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**Datasheet for the decision  
of 26 June 2012**

**Case Number:** T 1948/08 - 3.5.05

**Application Number:** 02771993.9

**Publication Number:** 1469376

**IPC:** G06F 3/033

**Language of the proceedings:** EN

**Title of invention:**

An electromagnetic induction electronic board with antenna arrayed in gridding inside

**Applicant:**

Taiguen Technology (Shen\_zhen) Co., Ltd.

**Headword:**

Antenna arrayed in gridding inside/TAIGUEN

**Relevant legal provisions:**

EPC Art. 56, 84, 106, 107, 108  
RPBA Art. 15(3)

**Keyword:**

"Clarity (no)"  
"Inventive step (no)"

**Decisions cited:**

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**Catchword:**

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Case Number: T 1948/08 - 3.5.05

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.05  
of 26 June 2012

**Appellant:** Taiguen Technology (Shen\_zhen) Co., Ltd.  
(Applicant) 23, The third Indust. Park of xia village  
Gongming, Baoan District  
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**Representative:** Tomlinson, Edward James  
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Patent- und Rechtsanwälte  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 13 May 2008  
refusing European patent application  
No. 02771993.9 pursuant to Article 97(2) EPC.

**Composition of the Board:**

**Chair:** A. Ritzka  
**Members:** M. Höhn  
F. Blumer

## Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, dispatched on 13 May 2008, refusing European patent application No. 02771993.9 on the ground of lack of inventive step (Article 56 EPC) in the light of the prior-art documents:

D1: EP 0 347 725 A2 and

D5: US 4 800 240.

The examining division also noted that the European patent application lacked clarity (Article 84 EPC).

II. The notice of appeal was received on 10 July 2008. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 12 September 2008. The appellant requested that the appealed decision be set aside and that a patent be granted on the basis of claims 1 to 10 submitted with the statement setting out the grounds of appeal. Oral proceedings were requested on an auxiliary basis.

III. A summons to oral proceedings to be held on 14 June 2012, subsequently rescheduled for 26 June 2012, was issued on 19 March 2012. In an annex accompanying the summons the board expressed the preliminary opinion that the subject-matter of claim 1 did not appear to fulfil the requirements of Article 84 EPC and that the subject-matter of independent claim 1 did not appear to involve an inventive step (Article 56 EPC) in the light of the disclosure of D1 combined with D5 or with D6 (W000/33244 A2) which was introduced into the proceedings by the board of its own motion in

accordance with Article 114(1) EPC. The board gave its reasons for the objections and explained that the appellant's arguments were not convincing.

IV. By letter dated 18 May 2012 the board was informed that the appellant's representative would not be attending the oral proceedings and that the request for oral proceedings was withdrawn. The appellant did not submit any comments on the objections raised in the annex accompanying the summons.

V. Independent claim 1 according to the sole request reads as follows:

"1. An electronic whiteboard, the whiteboard including: a writing input portion; a frame (1) provided around the periphery of the electronic whiteboard; and a control circuit (8); wherein, the writing input portion has a multilayer structure including a surface writing layer (2), an underlayer (4), and an input induction layer (5) which is provided between the writing layer (2) and the underlayer (4), the input induction layer (5) incorporating a first membrane antenna array (51, 52) lattice arranged along X and Y axes and wherein the antenna array lattice is connected at an output to the control circuit, characterized in that:  
said input induction layer incorporates a second membrane antenna array lattice (51, 52) overlaid on said first antenna array lattice;  
said first antenna array lattice and said second antenna array lattice each define induction cells (53);  
the induction cells of the first antenna array lattice are interlaced with the induction cells of the second antenna array and wherein said input induction layer (5)

consists of two or more induction layers, and the induction cells (53) on respective induction layers are set to interlace each other; and each induction layer is assembled from a plurality of pieces with each piece comprising an electrical connection means (56, 57) along the X or Y axis, each piece of the induction layer is connected by means of the electrical connection means (56, 57), and said connection means (56,57) is one of a pin-type connection means, a flexible printed circuit means, a PIN-PIN connection means, a welding spot (VGA) thermal-melted connection means, an ultrasonic welding device, a solder-plate welding device, or a puncturing connection means."

VI. The appellant requested in writing that the appealed decision be set aside and that a patent be granted on the basis of claims 1 to 10 submitted with the statement setting out the grounds of appeal.

VII. Oral proceedings were held on 26 June 2012 in the absence of the appellant. After due deliberation on the basis of the written submissions, the board announced its decision.

## Reasons for the Decision

### 1. Admissibility

The appeal complies with Articles 106 to 108 EPC (see Facts and Submissions, point II above). It is therefore admissible.

### 2. Non-attendance at oral proceedings

By letter dated 18 May 2012 the board was informed that the appellant's representative would not be attending the oral proceedings and that the request for oral proceedings was withdrawn. The board considered it expedient to maintain the date set for oral proceedings. Nobody attended on behalf of the appellant.

Article 15(3) RPBA stipulates that the board is not obliged to delay any step in the proceedings, including its decision, by reason only of the absence at the oral proceedings of any party duly summoned, who may then be treated as relying only on its written case.

Hence, the board was in a position to announce a decision at the end of the oral proceedings.

### 3. Clarity - Article 84 EPC

The expression "induction cells (53) on respective induction layers are set to interlace each other" in claim 1 lacks clarity. This expression defines that within each layer the induction antenna cells interlace each other. It is not clear how this feature might contribute to achieving the alleged effect of improving

the accuracy of the whiteboard, so that the sensitivity is increased (see paragraph [0037] of the published application).

Claim 1 therefore lacks clarity under Article 84 EPC.

4. Inventive step - Article 56 EPC

The above objection notwithstanding and even assuming that the subject-matter of claim 1 was clear, it would still not involve an inventive step for the following reasons.

4.1 With regard to the analysis of D1 in point 2.1 of the decision under appeal, the board agrees with the appellant (see top of page 3 of the statement setting out the grounds of appeal) that D1 taken as the closest prior art discloses all the features of claim 1 except for the following features:

(a) the input induction layer consists of two or more induction layers, each induction layer comprises an antenna array forming a second antenna array overlaid on a first antenna array whereas first and second array are interlaced.

(b) each induction layer is assembled from a plurality of pieces with each piece comprising an electrical connection means along the X or Y axis.

(c) the electrical connection means is one of a pin-type, a flexible printed circuit, a PIN-PIN connection, a welding spot (VGA) thermal-melted connection, an

ultrasonic welding device, a solder-plate welding device or a puncturing connection.

- 4.2 The objective technical problem underlying feature (a) is considered to be to increase the sensitivity of the input induction layer.

The solution of this problem according to feature (a) is considered to be obvious in the light of the disclosure of D5, in particular figure 1 and the following passage:

"To reduce this displacement length ... and increase the sensitivity of the device, the two conductors 1 and 1' and the two conductors 2 and 2' connected in series are superimposed, being staggered by a half a pitch..." (see column 2, line 44 onwards).

Feature (a) is therefore obvious in the light of a combination of D1 and D5.

The appellant's arguments with regard to D5, presented on page 3 of the statement setting out the grounds of appeal, are based on features which are not part of claim 1. In particular, claim 1 does not specify that antennae are printed on two surfaces of the insulation membrane. The corresponding arguments therefore do not convince.

- 4.3 When combining the teachings of D1 and D5 in an obvious way the skilled person arrives at a solution which involves distinguishing feature (b) as a bonus effect without the need for inventive skill. D5 discloses (see



e.g. figure 1) that each induction layer is composed of a plurality of pieces 1 and 2 or 1' and 2' respectively.

4.4 The formulation using the term "pieces" in claim 1 is very general and, hence, can be interpreted broadly. The antenna element in x direction forms a first piece and the antenna element in y direction forms a second piece, both of which have corresponding electrical connection means (see the open ends of the electrical conductors). The type of electrical connection means according to the list given in feature (c) is considered to be notorious common general knowledge which the skilled person would choose, according to his needs, as an obvious design choice. There are no specific technical obstacles to be overcome or advantages disclosed in the application which would require any inventive activity in order to come up with a specific one of the connection means.

4.5 The board does not see any interaction or synergy caused by distinguishing features (a), (b) and (c) which could be the basis for an inventive technical contribution. Features (a), (b) and (c) are therefore considered to be merely aggregated features.

The subject-matter of claim 1 is therefore obvious with regard to a combination of D1 and D5 (Article 56 EPC).

5. Alternatively, D6 too renders distinguishing features (a), (b) and (c) obvious.

5.1 As far as feature (a) is concerned, D6 discloses forming the receiving antenna arrays on two sides of an insulator base (see e.g. D6, claim 12), and in

particular forming the array in x-direction on one side and the array in y-direction on the other side of the insulator. D6 further hints at shifting the windings with respect to each layer (see e.g. D6, claims 24 and 25), which is considered to have the effect that the induction cells of the first and second antenna array are interlaced according to claim 1.

- 5.2 D6 also discloses that more than one layer of induction antenna cells along X axis and Y axis are formed on two sides of the membrane surfaces and the layers are insulated from each other (see e.g. D6, claim 23 disclosing a third and fourth layer).

Distinguishing features (b) and (c) are therefore considered to be obvious for the same reasons as set out in sections 4.3 and 4.4 above.

- 5.3 For the sake of completeness, the board notes that D6 also discloses a large induction layer area consisting of a plurality of pieces of induction cells (see e.g. figure 7b and corresponding text of the description). In the board's view, D6 therefore renders obvious the principle of forming a large induction layer area by tiling and interconnecting a plurality of pieces of induction layers.

- 5.4 The subject-matter of claim 1 therefore lacks an inventive step also in the light of D1 combined with D6 (Article 56 EPC).

**Order**

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

The appeal is dismissed.

The Registrar:

The Chair:

K. Götz

A. Ritzka