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D E C I S I O N
of 27 July 1999

Case Number: T 0201/98 - 3.5.1

Application Number: 93308371.9

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Language of the proceedings: EN

Title of invention:
Frequency drop-out compensation

Applicant
Samsung Electronics Co., Ltd.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 52(1), 56, 113(1)

Keyword:
"Inventive step (no, main request)"
"Procedural violation (no)"

Decisions cited:
T 0084/82, T 0162/82, T 0300/89, T 0640/91

Headnote/Catchword:
-



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Boards of Appeal

Chambres de recours

Case Number: T 0201/98 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 27 July 1999

Appellant: Samsung Electronics Co., Ltd.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 24 September 1997
refusing European patent application
No. 93 308 371.9 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: A. S. Clelland
V. Di Cerbo

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse the application after a single communication on the grounds that claim 7 lacked clarity and claims 1 to 7 lacked an inventive step. The following documents were cited in the decision:

D1: Abstract of JP-63 172 582, Patent Abstracts of Japan, Vol. 12 No. 440, (E-684)

D2: Abstract of JP-63 172 583, Patent Abstracts of Japan, Vol. 12 No. 440, (E-684)

D3: Abstract of JP-63 146 580, Patent Abstracts of Japan, Vol. 12 No. 407, (E-675)

D4: GB-A-2 231 462.

II. In the notice of appeal the appellant (applicant) stated that the decision was appealed in its entirety and that refusal of the application after only one examination report was premature. In the subsequently filed statement of grounds of appeal the appellant requested that the decision be set aside and the application referred back to the examining division for further examination. New sets of claims of a main and auxiliary request were filed.

III. The Board informed the appellant of its intention to issue a summons to oral proceedings; in response, the appellant requested that the Board reach a decision by reference to the documents alone or, if oral proceedings were considered essential, they be

postponed. It was argued that the appellant had been subjected to one unjustified adverse decision by refusal after a single communication and calling oral proceedings would subject him to a double penalization.

IV. The Board thereupon continued the proceedings in writing. A communication was issued, in which the rapporteur took the preliminary position that the appellant's right to comment had not been infringed by the examining division's decision and that the claims of the main request lacked an inventive step having regard to the cited prior art. In response to this communication the appellant stated that the request for oral proceedings was withdrawn in the event that the Board was minded to accept either the main or auxiliary request or to remit one of these requests to the examining division, but was maintained in the event that the Board came to an adverse view on both requests.

V. The main request consists of claims 1 to 6 filed on 21 January 1998 and pages 1 to 12 of description filed on 17 June 1997, together with sheets 1 and 2 of the drawings as originally filed. The auxiliary request is based on the same description and drawings, and on a further set of claims 1 to 6 also filed on 21 January 1998.

VI. Claim 1 of the main request reads as follows:

"A frequency dropout compensating method for both first and second broadcast standards in an optical disk system, comprising the steps of:

determining whether an applied FM signal is a signal of the first or second standard;

detecting a frequency dropout with a frequency dropout detector (40) comprising integrating means (41) to integrate said applied FM signal and thereby detect the frequency dropout;

characterised in that the integrating means (41) has a current supply (42) which is variable in accordance with the broadcast standard determined in the determining step, the current supply being varied by an integrating current controlling means (42) which is composed of respective current sources (421, 422) for said first and second standards and a selecting means (423) for applying a selected one of said current sources to said integrating means (41); and further comprising the step of

compensating the frequency dropout with a dropout compensator (60) by supplying a substitute signal."

Claim 2 of this request is directed to a frequency dropout compensating circuit having the features which carry out the method of claim 1.

VII. Claim 1 of the auxiliary request reads as follows:

"A frequency dropout compensating method for both first and second broadcast standards in an optical disk system, comprising the steps of:

determining whether an applied FM signal is a signal of the first or second standard;

detecting a frequency dropout with a frequency dropout detector (40) comprising integrating means (41) having at least first to fourth transistors (Q1 to Q4) and at least first to fourth resistors (R1 to R4) to integrate said applied FM signal and thereby detect the frequency dropout;

characterised in that the integrating means (41) has a current supply (42) which is variable in accordance with the broadcast standard determined in the determining step,

the current supply being varied by an integrating current controlling means (42), which comprises a fifth transistor (Q5) whose base is connected with the base of a seventh transistor (Q7), whose collector is connected with a power supply voltage terminal (Vcc) through a fifth resistor (R5), and whose emitter is grounded through a sixth resistor (R6), a sixth transistor (Q6) whose base is connected with the collector of the fifth transistor (Q5), whose collector is tied to the power supply voltage terminal (Vcc), and whose emitter is connected with the base of the fifth transistor (Q5), the seventh transistor (Q7) whose base is grounded through a seventh resistor (R7), whose collector is connected with the emitter of the fourth transistor (Q4), and whose emitter is grounded through a eighth resistor (R8), an eighth PMOS transistor (Q8) whose source is common with the substrate and connected with the power supply voltage terminal (Vcc) and whose gate is tied to its drain, a ninth transistor (Q9) whose base is connected with the base of the seventh transistor (Q7), whose collector is connected with the drain of the eighth PMOS transistor (Q8), and whose

emitter is grounded through a ninth resistor (R9), a tenth PMOS transistor (Q10) whose source is common with the substrate and connected with the power supply voltage terminal (Vcc) and whose gate is connected with the gate of the eighth PMOS transistor (Q8), an eleventh transistor (Q11) whose base is grounded through an eleventh resistor (R11), whose collector is connected with the drain of the tenth PMOS transistor (Q10), and whose emitter is grounded through a tenth resistor (R10), a twelfth transistor (Q12) whose base is connected with the collector of the eleventh transistor (Q11), whose collector is tied to the power supply voltage terminal (Vcc), and whose emitter is connected with the base of the eleventh transistor (Q11), a thirteenth transistor (Q13) whose base is connected with the emitter of the twelfth transistor (Q12), whose collector is connected with the collector of the seventh transistor (Q7), and whose emitter is grounded through a resistor (R12), and a fourteenth transistor (Q14) whose base is connected with a first and second standard control signal input terminal through a resistor (R13), whose collector is connected with the base of the twelfth transistor (Q12), and whose emitter is grounded; and further comprising the step of

compensating the frequency dropout with a dropout compensator (60) by supplying a substitute signal."

VIII. The appellant argued firstly that the examining division acted prematurely in refusing the application and secondly that the claims of both requests were novel and inventive having regard to the cited prior art.

The examining division had not complied with the Guidelines for Examination before the EPO. Part C, Chapter VI, Section 4.3, of the Guidelines stated that if the examiner considered that there was little prospect of progress towards grant, the examiner should not refuse immediately but should warn the applicant, e.g. by a telephone conversation or a short further written action; this was not done. The Guidelines moreover stated that refusal after one communication would be "an exceptional case", but it had not been shown either that the present case was exceptional or that the applicant had made no real effort to deal with the objections. All of the points raised in the examination report had been addressed fully. Those issues relating to the clarity of claims 1, 2 and 6 were addressed by making amendments to those claims, the only remaining objection to clarity relating to claim 7 which was introduced with the response to the examination report. The inventive step objection was fully addressed by argument. Thus, the appellant took the view that the examining division had not followed the procedure set out in the Guidelines in refusing the application after a single communication.

The subject-matter of the independent claims of the main request moreover involved an inventive step. Documents D3 and D4 showed video disk players for use with first and second broadcast standards but made no reference to the use of frequency drop-out detecting means using current sources. Although such means were known per se from D1 and D2 there was no suggestion in these documents of using a single means for both broadcast standards by varying the current supply in accordance with the detected standard. The skilled

person, incorporating drop-out detecting means as known from D1 or D2 in an optical disk system in accordance with D3 or D4 would provide two separate drop-out compensators, one for each standard, and would therefore not arrive at the claimed invention.

The claims of the auxiliary request included details of the construction of the integrating current controlling means and were novel and inventive.

Reasons for the Decision

1. *Procedural Violation*

1.1 The appellant argues that the examining division acted prematurely in refusing the application after only a single communication and failed to comply with the Guidelines. A substantial procedural violation within the meaning of Rule 67 EPC has not explicitly been alleged, nor has reimbursement of the appeal fee been requested.

1.2 The Guidelines at Part C, Chapter VI, Section 4.3 discuss re-examination after amendment in response to a first communication. They state that if the examiner considers that there is little prospect of progress towards grant, the examiner should not refuse immediately but should warn the applicant, e.g. by a telephone conversation or a short further written action. They moreover include the following statement:

"If this re-examination, however, shows that the applicant has not made any real effort to deal with

these objections, the examiner should consider recommending to the other members of the examining division that the application be refused immediately. However, this would be an exceptional case."

Consequently, immediate refusal is taken by the appellant to imply that the examining division considers that no real effort has been made to deal with the objections raised.

- 1.3 As noted in decision T 640/91 (OJ EPO 1994, 918) a Board of Appeal should only overrule the way in which a first instance department has exercised its discretion in a decision in a particular case if the Board comes to the conclusion that the first instance department did so according to the wrong principles, or without taking into account the right principles, or in an unreasonable way. Such discretion should be exercised in favour of inviting further observations if there is a reasonable prospect that such an invitation could lead to the grant of the patent application. As noted in decision T 162/82 (OJ EPO 1987, 533) "... the Guidelines should be considered only as general instructions, intended to cover normal occurrences. The examining division therefore has a certain discretion to depart from the general directives in a particular case. It must, however, in its actions remain within the bounds defined by the EPC."

- 1.4 It is, in the Board's view, unfortunate that the Guidelines are worded in such a way as on the one hand to lead the applicant or his representative to expect a warning before rejection after a single communication and on the other hand to impute a moral culpability for

rejection. The Board accepts that in the present case the appellant's response to the single communication was a *bona fide* attempt to deal with the examining division's objections. However it is the established jurisprudence of the Boards of Appeal that an examining division does not exceed its discretionary power, discussed at point 1.3 above, by an immediate refusal, provided that the decision complies with Article 113(1) EPC, i.e. is based on grounds on which the appellant has had an opportunity to present comments, see T 84/82 (OJ EPO 1983, 451) and T 300/89 (OJ EPO 1991, 480).

- 1.5 In the present case, the Board considers that for the reasons given below the decision is based on grounds on which the appellant has had an opportunity to present comments, Article 113(1) EPC.
- 1.6 The claims rejected by the examining division differed in language from those originally filed. The original claim 1 was directed to a frequency drop-out compensating method whilst claim 2 was directed to a frequency drop-out compensating circuit. Claim 1 filed in response to the examining division's communication was still directed to a method but included as a clarification a feature previously in claim 2, a drop-out compensator which supplied a substitute signal; the claim additionally specified that the integration of the applied FM signal formed part of a drop-out detector.
- 1.7 These modifications serve in essence to clarify claim 1 but are only of minor limitative effect. The examining division's objections on inventive step in the communication, although somewhat vague, do form the

basis of the objection of lack of inventive step raised in the decision. It therefore appears to the Board that the decision meets Article 113(1) EPC in that it is based on arguments which are derivable from the communication.

1.8 Although the appellant argues that claim 7 is a new claim, it is in fact one of the alternatives contained in original claim 6 and objected to in the communication. The objection of lack of clarity against claim 7 in the decision therefore also meets the requirement of Article 113(1) EPC.

2. *Inventive step (main request)*

2.1 The application relates to an optical disk player for audio or video signals which makes provision for the compensation of drop-out, i.e. a temporary fall in output level caused by minor defects in the disk, or by dust or the like. The method adopted is acknowledged as known per se and is referred to as frequency drop-out compensation; it compensates for a deviation of the frequency of an input FM signal caused by partial loss of data. Such a system is acknowledged as known from documents D1 and D2, and in essence involves using an integrator formed by a constant current power supply and a capacitor to provide a voltage which varies in accordance with detected frequency.

2.2 Since the frequency characteristics of television systems differ, such frequency drop-out compensation cannot be used for multi-standard apparatus. The application sets out to solve this problem and does so by providing a different current source for each

standard, the specific examples given being NTSC and PAL. It is not contested by the appellant that multi-standard apparatus is well known in the television field, but it is argued that the skilled person would have no reason to modify known apparatus, e.g. that of D3 or D4, to provide a single frequency drop-out compensating circuit with two separate constant current sources. The obvious manner of overcoming this problem, it is argued, is to provide two separate circuits, one for each standard. The question considered by the Board is therefore how the skilled person would adapt the dropout detector known from D1 or D2 to multi-standard operation as exemplified by D3 and D4.

- 2.3 Given that the reduction of manufacturing costs is a well-known aim of industry, the Board considers that the skilled person would have good reason to seek to avoid duplication of circuitry. There are only two parameters which could be controlled in the D1 or D2 circuits in order to control the frequency response: the size of the integrating capacitor and the supplied current. Controlling the size of the integrating capacitor requires the presence of two capacitors, implying two separate discrete components, whereas current can be controlled in an integrated circuit with little difficulty. It therefore appears to the Board that the skilled person, starting out from a multi-standard optical disk system in accordance with D3 or D4 and providing frequency dropout detection in accordance with D1 or D2, would without the exercise of invention provide a circuit as claimed in claim 1 or claim 2 of the main request. Since the standards disclosed in D3 and D4 are the NTSC and PAL standards, both claims 3 and 4 also lack an inventive step. Claims

5 and 6 merely relate to an optical disk system including the features of preceding claims and are therefore open to the same objections as these claims.

2.4 The claims of the main request are accordingly not allowable.

3. *Auxiliary request*

3.1 This request has not been considered by the examining division. It differs considerably from the main request in that claim 1, although directed to a method, specifies in detail the construction of the frequency dropout compensating circuit; a circuit is claimed separately in claim 2.

3.2 Since claims of this scope have not been considered by the examining division the Board considers that in order to preserve two instances the case should be remitted to the examining division for examination to continue on the basis of the auxiliary request.

Order

For these reasons it is decided that:

1. The main request is refused.
2. The decision under appeal is set aside.
3. The case is remitted to the examining division for examination to continue on the basis of the claims of

the auxiliary request.

The Registrar:

The Chairman:

S. Fabiani

P. K. J. van den Berg