DECISION
of 7 December 2005

Case Number: T 0857/03 - 3.5.02
Application Number: 91302686.0
Publication Number: 0451990
IPC: H03J 7/18
Language of the proceedings: EN
Title of invention:
Frequency selecting method in RDS receiver
Patentee:
Pioneer Electronic Corporation
Opponent:
01: Robert Bosch GmbH
02: Interessengemeinschaft für Rundfunkschutzrechte GmbH
Schutzrechtsverwertung & Co. KG
Headword:
- 
Relevant legal provisions:
EPC Art. 54, 56
Keyword:
"Novelty - inventive step (yes)"
Decisions cited:
- 
Catchword:
-
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DECISION
of the Technical Board of Appeal 3.5.02
of 7 December 2005

Appellant: Interessengemeinschaft für Rundfunkschutzrechte GmbH
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Composition of the Board:
Chairman: W. J. L. Wheeler
Members: J.-M. Cannard
          P. Mühlens
          M. Ruggiu
          C. Holtz
Summary of Facts and Submissions

I. An opposition was filed against European patent No. 0 451 990 on 18 March 1997 by opponent 01 and on 19 March 1997 by opponent 02. Both opponents filed a first appeal against the decision of the opposition division dated 22 December 1998 to maintain the patent in amended form in accordance with the proprietor's request filed with a letter dated 26 October 1998. The case was remitted to the first instance by the Board for further prosecution, in particular to hear a witness in connection with a document D8. After hearing the witness, the opposition division issued a decision dated 15 May 2003 concerning the maintenance of the European patent in the same amended form approved in the first decision of the opposition division. The present appeal was filed by opponent 02 against this second decision of the opposition division.

II. Prior art documents:

D4: DE-A-38 32 455, and

D9: EP-A-0 275 527,

considered during the first proceedings before the opposition division, and

D16: DE-C-34 39 941,

filed for the first time by opponent 02 with the statement of grounds of the present appeal,

are considered in the present decision.
III. Claim 1 filed on 7 December 2005 during oral proceedings before the Board of appeal, which is identical to claim 1 as maintained by the opposition division, reads as follows:

"A receiving frequency selecting method in an RDS receiver which can receive an RDS broadcasting wave on which a plurality of frequency data and program ID data of a same network station group are superimposed, the program ID data including PI data, in which a receiving frequency is switched from a current receiving frequency to a frequency of another same network station which is given by one of said plurality of frequency data, comprising:

a first step of holding the program ID data which is obtained from the broadcasting wave of the current receiving frequency in response to a command;

a second step of tuning the receiver to another frequency based on said plurality of frequency data; and detecting the existence of a received station;

a third step of taking in the program ID data obtained from the broadcasting wave of the received station detected in said second step;

a fourth step of setting a timer to time-out after a predetermined time has elapsed from a time point when the existence of the received station has been detected in the second step; and
a fifth step of comparing whether the program ID data obtained in said third step coincides with the program ID data held in the first step or not and setting the frequency of the presently received station as a new receiving frequency when said PI data coincides; characterized by

a step of determining when the same program ID has been taken in a plural number of times in the third step, wherein the fifth step of comparing is executed either when it has been determined that the same program ID data has been taken in a plural number of times in the third step, or that the predetermined time has elapsed, whichever occurs soonest."

Claims 2 and 3 are dependent on claim 1.

IV. Opponent 01 and appellant opponent 02 did not attend the oral proceedings, as announced in their respective letters dated 1 December 2005 and 7 November 2005.

V. No written submission was received from opponent 01.

VI. The written arguments of the appellant opponent 02 can be summarized as follows:

The subject-matter of claim 1 was not novel, or did not involve an inventive step in view of document D9, which related to a method for selecting frequencies in a RDS receiver which received RDS data comprising alternative frequencies data and PI data. In a first example, the receiver was tuned for a given time interval to each of the alternative frequencies which were specified in the transmitted data. These frequencies were associated
with the alternative frequencies belonging to the same network station group by comparing their PI data with the stored PI data of the previously received frequency.

In a second example, possibly distorted alternative frequency data were taken in a plural number of times to reconstruct data free from errors. It was obvious to proceed in the same way with the PI data and to stop the reading of the received data when they were free from errors. The use of a timer was a common measure to avoid endless loops.

Document D16 proved that it was a well known technique to the skilled person in the field of wave broadcasting to compare blocks of data repeated periodically, after they had been received, and to stop the comparison procedure when the data were found to be free from errors.

Document D4 showed that RDS data were formed of repeating data blocks and that it was necessary to wait during a given time interval to take in a particular block.

VII. The arguments of the respondent proprietor can be summarized as follows:

According to D9, a RDS receiver was successively tuned to alternative frequencies, at temporal tuning intervals, and remained tuned during each entire interval. During each tuning interval, the bit errors were evaluated for the data signal received on the alternative frequency in question to allow a selection of the frequency enabling the best reception. An
alternative frequency which broadcasted the same programme as the originally received programme was determined by a comparison of the respective PI data. However, D9 did not explain how this comparison was performed. At least the features specified in the characterizing part of claim 1 were not disclosed in D9. Starting from D9, the technical problem was to find an efficient method for retuning the RDS receiver. The claimed solution provided two advantages: it was not necessary to wait in all cases for the time given for taking in an alternative frequency to elapse; the test made on the PI data was more reliable and less affected by multi-path interferences because it was based on PI data taken at different times. There was no hint in D9, or in document D4, of a possibility of cutting short a tuning interval. Nor was it suggested there to determine whether the same PI data had been received a plurality of times on a given alternative frequency.

Document D16 related to reception of teletext data contained in a television signal. These data were directly used when they were free from errors, or reconstructed by comparison of plural received blocks when they contained errors. D16 which did not teach the solution provided by the claimed invention should not be admitted in the proceedings since it was late filed and not highly relevant.

VIII. The appellant (opponent 02) requested in writing that the decision under appeal be set aside and that the patent be revoked.
IX. The respondent (patentee) requested that the patent be maintained in amended form in the following version: claims 1 to 3 filed in the oral proceedings; description page 3 filed in the oral proceedings, pages 2, 4-6 of the patent specification; drawings on pages 9 to 13 of the patent specification.

Reasons for the Decision

1. The appeal is admissible.

Admissibility of the amendments

2. The Board is satisfied that the amendments made to the claims and the description satisfy the requirements of Article 84 EPC and do not contravene Article 123(2) and (3) EPC.

2.1 More specifically, present claim 1 differs from claim 1 of the granted patent in substance in that it now specifies that "the fifth step of comparing is executed either when it has been determined that the same program ID data has been taken in a plural number of times in the third step, or that the predetermined time has elapsed, whichever occurs soonest". Such a fifth step is disclosed in the application as originally filed (see the published application, column 6, line 45 to column 7, line 7 and figure 4) and restricts the scope of claim 1.

2.2 The amendments made to claim 2 and on page 3 of the description remove inconsistencies and adapt the description to the present claims.
Document D16

3. Document D16 relates to a method for receiving periodically repeating digital information blocks, in particular teletext data included in a television signal. The correctness of the received information is determined on the basis of test information which is transmitted with the information blocks. If no errors are detected, the information blocks are then processed directly. If errors are detected, an information block in which an error occurred is taken in a plural number of times and the data successively received for this block are compared with one another to determine the information content which is to be regarded as correct for the block in question.

3.1 D16 was filed for the first time with the opponent 02's statement of grounds of the present appeal and is a short document relating to a neighbouring field of the invention or to a broader general technical field.

3.2 However, insofar as D16 could be relevant to the present case, it simply shows that a method for reducing the effect of errors in the reception of periodically repeating digital information blocks was already known to skilled person. D16 neither discloses nor suggests any feature of the characterizing part of claim 1. Accordingly, D16 will not be considered further.
Novelty and inventive step of claim 1

4. Claim 1 relates to a receiving frequency selecting method for a RDS receiver. There is agreement between the parties and the Board that document D9 discloses the closest prior art. Since at least the features specified in the characterizing part of claim 1 are not disclosed in D9, the subject-matter of claim 1 is new within the meaning of Article 54 EPC. More specifically:

4.1 D9 relates to a method for determining in a RDS receiver the alternative frequencies to a currently received frequency. According to a first embodiment (column 4, line 42 to column 5, line 21), the RDS receiver is successively tuned on each alternative frequency during a short tuning interval, the bit errors on the corresponding RDS data signals are evaluated, and the alternative frequency providing the best possible quality is set as the new frequency to be received. According to the description (column 5, line 49 to column 6, line 6) and claim 1 of D9, the alternative frequencies which broadcast the same programme as the currently received frequency are identified by comparing their PI data with the (implicitly stored) PI data of the currently received frequency. According to a second embodiment, the alternative frequencies lists which are contained in the RDS received signals can be received two or three times to correct distorted lists (column 6, lines 43 to 48).
4.2 It does not appear from D9 that a comparison between received PI data on an alternative frequency and the stored PI data of the currently received frequency takes place after a timer has timed out. Nor is it disclosed in D9 that such a comparison can occur before the timer has timed out when the same program ID has been taken in a plural number of times, or that an alternative frequency is set as the new frequency to be received when said comparison is positive.

4.3 Therefore, the step of "setting the frequency of the presently received station as a new receiving frequency when said PI data coincides" recited as part of the fifth step in claim 1 and the features in the characterizing part of claim 1 are not disclosed in D9.

5. The features according to the characterizing part of claim 1 provide two technical effects: first, it is no longer necessary to wait in all cases until the timer has timed out before deciding whether an alternative frequency broadcasting the same programme as the currently received frequency has been received; second, the determination of such an alternative frequency is more reliable because it is based on a repetitive occurrence of the same program ID data. Starting from D9 and having regard to the technical effects achieved by the invention, the technical problem addressed by the invention can be seen as providing a more efficient way of retuning a RDS receiver on an alternative frequency (i.e. a frequency on which the same programme is being broadcast). This problem is solved by the features specified in paragraph 4.3.
6. There is no hint in the cited prior art of the solution provided by the invention and more specifically of a step of determining when the same program ID has been taken in a plural number of times on an alternative frequency for cutting short the time interval set for monitoring said program ID data and directly proceeding to the comparison of this program ID data with that of the currently received frequency.

6.1 This is more particularly the case for D9 wherein the receiver remains tuned to an alternative frequency for the entire tuning interval while it determines the bit errors on this alternative frequency and the selection of the frequency to be set is made on the basis of bit error evaluation, after all the alternative frequencies have been scanned.

6.2 In D4, a list of alternative frequencies having a reception level higher than a given threshold is established and the PI data for the alternative frequencies on the list are successively compared with the PI data of the currently received frequency until a coincidence is found. D4 neither discloses, nor suggests, determining whether the same program ID data has been taken in a plural number of times on a given alternative frequency.

7. The Board concludes therefore that the appellant has not shown that the subject-matter of the claims does not involve an inventive step within the meaning of Article 56 EPC. The grounds for opposition mentioned in Article 100 EPC do not prejudice the maintenance of the patent in the presently amended form.
Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent in amended form in the following version:

   claims 1 to 3 filed in the oral proceedings,
   description page 3 filed in the oral proceedings,
   pages 2, 4-6 of the patent specification, and
   drawings on pages 9 to 13 of the patent specification.

The Registrar:    The Chairman:

U. Bultmann    W. J. L. Wheeler