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**D E C I S I O N**  
**of 29 July 2004**

**Case Number:** T 0349/03 - 3.5.3

**Application Number:** 92102686.0

**Publication Number:** 0500049

**IPC:** G11B 20/10

**Language of the proceedings:** EN

**Title of invention:**

Recording apparatus, and recording/reproducing system

**Patentee:**

CANON KABUSHIKI KAISHA

**Opponent:**

Koninklijke Philips Electronics N.V.

**Headword:**

Recording apparatus/CANON

**Relevant legal provisions:**

EPC Art. 52(1), 54(1), (2), 56, 108

**Keyword:**

"Novelty (yes)"  
"Inventive step (no)"  
"Form of appeal - missing statement of grounds (Appeal II)"

**Decisions cited:**

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**Catchword:**

-



Case Number: T 0349/03 - 3.5.3

**D E C I S I O N**  
**of the Technical Board of Appeal 3.5.3**  
**of 29 July 2004**

**Appellant I:** Koninklijke Philips Electronics N.V.  
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**Appellant II and  
Respondent:** CANON KABUSHIKI KAISHA  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
30 January 2003 concerning maintenance of  
European patent No. 0500049 in amended form.

**Composition of the Board:**

**Chairman:** A. S. Clelland  
**Members:** A. J. Madenach  
M.-B. Tardo-Dino

## Summary of Facts and Submissions

I. This is an appeal against an interlocutory decision by the opposition division, posted on 30 January 2003, that European Patent No. 0 500 049 in amended form met the requirements of the EPC.

II. The opposition was on the grounds of lack of novelty and lack of inventive step.

The following document cited in the course of the opposition proceedings is relevant for this decision:

D2: "Digital Audio Carrying Extra Information" by W.R.Th. ten Kate et al., Proc. of the ICASSP 90, April 3-6, 1990, pages 1097-1100

III. A first appeal was filed by appellant I (opponent) on 25 March 2003. The corresponding grounds of appeal were filed on 25 April 2003. Appellant I requested that the appealed decision be set aside and the patent be revoked. As an auxiliary measure oral proceedings were requested.

IV. A second appeal was filed by appellant II (patentee) on 9 April 2003. Appellant II requested that the appealed decision be set aside and the patent be maintained in the version as granted. Oral proceedings were requested as an auxiliary measure. No statement of grounds was received.

V. By a communication dated 25 June 2003 and sent by registered post with advice of delivery, the Registrar of Board 3.5.1 informed appellant II that no statement

of grounds had been filed and that the appeal could be expected to be rejected as inadmissible.

The appellant's attention was drawn to the provision concerning the late receipt of documents pursuant to Rule 84a EPC and to the possibility of filing a request for re-establishment of rights under Article 122 EPC. The appellant was invited to file observations within two months.

No answer was received within the given time limit to the communication.

- VI. With letter of 22 December 2003, appellant II requested maintenance of the patent in the version forming the basis for the decision of the opposition division and substantiated its request with arguments. The auxiliary request for oral proceedings was maintained.
- VII. With a communication of 30 April 2004, the parties were summoned to oral proceedings scheduled for 29 July 2004. In an annex to the summons, the Board summarized its preliminary position with regard to the question of novelty and inventive step.
- VIII. With letter of 29 June 2004, appellant II submitted further arguments in support of its previous request.
- IX. Oral proceedings took place on 29 July 2004. The parties maintained their requests previously submitted in writing. At the end of the oral proceedings the chairman announced the Board's decision.

- X. The set of claims according to the respondent's request comprises a first set of claims corresponding to the claims as granted for the contracting states ES, FR, GB and IT and a second set of modified claims for the contracting states DE and NL.

Independent claim 1 in the version as maintained by the decision of the opposition division for the contracting states ES, FR, GB and IT reads as follows:

A recording apparatus comprising:

- (a) input means for inputting four-channel stereophonic audio signals, the four-channel stereophonic audio signals comprising an L (L stands for left) signal for left front sounds, an R (R stands for right) signal for right front sounds and other two predetermined signals;
- (b) converting means for forming converted two-channel audio signals (L', R') by using the four-channel stereophonic audio signals input to said input means, the converted two-channel audio signals comprising a signal being obtained by adding the L signal and the two predetermined signals, wherein at least one of the two predetermined signals is weighted, and another signal being obtained by adding the R signal and the two predetermined signals, wherein at least one of the two predetermined signals is weighted;
- (c) recording means for recording the converted two-channel audio signals (L', R') on a recording medium,

characterized in that

said recording means is arranged to record the two predetermined signals to thereby form four-channel stereophonic audio signals on said recording medium.

Independent claims 7, 12, 13 and 14 in the version for the contracting states ES, FR, GB and IT relate to a corresponding reproducing apparatus, recording/reproducing system, recording method and reproducing method.

Claim 1 in the version as maintained by the decision of the opposition division for the contracting states DE and NL is further characterised in that

said input means includes an after-recording input part for inputting two-channel after-recording audio signals, and

an after-recording processing circuit is provided for performing according to a control signal a switching action by a switching means from said two predetermined signals to said two-channel after-recording audio signals so as to perform an after-recording of said input two-channel after-recording audio signals, and wherein said recording means is arranged to record the two-channel after-recording audio signals input from said after-recording input part on the recording medium in an area arranged for recording the two predetermined audio signals included in the four-channel stereophonic audio signals.

Independent claims 5, 10, 11 and 12 in the version for the contracting states DE and NL relate to a corresponding reproducing apparatus, recording/reproducing system, recording method and reproducing method.

## **Reasons for the Decision**

### *Admissibility of the second appeal*

1. As no written statement setting out the grounds of the second appeal had been filed within the time limit provided by Article 108 EPC in conjunction with Rule 78(2) EPC and the notice of appeal contained nothing that could be regarded as a statement of grounds pursuant to Article 108 EPC the Board announced at the commencement of the oral proceedings that the appeal of appellant II had to be rejected as inadmissible (Rule 65(1) EPC).

As, however, an admissible appeal was filed by appellant I, appellant II remained according to Article 107 EPC a party as of right to the appeal proceedings initiated by appellant I.

In the following, appellant I will be referred to as appellant and appellant II (patentee) will be referred to as respondent.

### *Background to the invention*

- 2.1 The present invention is concerned with the recording and reproduction of four channel sound in a manner

compatible with a two-channel reproducing device so as to provide a sound that does not differ in quality from a conventional two-channel stereophonic reproduction. A two-channel sound obtained from a four-channel signal is typically called pseudo-stereophonic sound.

- 2.2 As is known from D2, two-channel audio signals are obtained by adding to each of the input left and right front sounds two predetermined signals, C and S, at least one of the two predetermined signals being weighted.

*Interpretation of the claim*

- 3.1 In both the opposition and appeal procedures the question has arisen as to whether the feature of the characterising portion of claim 1 "said recording means is arranged to record the two predetermined signals to thereby form four-channel stereophonic audio signals on said recording medium" requires that the two predetermined signals are recorded unmodified, i.e. without any prior processing being performed on the signals.
- 3.2 According to the respondent, the wording of the claim, in which "two predetermined signals" are defined in the preamble and "**the** two predetermined signals" (emphasis by the Board) are later referred to in the characterising portion did not allow any conclusion other than that the same predetermined signals in unmodified form are meant. This was supported by table 1 of the description, in which the two predetermined signals C and S remain unaffected by the matrix processing circuit.



3.3 The Board cannot accept this interpretation for the following reasons:

Firstly, signals are never recorded unmodified on a recording medium. They are always modulated on a carrier and/or digitized before the actual recording takes place. This was not disputed by the respondent. Under such circumstances, however, it appears to be impossible to make a distinction on the basis of the claim wording between a modification of the two predetermined signals only related to their recording on a recording medium and any other modification made for other purposes. It rather appears that a reference to the recording of signals should not be understood as meaning that signals are recorded in a particular way, but that the signals are recorded in such a way that they can later be retrieved in their original form.

Secondly, the actual form in which the two predetermined signals are recorded has never played a role in solving the problem discussed in the patent in suit. The pseudo-stereophonic signals remain unaffected by the way the two predetermined signals are recorded. The full four-channel sound can be retrieved independently of whether the two predetermined signals are recorded in a modified form or not. According to the respondent, any additional operation on the two predetermined signals other than a modulation for the actual recording purpose would complicate later retrieval or result in deterioration of the resulting sound signals. The Board does not accept this argument. Simple arithmetic operations such as adding or

multiplying cannot be considered as complications or as causing a deterioration of the resulting sound signals.

Finally, the wording of the characterising portion, in particular the term "is arranged to record", is, in the Board's view, to be interpreted in the context as meaning "is suitable for recording". Thus even if for the sake of argument it is accepted that "the two predetermined signals" are the two predetermined signals without modification, the claim wording does not require that these signals are in fact recorded unmodified. The only true limitation as to the recorded signals is given by the further feature "to thereby form four-channel stereophonic audio signals on said recording medium". This feature, however, only requires that the various signals must be retrievable from the recording medium.

*Novelty and inventive step*

4.1 Document D2 is considered to represent the closest prior art.

It discloses at page 1099, right hand column, penultimate paragraph, page 1100, left hand column, lines 1 to 21, and Figure 1, an apparatus having the following features (using the wording of claim 1 in the version for the contracting states ES, FR, GB and IT of the patent in suit):

- (a) input means for inputting four-channel stereophonic audio signals, the four-channel stereophonic audio signals comprising an L (L stands for left) signal for left front sounds,

an R (R stands for right) signal for right front sounds and other two predetermined signals (C, S);

(b) converting means for forming converted two-channel audio signals ( $M_1$ ,  $M_2$ ) by using the four-channel stereophonic audio signals input to said input means, the converted two-channel audio signals comprising a signal being obtained by adding the L signal and the two predetermined signals, wherein at least one of the two predetermined signals is weighted, and another signal being obtained by adding the R signal and the two predetermined signals, wherein at least one of the two predetermined signals is weighted;

(c) means for transmitting the converted two-channel audio signals

said transmission means being arranged to transmit the two predetermined signals (see points 3.1 to 3.3 above;  $A_1$ ,  $A_2$ ; related to C and S by formulas 5C and 5D) to thereby transmit four-channel stereophonic audio signals.

4.2 The difference between the subject-matter claimed in claim 1 and the system known from D2 is, therefore, that the claimed apparatus is a recording apparatus and is used for recording the converted two-channel audio signals and the two predetermined signals; D2 on the other hand is concerned with multiplexing the signals for transmission on a transmission path T (see Figure 1) followed by de-multiplexing.

4.3 It was argued by the appellant that D2 also refers to the recording of data, see page 1099, right column, last two lines of 4<sup>th</sup> paragraph. It could, however, not be convincingly shown that this reference to recording is related to the coding discussed in the subsequent paragraphs in connection with the transmission of four-channel stereophonic sound. Nor does the Board consider that the skilled person would interpret the transmission block T shown in Figure 1 of D2 as including recording/reproducing as a form of transmission.

The Board accordingly concludes that the subject-matter of claim 1 is new with respect to the teaching of D2.

4.4 The objective problem to be solved, starting out from the teaching of D2, can be seen as providing a recording apparatus for recording the two-channel audio signals and the two predetermined signals in the transmission path. This problem is commonly encountered in the entertainment industry as most programs are pre-produced and recorded before they are actually transmitted.

4.5 The above problem can be solved in two ways: either the two-channel audio signals and the two predetermined signals are recorded in their unconverted form and conversion using the formulas 5A-5D of D2 is only performed immediately prior to transmission, or the two-channel audio signals and the two predetermined signals are stored in their converted form after conversion using the formulas 5A-5D of D2. The skilled person is more likely to choose the latter option since the converted signals require only two audio tracks,

the two-channel audio signals and the two predetermined signals being coded as a two-channel pseudo-stereo signal by the method of D2 (see in particular Figures 1 and 2). A four-channel stereophonic audio signal can thus be encoded as a two-channel pseudo-stereo signal which can be recorded with any known stereophonic recorder.

- 4.6 The respondent argued that D2 should not be considered as a relevant prior art document since its object was the transmission of extra information by use of a physiological property of human hearing, the so-called masking threshold. The Board does not agree: D2 is directed in its only explicit example towards the transformation of a four-channel sound signal into a pseudo-stereo sound signal, which can be reproduced as such or from which the original four-channel sound signal can be retrieved (see abstract, last sentence, and page 1099, right column, penultimate paragraph - page 1100, left column, line 31). Thus, D2 addresses the same problem as the patent in suit in that it discloses a system "capable of transmitting high-definition television audio signals to another apparatus, such as a 2-ch VTR, without deforming the sound image of the audio signals" (see page 3, lines 42 to 44 of the published patent).

The respondent further argued that in the system of D2 the sound image of the audio signals was deformed by the attenuation and coding process performed on the two predetermined signals and that, therefore, the system of D2 was in conflict with the problem to be solved in the patent. The Board understands the reference in the object of the patent in suit to transmitting audio

signals "without deforming the sound image of the audio signals" as meaning that the resulting reproduced sound is not distorted with respect to the original sound if it is reproduced as a four-channel sound, and that it corresponds to the pseudo-stereo sound as defined in the formulas on page 1 of the patent in suit if it is reproduced as a two-channel sound. No other meaning can be inferred from this term since audio signals on a recording medium are always processed in some way in order to allow their recording. However, D2 is also directed to the faithful reproduction of sound, which is not distorted with respect to the original sound if it is reproduced as a four-channel sound, and which corresponds to a pseudo-stereo sound as defined by formulas 5A and 5B of D2, identical to formulas on page 2 of the patent in suit, if it is reproduced as a two-channel sound.

- 4.7 The Board accordingly concludes that the skilled person would find it obvious to provide a recording facility for the apparatus of D2. The subject-matter of claim 1 in the version for the contracting states ES, FR, GB and IT therefore does not involve an inventive step.
5. Since claim 1 in the version for the contracting states ES, FR, GB and IT of the only request of the respondent does not meet the requirements of the EPC the patent is revoked.

**Order**

**For these reasons it is decided that:**

1. The appeal by appellant II (patentee) is rejected as inadmissible.
2. The decision under appeal is set aside.
3. The patent is revoked.

The Registrar

The Chairman

D. Magliano

A. S. Clelland