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D E C I S I O N
of 10 November 1999

Case Number: T 0843/97 - 3.5.2

Application Number: 88310497.8

Publication Number: 0326747

IPC: H03J 7/18

Language of the proceedings: EN

Title of invention:

Radio data system receiver

Patentee:

Pioneer Electronic Corporation

Opponent:

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Robert Bosch GmbH

Interessengemeinschaft für Rundfunkschutzrechte GmbH

Schutzrechtsverwertung & Co. KG

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56, 114(1) and (2)

EPC R. 67

Keyword:

"Novelty (yes)"

"Inventive step (no)"

"Reimbursement of the appeal fee (no)"

"Procedural violation (no)- disregarding a late filed page of
the closest prior art document - error of judgement"

Decisions cited:

T 0536/88

Catchword:

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Boards of Appeal

Chambres de recours

Case Number: T 0843/97 - 3.5.2

D E C I S I O N
of the Technical Board of Appeal 3.5.2
of 10 November 1999

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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 11 June 1997

rejecting the oppositions filed against European
patent No. 0 326 747 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: W. J. L. Wheeler
Members: F. Edlinger
B. J. Schachenmann

Summary of Facts and Submissions

I. The appellant I (opponent II) and appellant II (opponent III) lodged appeals against the decision of the opposition division rejecting the oppositions against European patent No. 326 747.

II. The independent claims 1 and 5 are worded as follows:

"1. An RDS receiver for receiving an RDS broadcast signal carrying interruption data, the RDS receiver having the function of performing an interruption based on the data received, and including controlling means (14) for sweeping the received frequency of the receiver across a received frequency band when a received broadcast signal has deteriorated and the receiver is in a state of waiting for the interruption, the controlling means (14) stopping the sweep when it has become possible to obtain a data signal from another received broadcast signal when the signal is received after the starting of the sweeping, characterised by a lock detection circuit (11) for generating a locking detection signal when a data signal can be obtained to indicate the received signal has not deteriorated, and generating an unlocking detection signal when no data signal can be obtained to indicate that the received broadcast signal has deteriorated."

"5. A method of controlling an RDS receiver capable of receiving an RDS broadcast signal carrying interruption data and which has the function of performing an interruption based on said data, including the steps of:

starting the sweeping of the received frequency of the receiver across a received frequency band when it has become impossible to obtain a data signal from a received broadcast signal in a state of waiting for the interruption; and
stopping the sweeping when it has become possible to obtain the data signal from another received broadcast signal when the data signal is received after the starting of the sweeping, characterised by:
using the output from a lock detection circuit to determine if it is still possible to obtain a data signal from the received broadcast signal or not."

III. The following documents cited in the appeal procedure will be referred to below:

D1: "Specifications of the Radio Data System RDS for VHF/FM sound broadcasting", Tech. 3244-E; Editor: R. Gressmann, Technical Centre of the European Broadcasting Union, Bruxelles, 1984.

D3: IEEE TRANSACTIONS ON CONSUMER ELECTRONICS, vol. CE-33, No. 3, August 1987, pages 319-326; New York, NY, US; K. TAURA et al.: "Automatic tuning car radio based on the radio data system"

D6a: Manual "Berlin IQR 83", cover sheet and page 32

D6b: Manual "Hamburg SQM 23", cover sheet and page 16

D6a and D6b were filed by appellant I with the statement setting out the grounds of appeal. A complete copy of D1 was filed by appellant II with the letter dated 23 July 1999.

IV. The contested decision held that the features of the characterising portions of claims 1 and 5, in particular a lock detection circuit, were neither disclosed in D1, nor suggested by any of the documents cited by the opponents. The term "better signal" on page 29, point 1, of D1 did not disclose the use of the data section of the signal and did not necessitate a deterioration of the previously received signal (point II, 3.1 of the contested decision). The contested decision (page 9, third paragraph) further expressed the opinion that the opponents had not conclusively shown that it would be obvious to utilise, independently from any other criteria, the lack of reception of a data portion to generate an unlock signal and to start sweeping. The argument that both a better signal and reception of a programme identification code had to be fulfilled for a valid lock according to D1 (page 29, point 1) was dismissed on the ground that D1 disclosed a lock onto a new station based on a programme identifier but did not disclose starting a new sweep if all were in order with the received signal and then later the data part of that signal became "poorer in quality" (point II, 4.4 of the contested decision).

The reasons for disregarding page 6 of D1 filed during the oral proceedings before the opposition division referred to "new argumentation at a very late stage" and insufficient relevance because page 6 only showed "general knowledge" (point II, 2.3 of the contested decision).

V. Oral proceedings were held on 10 November 1999.

VI. Appellant I essentially argued as follows:

- (i) The subject-matter of claims 1 and 5 lacked novelty in view of D1. The features of the respective preambles of claims 1 and 5 were known from D1 as acknowledged by the contested decision. D1 defined a standard for RDS and therefore did not give details about how to embody the receivers, but only set out the relevant RDS specifications. Valid reception of the data transmitted by RDS signals, such as the traffic-programme identification (TP) and the traffic-announcement (TA) codes, was a prerequisite for switching on traffic announcements in a waiting reception mode as disclosed in D1 (page 30, paragraphs (a) and (b) of point 6). This required both the presence of a clock signal and synchronisation of the decoded signal (page 6, Figure 2 and pages 40 to 42 of D1). A lock detection circuit for determining if it was still possible to obtain a data signal from the received broadcast signal was therefore also disclosed in D1 in the form of the group and block synchronisation detection circuit of Figure 19 of D1 or that of the circuit in Figure 2 of D1 deriving a clock signal (2) from the subcarrier to produce a clocked decoder output (6). Since D1 disclosed that the TP code could be taken into account during automatic search tuning in case of bad reception of the broadcast signal (D1, page 30, point 4 and page 29, point 1), the skilled reader would

deduce from D1 that detecting a locked data signal was a precondition for tuning in to another traffic broadcast signal and starting the sweeping of the received frequency would be required when synchronisation failed for a prolonged period.

- (ii) If novelty was recognised, the subject-matter of claims 1 and 5 lacked an inventive step because, for the reasons set out in the novelty attack, the person skilled in the art would have considered starting the sweeping of the received frequency when it was impossible to obtain a data signal from the received broadcast signal. This was already known from the ARI system which had to be taken into account for developing RDS receivers since, according to D1 (page 3, paragraph 2, and page 30, footnote), RDS had to be compatible with ARI and included ARI features, such as the TP and TA codes. D6a and D6b disclosed starting the automatic search tuning when it was impossible to receive a signal from a traffic broadcast station in a state of waiting for interruption (cassette player mode).

- (iii) The opposition division committed a substantial procedural violation by not admitting page 6 of D1 during the oral proceedings. Although page 6 had not been expressly referred to prior to the oral proceedings before the opposition division, document D1 was cited as a whole in the notice of opposition. It was also cited in the patent specification (cover sheet and column 2, lines 32 to 55) and acknowledged there as the closest

prior art. Following decision T 536/88, the entire document had to form part of the opposition procedure and certain parts of it should not be disregarded. The opposition division although admitting the particular relevance of D1 (point 3 of the contested decision) did not allow page 6 of D1 to be discussed and thus *de facto* deprived the opponents of their right to be heard on this point. This procedural violation justified reimbursement of the appeal fee.

VII. Appellant II endorsed the reasoning put forward by appellant I and added that D1, page 40, point 1.1, mentioned that synchronisation had to be acquired after a prolonged signal-fade. Automatic tuning would then have to be carried out when synchronisation failed. Several passages in D1 drew attention to the requirement for compatibility between RDS and ARI as well as to the fact that similar features, eg TP and TA, were present in both systems (D1, page 3, paragraph 2; page 25, point 2.1.3; appendix 9).

Concerning the reimbursement of the appeal fee, appellant II added that the opponents could not be made responsible for the fact that D1 was not available in its entirety in the office file, contrary to what was to be expected from its citation on the patent specification.

VIII. The respondent essentially argued as follows:

- (i) D1 did not disclose a lock detection circuit, nor the use of a locking detection signal obtained

from the data signals to determine when to start sweeping the received frequency. D1 (page 29, point 1) rather referred to constant searching for a better signal which needed no deterioration of the data part of the received signal. Lack of synchronisation did not imply that sweeping had to be started because the known block and group synchronisation circuit (D1, page 40, points 1.1 and 1.2, and page 42, penultimate paragraph) allowed for corrections when errors occurred and did not disclose what to do when synchronisation failed. The hint in D1, page 30, point 4, that the TP code could be taken into account during automatic search tuning referred to the possibility of tuning in to programmes with or without traffic announcements. The subject-matter of claims 1 and 5 was therefore new.

- (ii) The need for compatibility of RDS with ARI did not mean that the person skilled in the art would expect the ARI system to suggest any improvement to the RDS system specified in D1 because ARI was surpassed by the RDS system. D6a and D6b should not be admitted to the proceedings because of their little relevance and because doubts remained as to whether these documents were published before the priority date of the contested patent.
- (iii) There was no procedural impropriety in relation to the non-admittance of page 6 of D1 since no reference at all had been made to page 6 of D1 in the opposition procedure prior to the oral proceedings.

IX. Opponent I, being a party to the appeal proceedings as of right (Article 107 EPC), did not appear at the oral proceedings and did not file comments in writing.

X. Appellants I and II requested that the decision be set aside and that European patent No. 326 747 be revoked. They also requested that the appeal fees be reimbursed.

The respondent requested that the appeals be dismissed and that the patent be maintained.

Reasons for the Decision

1. The appeals are admissible.

2. *Subject-matter of claims 1 and 5*

2.1 Both the claimed method and the receiver have to be suitable for "receiving an RDS broadcast signal" and "performing an interruption based on" interruption data carried by the RDS broadcast signal. Both also have to be suitable for starting the sweeping of the received frequency "in a state of waiting for the interruption". According to the description of the patent specification (column 7, lines 43 to 49), interruption may be based on a variety of RDS data causing an interruption, such as the selection or reproduction of desired programmes. The term "in a state of waiting for the interruption" may therefore cover waiting for traffic information while listening to music (eg from a tape player), and switching on the road traffic

information when the TA code is received (as described in the preferred embodiment of the patent specification, column 2, lines 7 to 14; column 5, lines 28 to 43; Figure 2), or similarly, waiting for traffic information in a muted state of the receiver. But the term may also cover listening to a radio programme transmitting traffic information from time to time and waiting for a signal (eg TA code) announcing the transmission of such information.

- 2.2 Both claims 1 and 5 specify that an output signal of the lock detection circuit indicates when no data signal can be obtained. The additional features of claim 1 referring to an indication whether "the received signal has deteriorated" or "has not deteriorated" do not define a more specific quality criterion than that of claim 5, and actually refer to the same criterion in the description, ie if it is still possible to demodulate data or not (see eg column 4, lines 19 to 27 and column 7, lines 14 to 22 and 30 to 42 of the contested patent).

Any circuit detecting a locked or unlocked condition of the receiver, such as one detecting non-synchronisation in the group and block synchronisation, or one detecting an unacceptable ratio or a prolonged period of errors, is covered by this feature (cf column 7, lines 30 to 42 of the patent specification). Neither of claims 1 and 5 therefore implies a separate circuit (eg as shown in Figure 1 of the patent specification). The claims only require that the output signal of the detection circuit indicates or determines that a data signal can be obtained or not. As defined in the preambles of the claims, sweeping of the received

frequency will be started when it has become impossible to obtain the data signal, but claims 1 and 5 do not exclude that sweeping may also be started in response to some other detected condition.

3. *Novelty*

3.1 The patentee did not contest that all the features of the first parts of claims 1 and 5 are known from D1. However, it has to be borne in mind that D1 does not describe particular RDS receivers or methods, but sets out the specifications of the RDS system. D1 describes applications of various codes and expected responses by the receivers (D1, page 25, point 2), but does not say they are necessarily all combined in one receiver. One "important application" of the programme identification (PI) code is given as enabling the receiver "to search automatically for an alternative frequency in case of bad reception of the programme". From the reference to inaudible switching and critical searching times, the person skilled in the art would understand that the context referred to is a state of listening to a radio programme and waiting for an interruption (D1, page 29, point 1; see point 2.1 above).

3.2 D1 (page 41, Figure 19 or page 6, Figure 2) further discloses a lock detection circuit within the meaning of claims 1 or 5 (see point 2.2 above) because a persisting loss of synchronisation (eg an inadmissible number of errors; D1, page 40, point 1.2, first paragraph) or of the clock signal would indicate that it is not possible to obtain a data signal from the received broadcast signal. Since correct synchronisation and decoding constitute prerequisites

for deriving a valid PI code, such lock detection circuits are disclosed in combination with the proposed application of the PI code (D1, page 29, point 1).

3.3 However, there is no unambiguous disclosure in D1 of what to do when an unlocked condition is detected. Nor does the disclosure on page 30, point 4, of D1 say that sweeping should be started when no TP code signal is received. This passage also covers using the TP code to distinguish and select programmes with traffic announcements from others, as argued by the respondent.

3.4 D1 thus does not directly and unambiguously disclose that an output signal of the lock detection circuit is used to determine or indicate if it is still possible to obtain a data signal, or that sweeping of the received frequency should be started if it is impossible to obtain a data signal. Therefore, the subject-matter of both claims 1 and 5 is considered to be new (Article 54(1) and (2) EPC).

4. *Inventive step*

4.1 The subject-matter of claims 1 and 5 solves the problem of improving the reception and demodulation of an RDS broadcast signal carrying interruption data when reception of the signal to which the receiver is tuned is bad (column 2, lines 22 to 31 and column 7, lines 22 to 29, of the contested patent).

4.2 D1 (page 30, points 4 and 6) describes an optional use of the TP and TA codes in a state of waiting for a traffic announcement to be switched on when the TA code is received while listening to another audio source (eg

cassette) or while the audio signal is muted. Although this optional use of the TP and TA codes is not necessarily combined, in one particular receiver or method, with the features disclosed in the context of the optional application of the PI code (D1, page 29, point 1), a mental connection is established between them by the reference to "automatic search tuning" on page 30, point 4, of D1, which renders this combination obvious to the person skilled in the art.

4.3 When listening to a radio programme and waiting for interruption data as mentioned under point 3.1 above, it is evident that the quality of the received audio signal is of prime importance. This may be the reason why the RF signal level was used in RDS receivers to start automatic tuning in case of bad reception (D3, page 319, left-hand column, first paragraph; page 324, left-hand column, paragraph 2 and point 4.1). However, in a waiting state where the radio programme to which the receiver is tuned is not reproduced by the loudspeakers and is only switched on when interruption data are received (page 30, paragraphs (a) and (b) of point 6), correct decoding of the repeatedly transmitted data identifying a programme of the desired type (PI, TP) is a prerequisite for performing this function (cf D1, page 3, last paragraph; page 14, penultimate paragraph; page 17, Figure 7; page 29, first paragraph).

4.4 The importance of detecting a loss of synchronisation is mentioned and possibilities of correcting or tolerating occasional errors are disclosed in D1 (page 40, point 1.2 and page 42, paragraphs 1 and 2 from the bottom). However, for obvious reasons, a

situation where no data signals can be obtained for a prolonged period of time (cf D1, page 40, first paragraph) would not be tolerated, without any reaction, in an RDS receiver performing a waiting reception mode as described in paragraphs (a) or (b) of page 30 in D1. The person skilled in the art would then have the choice between two possibilities. The receiver would either have to indicate this condition to the operator, or search for an alternative frequency. Since automatic tuning constitutes a main objective of RDS (D1, page 3, last paragraph) and since this feature is also proposed in case of bad reception of the radio programme to which the receiver is tuned (D1, page 29, point 1), starting the sweeping of the received frequency when a lock detection circuit determines that it is not possible to obtain a data signal, constitutes an obvious solution to the above problem.

It is irrelevant in this context whether D1, page 29, point 1, refers to constant searching for a better signal (eg based on the RF level of the received signal) as contended by the respondent because the person skilled in the art would, for the above reasons, have to provide a reaction of the receiver in the above waiting state when no data can be received for a prolonged period. The subject-matter of claims 1 and 5 therefore lacks the required inventive step (Article 56 EPC).

4.5 There is no need for D6a or D6b to be considered.

5. *Reimbursement of appeal fees*

5.1 According to Article 114(1) EPC, the EPO shall not be

restricted in the examination to the "**facts, evidence and arguments**" provided by the parties, but it "may disregard **facts or evidence** not submitted in due time" (Article 114(2) EPC; emphasis added by the board). Facts described on pages of a document which was cited within the opposition period but which pages were not referred to by an opponent, could indeed in some circumstances constitute facts not submitted in due time, eg when the document contains a large number of independent disclosures of different items; because the "facts, evidence and arguments **presented in support of**" the grounds for opposition shall be contained in the notice of opposition (rule 55(c) EPC; emphasis added by the board).

- 5.2 The opposition division examining the relevance of page 6 of D1 in the oral proceedings (see point IV above) followed the established practice at the EPO as to whether or not new facts and evidence may be disregarded under Article 114(2) EPC, ie to consider the relevance of facts and evidence not submitted in due time.
- 5.3 D1 defines specifications of an RDS standard agreed by the European Broadcasting Union (see also D3, page 319, first paragraph). The person skilled in the art designing receivers capable of decoding signals as defined in this standard would thus have to be aware of the whole contents of D1. It is cited as a whole on the cover sheet and in column 2, lines 32 to 36, of the contested patent and is referred to as the state of the art disclosing the features of the preamble of claim 1, and consequently forms part of the opposition or opposition appeal proceedings (cf T 536/88,

OJ EPO 1992, point 2.1).

- 5.4 In view of these particular circumstances, the opposition division should not have prevented the parties from discussing page 6 of D1 in the oral proceedings because new arguments (cf point 2.3 of the contested decision) may not be disregarded based on Article 114(2) EPC on the ground that they were not submitted in due time. However, the board considers that the opposition division did not commit a substantial procedural violation because, following the established practice for late filed new facts and evidence, they did not arbitrarily disregard part of D1, but rather committed an error of judgement in the application of Article 114(2) EPC. Moreover, neither of the appellants has referred to page 6 of D1 in the statements setting out the grounds of appeal as part of the reasoning as to why the opposition division was wrong in judging the subject-matter of the contested patent as being new and inventive. The appeals thus cannot be said to be caused by the refusal of the opposition division to consider page 6 of D1. Therefore, reimbursement of the appeal fees cannot be granted in the circumstances of this case, because it is not equitable by reason of a substantial procedural violation (Rule 67 EPC).
6. Since lack of an inventive step of the subject-matter of independent claims 1 and 5 of the sole request prejudice the maintenance of the contested patent, it has to be revoked in application of Article 102(1) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.
3. The requests for reimbursement of the appeal fee are refused.

The Registrar:

The Chairman:

M. Kiehl

W. J. L. Wheeler