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**D E C I S I O N**  
of 27 September 2000

**Case Number:** T 0860/98 - 3.5.2

**Application Number:** 92403350.9

**Publication Number:** 0546942

**IPC:** H01R 13/719

**Language of the proceedings:** EN

**Title of invention:**  
Current mode coupler

**Applicant:**  
AMPHENOL CORPORATION

**Opponent:**  
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**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 56

**Keyword:**  
"Inventive step - no"

**Decisions cited:**  
T 0176/84

**Catchword:**  
-



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Boards of Appeal

Chambres de recours

**Case Number:** T 0860/98 - 3.5.2

**D E C I S I O N**  
**of the Technical Board of Appeal 3.5.2**  
**of 27 September 2000**

**Appellant:** AMPHENOL CORPORATION  
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**Representative:** Hasenrader, Hubert  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 3 March 1998  
refusing European patent application  
No. 92 403 350.9 pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** W. J. L. Wheeler  
**Members:** A. G. Hagenbucher  
P. H. Mühlens

## Summary of Facts and Submissions

I. The appellant contests the decision of the examining division to refuse European patent application No. 92 403 350.9. The reason given for the refusal was that the subject-matter of claim 1 filed with the letter dated 4 April 1996 (received 6 April 1996) did not involve an inventive step, having regard to documents:

D1: WO-A-90/03697 (family member: US-A-4 904 879),

D2: US-A-4 758 179 and

D3: DE-A-3 706 953.

II. Claim 1, which has not been amended in the appeal proceedings, reads as follows:

"A non-invasive coupler for a cable of the type including at least one signal wire, including a lower magnetic core (3, 4) half; a base unit (9) comprising means (25) for supporting the lower magnetic core half; an upper housing member (2); upper core support means (68) for supporting an upper magnetic core half (21, 22) in the upper housing member; a wire guide member (5) comprising means (6) for positioning a wire with respect to said core halves and for aligning said core halves with respect to each other to form a magnetic core structure; core structure winding means including windings (77) for encircling a portion of said upper magnetic core half to cause electrical signals to be transmitted between said windings and said wire (11) via said magnetic core structure; an electrical connector (78) mounted in said upper housing; circuit

means for electrically connecting said windings and said connector; and upper housing alignment and attachment means (45, 46, 47) for aligning said upper housing with respect to said base unit and for releasably attaching said upper housing with respect to said base unit,

characterized in that:

said upper housing member (2) is made of a conductive metal, and said base unit (9) includes a lower housing member (1) also made of a conductive metal."

Claims 2 to 22 are dependent on claim 1.

- III. In the statement of grounds of appeal, the appellant argued that documents D1 and D2 discouraged the person skilled in the art from adopting the simple shielding means recited in claim 1.
- IV. In a communication annexed to the summons to attend oral proceedings the Board informed the appellant that it was not convinced by this argument.
- V. On 6 September 2000 the appellant's representative informed the Board by telefax that he could not attend the oral proceedings.
- VI. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of

**Claims:** 1 to 22 as filed with the letter dated 4 April 1996, received 6 April 1996,

**Description:** pages 1 to 12 as originally filed,

**Drawings:** Sheets 1/4 to 4/4 as originally filed.

### Reasons for the Decision

1. The appeal is admissible.
2. Novelty of the subject-matter of claim 1 is not in dispute.
3. *Inventive step*
- 3.1 The appellant accepts that the preamble of claim 1 corresponds to the common features of the coupler known from document D1 and the claimed invention.

In the coupler described in D1 (WO-A-90/03697) shielding is provided by shield 200, hood 176 and plating material 262, 270 (see page 2, lines 29 to 34; page 8, line 34 to page 9, line 4; page 9, line 23 to page 10, line 27; page 15, line 25 to page 16, line 20; Figures 7, 8, 9, 10, 11, 15 and 16). Therefore shielding is implemented by a complicated internal shielding structure consisting of several distinct parts. Moreover, the core assembly is not shielded.

Starting from this prior art the problem underlying the present invention may therefore be seen in simplifying the shielding and simultaneously making it more effective.

- 3.2 According to claim 1 this problem is solved by making the upper housing member of a conductive metal and providing the base unit with a lower housing member

which is also made of a conductive metal.

- 3.3 According to decision T 176/84 (OJ EPO 1986, 50), when examining for inventive step, the state of the art includes, as well as that in the specific technical field of the application, the state of any relevant art in neighbouring fields and/or a broader general technical field in which the same or a similar problem arises, and of which the person skilled in the art must be expected to be aware.

Documents D2 and D3 show simple and effective shielding solutions for a cable connector and a filter connector, in which a metal housing covers the complete device. According to document D2 the shielding consists of two metallic housing halves. Housing 43 of D3 consists of an upper and lower housing and, as in the claimed coupler, shields an inductive element, namely filter element 32. The person skilled in the art would consider these known simple solutions for solving the problem of electromagnetic shielding in a simple way if he wants to simplify the shielding of the coupler known from D1, all the more so because all three documents have as a second international classification class H01R13 and can therefore be found together. The known housings with two conductive metallic halves or parts (see D2 and D3) are easily applicable to the base unit and upper housing member of the coupler known from D1. International class H01R13/658 of document D2 directly points to high frequency shielding.

Hence, the Board agrees with the finding of the examining division in the decision under appeal, that the subject-matter of claim 1 does not involve an inventive step within the meaning of Article 56 EPC.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

M. Hörnell

W. J. L. Wheeler