18

Language of the proceedings: EN

Title of invention:

Rotary head type PCM recording and reproduction method and system

Patentee:

HITACHI, LTD.

Opponent:

Mitsubishi Denki Kabushiki Kaisha

Headword:

-

Relevant legal provisions:

EPC Art. 87, 88(3) and (4)

Keyword:

"Certified translation of priority document contained additional matter not in the priority document itself - this additional matter left out of account when determining entitlement of claim to priority date."

"Claim covering two alternatives - one of which is not disclosed in the priority document."

"Prior art published between claimed priority date and filing date renders said one alternative obvious - not disputed by Proprietor."

Decisions cited:

T 0006/80, T 0081/87, T 0666/89

Catchword:

-



Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Case Number: T 0620/94 - 3.5.2

D E C I S I O N
of the Technical Board of Appeal 3.5.2
of 13 June 1995

Appellant:
(Proprietor of the patent)

HITACHI, LTD.
6, Kanda Surugadai 4-chome
Chiyoda-ku
Tokyo 100 (JP)

Representative:

Altenburg, Udo; Dipl.-Phys.
Patent- und Rechtsanwälte
Bardehle . Pagenberg . Dost . Altenburg .
Frohwitter . Geissler & Partner
Postfach 86 06 20
D-81633 München (DE)

Respondent:
(Opponent)

Mitsubishi Denki Kabushiki Kaisha
2-3 Marunouchi 2-chome, Chiyoda-ku
Tokyo 100 (JP)

Representative:

Burke, Steven David
R.G.C. Jenkins & Co.
26 Caxton Street
London SW1H ORJ (GB)

Decision under appeal:

Interlocutory decision of the Opposition Division
of the European Patent Office dated 9 March 1994
concerning maintenance of European patent
No. 0 155 664 in amended form.

Composition of the Board:

Chairman: W. J. L. Wheeler
Members: A. G. Hagenbucher
W. M. Schar

Summary of Facts and Submissions

- I. European Patent No. 155 664 was granted on European patent application No. 85 103 110.4, which was filed on 18 March 1985 claiming the priority of 19 March 1984 (JP 50915/84). The patent was opposed. The Opposition Division rejected the patent Proprietor's main request to reject the opposition and decided that the patent as amended according to the auxiliary request submitted on 22 February 1994 met the requirements of the EPC.

The Appellant (Proprietor) contests the decision of the Opposition Division to reject its main request.

- II. According to the Opposition Division, granted Claim 1 encompassed a first alternative A (specifically defined in granted Claim 3 and shown in Figures 13, 14 and 16) and a second alternative B (specifically defined in granted Claim 2 and shown in Figure 12). The Opposition Division took the view that the priority application (JP 50915/84) disclosed only alternative B with corresponding Figures 1 to 12 but not alternative A, which, consequently was not entitled to the claimed priority date, and did not involve an inventive step.

D1: EP-A-155 101 was considered relevant under Article 54(3) for designated states GB, DE, FR, and
D2: Record of the 1984 Kansai-Section Joint Convention of Institutes of Electrical Engineering, November 1984, especially Figure 1, and G. David Forney "Concatenated Codes" 1966, pages 56 and 57, were considered relevant under Article 54(2) and 56 EPC for alternative A.

III. Claims 1 and 3 as granted read as follows:

"1. A signal recording and reproducing method in a rotary head type PCM recording/reproducing apparatus comprising a plurality of recording/reproducing heads (10, 11) a rotatable cylinder (9) having said recording/reproducing heads mounted thereon, an analog-to-digital converter (6) for sampling an analog signal from a plurality of channels (L, R) and converting it into a digital signal, a recording signal processing circuit (7) for adding an error detection and correction code and predetermined signal to the digital signal, a recording medium (12) on which an output signal of said recording signal processing circuit is recorded by said recording/reproducing heads and from which the recorded signal is reproduced by said recording/reproducing heads, a reproduced signal processing circuit (14) for performing a processing inclusive of the error correction and concealment of the reproduced signal, and a digital-to-analog converter (15) for converting the digital output signal from said reproduced signal processing circuit into an analog signal, said method comprising, in a recording mode, the steps of:

storing the sampled digital signal from the said analog-to-digital converter while discriminating odd-numbered sample data and even numbered sample data of each said channels from each other;

reading selectively a portion of the stored sample data corresponding to a data capacity with which the sample data portion is to be recorded by the scan of two recording/reproducing heads during one rotation of said rotatable cylinder, to supply it to the two recording/reproducing heads in such a manner that the even-numbered data group and odd-numbered sample data group of each channel (L, R) are respectively recorded on two alternate tracks of said recording medium by the respective scans of two recording/reproducing heads with

one of the even-numbered and odd-numbered sample data groups of the same channel being recorded on a preceding half of one of the two tracks in the scanning direction and with the other thereof being recorded on a succeeding half of the other of the two tracks in the scanning direction; and

creating, prior to the recording of the sample data, an error detection and correction code (C2 Parity) for a part of the sample data to be recorded by the scan of one of the two recording/reproducing heads and an error detection and correction code (C2 Parity) for the remaining part of the sample data to be recorded by the scan of the other recording/reproducing head, and recording each of the created error detection and correction codes at a middle portion of the corresponding track;

and in a reproducing mode, the steps of:

storing the even-numbered and odd-numbered data of each channel reproduced from said recording medium through the two recording/reproducing heads;

reading selectively the stored data, detecting and correcting an error in the reproduced signal, and performing an error concealment for lost data, if any, based on the remaining correct reproduced data; and

converting the data after the error correction and concealment into an analog signal by said digital-to-analog converter.

3. A signal recording/reproducing method according to claim 1, wherein the sample data supplied to the two recording/reproducing heads in the recording mode includes signals from two channels (L, R) and the even-numbered sample data group of one of the two channels and the odd-numbered sample data group of the other channel are respectively recorded on the preceding and succeeding halves of one of two adjacent tracks in the scanning direction with the error detection and correction code created from those data groups and

recorded in the middle portion of the one track, while the even-numbered sample data group of the other channel and the odd-numbered sample data group of the one channel are respectively recorded on the preceding and succeeding halves of the other of the two adjacent tracks in the scanning direction with the error detection and correction code created from those data groups and recorded in the middle portion of the other track."

- IV. In the appeal proceedings (in writing and during the oral proceedings on 13 June 1995) the parties were in agreement that granted Claim 1 covered two alternatives. According to the first alternative (A), even samples of one channel and odd samples of the other channel were recorded with the same head on respective halves of one track. According to the second alternative (B), even samples of two channels were recorded by one head on one track and odd samples of the two channels were recorded by a different head on a different track.

The Appellant agreed with the Respondent that the translation of the priority document JP 50915/84 filed by the Appellant included a passage which had no counterpart in the JP priority document, namely on page 10, lines 15 to 18, the passage "or alternatively ... scan for two channels", and that the translation of the priority document had to be considered without the passage.

- V. The Appellant essentially argued that the priority document JP 50915/84, without the text on page 10, lines 15 to 18 ("or alternatively ... scan for two channels") of the translation, disclosed the invention as defined in Claim 1 in the version of the granted patent. For deciding whether an invention was disclosed in a priority document, the priority document had to be

considered as a whole. According to the Guidelines it was not necessary that the elements of the invention for which priority was claimed could be found in the claims of the priority document. Furthermore, an exact correspondence between the disclosure of the priority document and the claim in question was not required. It was enough that, on reasonable assessment, there was in substance a disclosure of all the elements of the claim. The subject-matter of the claim must be derivable directly and unambiguously from the disclosure in the priority document, when account was taken of any features implicit to a person skilled in the art in the light of what was expressly mentioned in the document. According to decision T 6/80 and T 666/89 the disclosure of a priority document extended to the technical teaching which was immediately apparent to a person skilled in the art. It was clear from the prior art and the object of the invention as described in the priority document, that with previously known signal formats the recorded signal could not always completely be picked up, especially if one of two paired magnetic heads was jammed. It was therefore the object of the invention to provide a recording and reproducing system for a rotary head type PCM recorder which allowed the reproduction of an analog signal with an adequate sound quality for practical applications even when no signal was produced by one of the magnetic heads. According to the priority document the invention consisted in recording and reproducing the odd numbered data by one head provided for one channel and recording and reproducing the even numbered data by the other head for the other channel. The data was so formatted as to be completed in two fields, while the code for error detection and correction was arranged to be completed on a single-field basis ("data-double-scan-completion type format" and "error code-single-scan-completion type format"). It could be seen from the priority document, especially

Figure 8, that the "data-double-scan-completion type format" concept comprised an embodiment in which left channel data (L) and right channel data (R) were recorded in separate areas, respectively, on the magnetic tape. A person skilled in the art would immediately recognise that the "data-double-scan-completion type format" was not limited to the format shown in Figure 8, but also embraced other formats where even samples of one channel and odd samples of another channel were recorded on one track by the same head. The inclusion of the two alternatives A and B in the disclosure was also clear from the fact that the priority document referred in the description only to preferred embodiments and examples of the generally defined invention and indicated that the invention was not restricted exactly to the described formats and numerical values, but could be implemented in other format structures in combination with other numerical values or dimensions to a similar effect.

VI. The Respondent argued that the Appellant wrongly applied an obviousness test for priority and not the correct novelty test. The priority document disclosed three significant features:

- (i) Recording even samples using one head and odd samples using a different head,
- (ii) completing the data in two fields and
- (iii) completing the error detection/correction code within a single field.

The Appellant had tried to establish that the skilled person would recognise that only features (ii) and (iii) were necessary and that feature (i) was not. However, from page 11, lines 11 to 22 of the Appellant's translation of the priority document it was clear that by dividing or classifying the data according to

feature (i), even when one of the heads did not produce any signal, either the even data signal or the odd data signal among the sampled and recorded data signals could still be reproduced by the other head and any lost odd data could be reconstructed through average value interpolation based on the even data and vice versa. A person skilled in the art would conclude therefrom and also from Claim 1 of the priority document that feature (i) was essential. Moreover, alternative A was not an obvious modification of alternative B disclosed in the priority document.

- VI. The Appellant requested that the decision under appeal be set aside and that the patent be maintained as granted. The Respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.
2. The Appellant has not contested the relevance of document D2 for alternative A established in the impugned decision if alternative A is not entitled to the claimed priority of 19 March 1984. For deciding whether the patent can be maintained in the granted version or not, the only question at issue is therefore whether alternative A encompassed by the wording of granted Claim 1 and more specifically defined in granted Claim 3 is entitled to the priority date.

3. *Priority (Articles 87 and 88 EPC)*

- 3.1 The right to priority is governed by Article 87 EPC which requires that a European patent application and the application whose priority is claimed (priority document) relate to the same invention, i.e. to the same subject-matter. Claiming priority is governed by Article 88 EPC. The main criterion in this respect is whether the elements of the claimed invention are disclosed in the priority document as a whole (cf. Article 88(3) and (4) EPC). According to decision T 81/87 (OJ EPÜ, 1990, 250) the disclosure of the essential elements "must either be express, or be directly and unambiguously implied by the text as filed."
- 3.2 In the present case, it is not in dispute that the priority document teaches the significant features (ii) and (iii) (see paragraph VI above). The Board agrees with the Opposition Division that the priority document teaches also feature (i) as an essential feature. It is clear from the summary of the invention on page 10 of the translation of the priority document, ignoring the passage mentioned in paragraph IV above, that the invention disclosed there is characterised in that "among the data as sampled, the odd-numbered data is recorded and reproduced by one head provided for one channel, while the even-numbered data is recorded and reproduced by the other magnetic head for other channel, wherein data is so formatted as to be completed in two fields, while the code for error detection and correction is so arrayed as to be completed on the single-field basis".

There is no disclosure that the data-double-scan completion type format combined with the error code-single-scan-completion type format could be implemented without feature (i).

In all the embodiments disclosed, even PCM samples are recorded on a first track using one head and odd PCM samples are recorded on a second track using a different head. This remains so when 2-channel stereophonic PCM signals are further subdivided for the alternate storage of left and right channel data, see the translation of the priority document, Claim 1; Claim 4 appended to Claim 1; page 10, line 25 until page 12, line 12 and page 12, lines 20 to 24; page 13, line 16 to page 14, line 1.

3.3 The further embodiments described in the priority document are distinguished only by the number of blocks or words or by varying the sampling frequencies. The statement on page 17 of the translation (last paragraph) "that the invention is never restricted exactly to the formats and the numerical values described above, but can be implemented in other format structures in combination with other numerical values or dimensions" is therefore to be interpreted as referring to different word lengths and sampling frequencies. The essential element of alternative A to store even samples and odd samples by the same head is neither expressly nor indirectly and unambiguously implied by the claims, description and drawings of the priority document.

3.4 Summing up, the Board agrees with the Opposition Division that the priority document contains no disclosure, express or implied, from which the skilled person could clearly and unambiguously derive alternative A. On the contrary, recording even samples and odd samples separately on different tracks by

respective heads according to alternative B is disclosed as essential for solving the technical problem "approximate reconstruction of the original analog signal with adequate sound quality when one head is jammed." In fact, alternative A is inconsistent with the teaching of the priority document.

3.5 Thus, Claim 1 as granted is not entitled to the claimed priority date.

4. As noted above, the Appellant has not contested the Opposition Division's finding that, given that alternative A is not entitled to the claimed priority date, it does not involve an inventive step having regard to the prior art known from D2. In these circumstances, the patent cannot be maintained unamended, and the Appellant's request cannot be granted.

The decisions T 6/80 (OJ EPO 1981, 434) and T 666/89 (OJ EPO 1993, 495) cited by the Appellant do not throw any light on the question of entitlement to priority or contain anything which could outweigh the above reasoning, which is in line with T 81/87.

5. The Respondent has not challenged the presently amended form of the patent, which the Opposition Division decided met the requirements of the EPC. The patent is therefore to be maintained in that amended form.

Order

For these reasons it is decided that:


The appeal is dismissed.

The Registrar:



M. Kiehl

The Chairman:



W. J. L. Wheeler

