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# Datasheet for the decision of 24 January 2008

**Case Number:** T 1011/05 - 3.4.01

**Application Number:** 98308282.7

**Publication Number:** 0918229

**IPC:** G01R 33/38

**Language of the proceedings:** EN

**Title of invention:**
Magnet system

**Applicant:**
Koninklijke Philips Electronics N.V.

**Opponent:**
-

**Headword:**
-

**Relevant legal provisions:**
-

**Relevant legal provisions (EPC 1973):**
EPC Art. 84

**Keyword:**
"Clarity (no)"
"Support by the description (no)"

**Decisions cited:**
-

**Catchword:**
-

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**Case Number:** T 1011/05 - 3.4.01

# D E C I S I O N
**of the Technical Board of Appeal 3.4.01**
**of 24 January 2008**

**Appellant:** Koninklijke Philips Electronics N.V.
Groenewoudseweg 1
NL-5621 BA Eindhoven (NL)

**Representative:** van der Veer, Johannis Leendert
Philips
Intellectual Property & Standards
P.O. Box 220
NL-5600 AE Eindhoven (NL)

**Decision under appeal:** **Decision of the Examining Division of the European Patent Office posted 24 March 2005 refusing European application No. 98308282.7 pursuant to Article 97(1) EPC.**

**Composition of the Board:**

**Chairman:** B. Schachenmann
**Members:** F. Neumann
P. Fontenay

## Summary of Facts and Submissions

I. The appeal lies from the decision of the examining division refusing the European patent application number 98 308 282.7 for failure to comply with the requirements of Articles 84 and 123(2) EPC 1973.

II. In the notice of appeal, the appellant requested that the decision be set aside and that a European patent be granted. As an auxiliary request, oral proceedings were requested. With the grounds of appeal, a new set of claims 1 to 3 was filed to replace the claims on which the impugned decision was based.

III. In a communication dispatched on 18 October 2007, the Board set out its preliminary opinion that claim 1 did not meet the requirements of Article 84 EPC 1973 and Article 123(2) EPC 1973.

IV. In a reply dated 22 January 2008, the appellant informed the Board that he would not attend the oral proceedings and requested "a decision on the case according to the state of the file".

V. Oral proceedings took place in the absence of the appellant on 24 January 2008.

VI. The wording of independent claim 1 reads as follows:

"*A magnet system comprising*
*- a first pole piece (10) and a second pole piece (10')*
*- both pole pieces being surrounded by a magnet (12, 12')*

*- the pole pieces being separated from each other to define a subject receiving gap (20) there between*
*- a magnetic flux loop extending between the pole pieces through the subject receiving gap and a flux return path*
*- the magnets (12,12') being arranged to induce a magnetic flux through the magnetic flux loop*
*- the flux return path having first and second ends (42,44)*
*- at least one of the pole pieces (10) being adjacent to one of the flux return path ends (42) and being displaced from that flux return path end to define a separating gap between the pole piece and its adjacent flux return path end*
*- the magnetic flux causing magnetic attraction forces*
*- between the pole pieces and*
*- between one of the pole pieces and the flux return path end to which the pole piece is adjacent and*
*- the separating gap between one of the pole pieces and the return flux path end to which the pole piece is adjacent and (ii) the separation between the pole pieces defining the subject receiving gap being such that*
*- the magnetic attraction forces*
*a) between one of the magnets and the other magnet against the magnetic attraction force between one of the magnets and its magnetic image mirrored in their adjacent flux return path ends being at least partly counterbalanced and*
*b) between one of the pole pieces and the other pole piece against the magnetic attraction force between one of the pole pieces and its magnetic image mirrored in their adjacent flux return path ends being at least partly counterbalanced.*"

## Reasons for the Decision

1. In accordance with Article 7(1), 2nd sentence of the Revision Act of 29 November 2000 ("Act revising the Convention on the Grant of European Patents (European Patent Convention) of 5 October 1973, last revised on 17 December 1991"), the revised version of the Convention shall not apply to European patent applications pending at the time of its entry into force, unless otherwise decided by the Administrative Council of the European Patent Organisation. In accordance with the transitional provisions for the amended and new provisions of the EPC (Decision of the Administrative Council of 28 June 2001), Article 123 EPC in its new version and Articles 84 and 113 EPC 1973 shall apply to the present application.

2. After consideration of the issues addressed in the communication of the Board and in the absence of any attempt by the appellant to refute or to overcome the objections raised with regard to independent claim 1, the Board found no reason during the oral proceedings to depart from the preliminary opinion already expressed by the Board during the written proceedings.

3. *Article 84 EPC 1973*

3.1 The set of claims filed with the grounds of appeal does not comply with the requirements of Article 84 EPC 1973 at least in the following respects:

3.2 It is not clear from the wording of claim 1, what is meant by a "flux return path end". Claim 1 defines "a magnetic flux loop extending between the pole pieces

through the subject receiving gap and a flux return path". This statement in claim 1 creates some uncertainty as to how the term "flux return path" is to be interpreted. Since a "magnetic flux loop" is a continuous, uninterrupted path, the flux return path must start and finish at the respective pole pieces. This understanding is consistent with the definition of the magnetic flux loop contained in claim 1. However, it is not consistent with this understanding to later define in claim 1 that one of the pole pieces is *displaced* from the end of the flux return path since, in accordance with the definition of the magnetic flux loop in claim 1, it would appear that the end of the flux return path and the pole piece coincide.

Although the term "flux return path" could conceivably be interpreted to mean a ferrous element which provides a high permeability path for the flux to return to the pole pieces, this interpretation is not unambiguously presented in claim 1. Claim 1 contains no indication that the flux return path should be interpreted to be a concrete structural element. Instead, the manner in which the flux return path is presented in claim 1 gives the distinct impression that the flux return path is that entire section of the magnetic flux loop which is not located between the pole pieces. The appellant has not provided any explanation to clarify this issue.

Due to the fact that the meaning of the flux return path in claim 1 is not unambiguous, claim 1 is unclear. This argumentation alone is sufficient to substantiate the finding that claim 1 does not comply with the requirements of Article 84 EPC 1973.

3.3 In addition to this specific objection, the Board observes that the subject matter defined in independent claim 1 does not solve the problem which is presented in the description. Thus, claim 1 is inconsistent with the description to the extent that it does not define subject matter which solves the stated problem. This inconsistency means that claim 1 is not supported by the description.

In particular, although the description does not expressly state the technical problem to be solved, the discussion in paragraphs [0003] to [0006] of the published application makes it clear that the prior art systems in which the pole pieces are connected with a C-shaped iron yoke suffer the disadvantage that the iron yoke has to have sufficient strength to resist the attractive forces between the pole pieces. In the prior art systems in which the magnet system is constructed without a ferrous flux return path, substantial structural elements are nevertheless required in order to keep the pole pieces apart. Thus the introductory portion of the description presents the problem to be solved as one of reducing the structural requirements of the magnet system. As shown below, the subject-matter defined in claim 1 does not solve this problem.

Using the reference numerals employed in Fig. 1 of the application, claim 1 defines that the magnetic attraction force between magnet 12 and magnet 12' is at least partly counterbalanced by the magnetic attraction force between magnet 12 and the end 42 of the flux return path (which will be interpreted in the following analysis to mean the ferromagnetic flux return element). In other words, claim 1 defines that at least some of the attraction

force pulling magnet 12 *down* is counterbalanced by an attraction force pulling the same magnet 12 *up*. The same counter-balancing situation is defined in claim 1 for the forces acting on pole piece 10. Consequently, in accordance with claim 1, one of the magnets 12 and one of the pole pieces 10 are located so as to - in the extreme case - effectively "float".

Nevertheless, when all forces acting on the various components in Fig. 1 are taken into account, it can be seen that this "floating" arrangement does not overcome the problem of the prior art with respect to the structural strength requirements of the support elements.

In particular, the attractive force acting between magnets 12 and 12' is such that magnet 12 is pulled *down* and that magnet 12' is pulled *up* by an equal and opposite force. Similarly, an attractive force acts between magnet 12 and the first end 42 of the ferromagnetic flux return element. This means that magnet 12 is pulled *up* and that the first end 42 of the ferromagnetic flux return element is pulled *down* by an equal and opposite force. Thus, although the up and down forces experienced by the magnet 12 may be counterbalanced to a certain degree, the remaining portions of the magnetic system (in this case magnet 12' and the end 42 of ferromagnetic flux return element) still experience substantial forces pulling them towards the magnet 12. A corresponding analysis applies equally to the pole pieces 10 and 10'.

Therefore, whilst the forces acting on one of the magnets or on one of the pole pieces are at least partially counterbalanced, the same cannot be said for the forces acting on the other components within the magnet system.

The result is that, although claim 1 defines - in the extreme case - a floating magnet and a floating pole piece, it does not define that the attractive forces acting on the remaining components are counterbalanced. Consequently, the supporting elements will still have to be of substantial structural strength to withstand the attractive forces which they will still experience.

Thus, the problem which is set out in the description is not solved by the subject matter defined in the independent claim. Consequently, claim 1 is not supported by the description. This line of argumentation alone is sufficient to substantiate the finding that claim 1 does not meet the requirements of Article 84 EPC 1973.

3.4 Accordingly, noting that the appellant has had, and has declined to exercise, the opportunity to present comments on the objections raised by the Board (Article 113(1) EPC 1973), the Board concluded during the oral proceedings that claim 1 does not comply with the requirements of Article 84 EPC 1973.

## Order

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

The appeal is dismissed.

The Registrar | The Chairman

R. Schumacher | B. Schachenmann