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**D E C I S I O N**  
of 23 October 1998

**Case Number:** T 0239/96 - 3.5.1

**Application Number:** 86102478.4

**Publication Number:** 0193856

**IPC:** G06K 19/067

**Language of the proceedings:** EN

**Title of invention:**  
IC card

**Patentee:**  
Casio Computer Company Limited

**Opponent:**  
Siemens AG

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 56, 123(2), 112

**Keyword:**  
"Enlarged Board - referral (no)"  
"Restitutio in peius"  
"Inventive step - (no)"

**Decisions cited:**  
G 0008/91, G 0009/92, G 0001/93

**Catchword:**  
-



Case Number: T 0239/96 - 3.5.1

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.1  
of 23 October 1998

**Appellant:**  
(Opponent)

Siemens AG  
Postfach 22 16 34  
80506 München (DE)

**Representative:**

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**Respondent:**  
(Proprietor of the patent)

Casio Computer Company Limited  
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Shinjuku-ku  
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**Representative:**

Strasse, Joachim, Dipl.-Ing.  
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**Decision under appeal:**

Interlocutory decision of the Opposition Division  
of the European Patent Office posted 11 January  
1996 concerning maintenance of European patent  
No. 0 193 856 in amended form.

**Composition of the Board:**

**Chairman:** P. K. J. van den Berg  
**Members:** R. S. Wibergh  
C. Holtz

## Summary of Facts and Submissions

- I. The respondent is proprietor of European Patent No. 0 193 856, which is based on patent application No. 86 102 478.4 claiming priority of 4 March 1985.
- II. The appellant opposed the patent on the grounds that the subject-matters of all claims did not involve an inventive step having regard to the documents
- D1: EP-A-0 071 255 and  
D2: EP-A-0 131 420.
- A further document,
- D3: US-A-4 216 577,
- was cited later in the proceedings.
- III. With decision dated 11 January 1996 the Opposition Division maintained the patent in amended form in accordance with the respondent's main request.
- IV. The opponent (appellant) lodged an appeal against this decision on the last day of the prescribed term for filing a notice of appeal. In the statement setting out the grounds of appeal it was argued that a certain feature which had been added to claim 1 during the opposition proceedings was not based on the original disclosure (Article 123(2) EPC). Moreover, the subject-matter of claim 1 was not inventive even if said feature were to be considered.
- V. In a communication pursuant to Article 11(2) of the Rules of Procedure of the Boards of Appeal, the Rapporteur expressed the preliminary opinion that it indeed appeared doubtful if the feature in question

could be unambiguously derived from the application as originally filed. Furthermore, it seemed that the subject-matter of claim 1 did not involve an inventive step.

VI. With letter of 21 September 1998 the respondent filed three new versions of claim 1 according to a main request and two subsidiary requests. In all of these claims the controversial feature had been deleted.

Claim 1 of *the main request* read as follows (omitting the reference signs):

An IC card, comprising:

at least one IC chip having electrical terminals;

a sheet-like structure for supporting said at least one IC chip;

internal connecting members formed on a first surface of said sheet-like structure, said internal connecting members comprising a plurality of connection pads to be connected to an external device and wiring patterns for connecting said connection pads to said terminals of said at least one IC chip, wherein a resin is molded on a surface of said at least one IC chip;

a top sheet for covering said first surface of said sheet-like structure, said top sheet having openings facing said connection pads; and

contact segments formed on said connection pads, wherein each of said contact segments is composed of an electric conductive metal layer formed by plating and includes an uppermost layer formed by gold plating, said contact segments having thickness substantially equal to the thickness of said top sheet, so that said contact segments fit into said openings, said contact segments being arranged in rows,

and wherein said sheet-like structure comprises an upper sheet and a substrate including said at least one

IC chip and said internal connecting members, characterized in that said sheet-like structure forms a first and a second division area, said first division area being separated from said second division area by an imagined straight line which extends at right angles to the longitudinal direction of said sheet-like structure and wherein said first division area includes all said contact segments and said second division area includes at least one IC chip, said at least one IC chip being located outside the area bound by said rows, and in that said resin is molded on only the upper surface of said at least one IC chip on which upper surface said electrical terminals are arranged and such that said resin faces said top sheet.

Claim 1 of *subsidiary request 1* differed from the main request in the additional feature "said rows /of contact segments/ being spaced apart by a distance of 5.62 mm".

Claim 1 of *subsidiary request 2* differed from subsidiary request 1 in the additional feature "and leads connecting said electrical terminals and said internal connecting members have portions not covered by said resin".

(As to subsidiary request 2, the respondent subsequently requested that "have portions" be replaced by "are".)

VII. Oral proceedings were held on 23 October 1998. In addition to the three requests already on file, the respondent submitted subsidiary requests 3, 4 and 5. These requests corresponded to the main request and the first two subsidiary requests, respectively, but with the difference that the last feature of claim 1, "said

resin faces said top sheet", was changed to "said resin contacts said top sheet". The respondent further submitted the following question to be considered by the Enlarged Board of Appeal:

"Is it permitted for the patentee to delete a feature from the main claim, which was introduced during the opposition proceedings and which according to the Board of Appeal and the opponent is not sufficiently disclosed in the description, when the opponent is the sole appellant?"

VIII. The arguments brought forward by the parties can be summarised as follows:

The appellant:

Claim 1 in the form accepted by the Opposition Division had contained the feature that "said resin *contacts* said top sheet", rather than merely "...*faces* said top sheet". The respondent's main request and subsidiary requests 1 and 2 involved claims in which said feature had been omitted. The amendment resulted in an extension of the scope of protection as compared with the patent in the form upheld by the Opposition Division. This was inadmissible in view of G 9/92 (OJ EPO 1994,875). Furthermore, the feature could not be included in the independent claim again, in accordance with the respondent's subsidiary requests 3, 4 and 5, since it had no support in the original application. It followed that the patent had to be revoked because of a situation similar to the "inescapable trap" dealt with in the decision G 1/93.

As to the substantive issues, none of the claims proposed by the respondent defined a patentable IC card. Starting out from D1, the skilled person would realise from D2 that a chip which was too large to fit inside the area confined by the contact rows could be positioned elsewhere on the card; the measure was anyway self-evident. Furthermore, D3 disclosed that a layer on top of the chip is useful as protection against manipulations; this layer could obviously be made of resin. Thus the main request was not allowable. Subsidiary request 1 concerned merely a certain dimension according to the ISO standard, subsidiary request 2 a feature which was known from D3. Claim 1 according to subsidiary requests 3-5 not only involved the inadmissible extension of subject-matter already referred to, but the added feature was also obvious since the chip was always likely to contact the top sheet in view of the thinness of the standard card.

The respondent:

G 9/92 could not be interpreted as preventing the respondent from going back to the patent as granted since, in the present case, he had not been adversely affected by the Opposition Division's decision and could not have appealed himself. Moreover, even if he had been adversely affected he would have had no means of protecting himself against the opponent's appeal which had been filed on the last day for the notice of appeal. According to G 9/92, amendments which were to the point and necessary would be admissible. A patentee who had not appealed himself was not *strictly* limited to the patent as maintained by the decision under appeal, but merely *primarily* limited to defending this version of the patent. In the present situation, and since the EPC did not foresee any extra time period for

cross-appeals, the patentee must be entitled to fall back on his granted patent. In case the Board would not agree to this, it was requested that the question be referred to the Enlarged Board of Appeal.

Concerning claim 1 of his main request, the respondent submitted that the feature that the chip was positioned outside the rows of contacts could not be derived from D2 since the card shown in Figure 1 of that document clearly did not conform to the ISO standard; the rows of contacts as depicted were so close to each other that an IC chip simply could not be placed between them. Furthermore D2 said nothing about the problem to be solved, namely the risk of damage to the chip during the read/write process. The feature that a resin is molded on only the upper surface of the IC chip was not derivable from D3 since this document neither disclosed this particular material nor mentioned the problem of protecting the chip from external forces.

Subsidiary request 1 stressed the fact that the invention relates to an ISO standard card. A skilled person desiring to improve on an ISO card would not bother to look into documents concerning other kinds of cards, such as D2.

According to subsidiary request 2 the leads from the chip are not covered by resin. This allowed them to deform if the IC card was warped, thus avoiding rupture.

Subsidiary request 3 was allowable for the reasons given in the decision under appeal: the skilled person had no reason to flip around the chip in D1 such that its contacts faced the top sheet, and to arrange the resin such that it contacted the top sheet.



Subsidiary requests 4 and 5 were allowable for analogous reasons.

- IX. The appellant requested that the decision under appeal be set aside and that the patent be revoked.
- X. The respondent requested that the appeal be dismissed and that the patent be maintained on the basis of claim 1 of either the main request, subsidiary request 1 or subsidiary request 2, all filed on 21 September 1998, or the further subsidiary requests 3 to 5, wherein the main request, subsidiary request 1 and subsidiary request 2 have been amended by replacing the word "faces" in the characterising part of claim 1 by the word "contacts". The respondent further requested that the question submitted in the oral proceedings be referred to the Enlarged Board of Appeal.

### Reasons for the Decision

1. The appeal is admissible.

*The respondent's legal position - reformatio in peius*

2. Decision G 9/92

Decision G 9/92 (OJ 1994,875) concerns the question whether a patentee who has not filed an appeal of his own and therefore is only a party to the opposition appeal proceedings as of right under Article 107 EPC, is entitled to go beyond the decision under appeal in forming his request in response to the appeal. The Enlarged Board of Appeal answered this question in the negative, deciding that a patentee in this position is primarily restricted to defending the patent in the

form it has been maintained by the decision under appeal and that any amendment proposed in the appeal may be rejected as inadmissible by the Board of Appeal if it is neither appropriate nor necessary.

While it is true that the wording of this decision leaves some margin of flexibility for the respondent/patentee, it seems not to leave any room for the patentee to go back to the patent as granted in a situation like the present, where the amended claims as maintained are found to be in conflict with formal patentability criteria such as the requirements of Article 123(2) EPC. In G 9/92 a minority of the members of the Enlarged Board held that the foremost obligation on the EPO is the examination of its own motion, which would make *reformatio in peius* admissible. The minority relied on the *travaux préparatoires* in arriving at this conclusion. The majority, however, relied on the practice which was found appropriate for the Boards of Appeal according to a number of Enlarged Board of Appeal decisions, such as G 7/91, G 8/91, G 9/91 and G 10/91, which had established that the nature of appeal proceedings is close to civil proceedings before courts of law, and that therefore the principle of party disposition must have precedence over examination by the EPO of its own motion. One result of this principle was that a party who has not himself appealed against a decision of the first instance cannot demand having the same position as the appellant. By not appealing, the party had in fact accepted the boundaries of the decision of the first instance.

3. Several questions arise in the present case which are not discussed in G 9/92. The first one concerns the lack of a provision in the EPC for a so-called cross-appeal (in German: "Anschlußbeschwerde") for a party who has not planned on appealing himself but finds that

the opposing party has appealed, and maybe at such a late stage that the first party is no longer able to appeal himself (cf. the present case where the notice of appeal was filed on the last day of the two months allowed under the EPC). Several national legislations of member States to the EPC provide for such an extra time period for filing "cross-appeals", e.g. the United Kingdom, Germany, Sweden and Denmark. A cross-appeal makes it possible for the respondent to file counter requests going beyond the confines of the decision under appeal. However, since that party has not filed an appeal of his own, but only reacted to the opposing party's appeal, and the cross-appeal is out of term with regard to a proper appeal, the cross-appeal is dependent on the proper appeal. Therefore, should the appellant withdraw the appeal, the respondent's cross-appeal is likewise considered non-existent and the case will be dismissed without any decision being taken on the merits of either party's substantive requests. This fate of a cross-appeal corresponds to a respondent's position when the sole appellant withdraws the appeal.

4. Decision G 9/92 mentions the fact that the EPC does not include any possibility of a cross-appeal by a respondent, but does so only in passing without drawing any conclusions therefrom. However, it seems to this Board that this deficiency in the EPC is of prime importance when considering the respondent's procedural position and the issue of *reformatio in peius*.

Firstly, the possibility to cross-appeal is procedurally economic in that where a party is not fully satisfied by a decision, he may nevertheless abstain from appealing to avoid that the other party files a cross-appeal, which would leave the legal situation wide-open again. In practice it has been found that this does have a preventive function.

Secondly, cross-appeals are procedurally economic also for the reason that, if the appellant realises during the appeal proceedings that he has little chance of winning, he can by merely withdrawing his appeal enforce the closure of the proceedings as a whole. No possibly costly and time consuming review of the respondent's requests will take place.

5. Another question raised in the present case is the argument of the respondent that he would not have been able to file an admissible appeal since he was not adversely affected, the Opposition Division having allowed his main request. On this point, the Board would on the one hand refer to the principle of party disposition recognised by the EPO, cf. G 8/91 (OJ EPO 1993, 346), point 5 of the reasons, i.e. that parties have to decide themselves what requests they want to submit and that the Boards of Appeal would as a rule not examine a case of their own motion. In short, one may conclude for the present case that the respondent put himself in this unfavourable position by not keeping the granted claims as his main request before the Opposition Division.

The Board would on the other hand also remark that the lack of a cross-appeal under the EPC actually complicates the procedure unnecessarily in cases where each party would be prepared to accept the decision if it had some guarantee that the other party would also agree to it. In the legal situation under the EPC, the parties may have to maintain requests on file which are unlikely to be allowed, purely in order to be formally qualified to appeal under Article 107 EPC. The deciding body must then spend time on examining and putting forward reasons why these requests cannot be allowed.

This situation is hardly satisfactory, neither for the parties, nor for the EPO. Nor can the interests of the public be said to be satisfied by such a cumbersome procedural result. Seen from this point of view, the argument of the respondent is not without merit.

6. Based on the above, the Board would conclude that, in the absence of a provision on cross-appeal, *reformatio in peius* cannot be ruled out altogether under the EPC, since it may serve as a means of avoiding unnecessary litigation, while still satisfying legitimate expectations of the parties for a fair hearing. A referral under Article 112 EPC has been requested, and the Board is sympathetically inclined towards this request, at least in respect of a more generally worded question, since it does raise an important point of law. However, Article 112 EPC provides for referral if the Board finds that a decision by the Enlarged Board of Appeal is *required*. Therefore, should the Board find, for other reasons than those discussed above, that none of the respondent's requests for maintenance of the patent can be allowed, there is no room for a referral. The Board will therefore proceed to review these six requests on their substantive merit.

*The respondent's main request*

7. *Novelty*

It is not in dispute that an IC card according to the preamble of claim 1 is known from D1.

The characterising part of the claim mainly concerns two different features. First, it is specified that at least one chip is located at a position outside the

area bound by the rows of contact segments. Second, resin has been molded on only the upper surface of the IC chip, the upper surface being the one on which the electrical terminals are arranged, such that the resin faces the top sheet.

It is common ground that D1 does not disclose the first characterising feature. As to the second feature, the appellant has pointed out that D1 mentions on page 7 that the top surface of the chip is covered with a lacquer drop ("Lacktropfen"). In the view of the Board, however, it has not been convincingly shown that the molded resin in claim 1 can be identified with such a lacquer drop. Thus this feature is also regarded as distinguishing.

It follows that the subject-matter of claim 1 is new.

8. *Inventive step*

8.1 Compared with the closest prior art, which is described in D1, the invention as set out in claim 1 is said to provide solutions to two different technical problems.

8.2 The first characterising feature solves, in the appellant's view, the problem of mechanical strain during the read/write process on a chip which is placed between the rows of electrical contact segments. This problem was mentioned in the application as filed.

In the patent as granted, however, another problem was given, namely the difficulty of arranging a chip in the limited space between the contact rows (an area 5.62 mm wide, according to the relevant ISO standard). That problem was also referred to in the application as filed.

There was some discussion during the oral proceedings before the Board whether one or the other problem should be regarded as the most appropriate one for the assessment of inventivity. The Board takes the view that an inventive step can only be involved if there is no way of arriving at the claimed subject-matter, no matter what (objectively admissible) problem is considered.

The Board chooses first to regard the problem mentioned in the patent and addressed by the Opposition Division, namely the alleged difficulty of arranging a chip within the limited space between the rows of contacts.

It should be clear that the important factor here is the size and number of the chips to be provided. In D1, a single chip provides processor functions and memory. The memory is needed to store data such as information about the card owner or concerning a bank account to which the card provides access. The priority date of D1 is roughly four years before that of the present invention. It must be assumed that in these four years more and more versatile cards were being developed, cards which required more powerful processors and larger memories. Therefore, in the view of the Board, it was merely a matter of time before the card designers would be confronted with the necessity of using larger chips and/or providing a separate memory chip. In this situation the problem concerning the limited space between the contacts rows had to be addressed. Therefore the *recognition of the problem* has no inventive merit. As to the *solution* to the problem, which consists in placing the chip or chips outside the limited area, the Board considers it as trivial.

In the decision under appeal it is pointed out that D2 already discloses a card provided with two chips located outside the area between the contact rows. The Board finds that this document reinforces the above argument without being essential for it.

Thus the addition of the first characterising feature to the card known from D1 involves no inventive step. It follows that there is no need to consider the other technical problem mentioned above.

- 8.3 The second characterising feature, namely the resin layer molded on top of the chip, is said to have the effect of dampening any impact on the card which might otherwise damage the chip.

The appellant has insisted on the fact that the patent-in-suit contains no indication of this problem. Indeed, it is merely said in the description that "after completion of the connection, a resin is molded on the surface of main chip 5", ie only the presence of the resin is expressly disclosed, but not its purpose.

In the Board's opinion, a technical problem alleged to be solved by the invention as claimed must concern an effect which is derivable from the application as filed. This is also in agreement with the Guidelines C-IV 9.5. In the present case the effect of dampening out external impacts may well be consistent with the disclosure, but it does not follow *unambiguously* from it: other effects are also imaginable. Applying the same principle as before, all possible effects which may be derived from the original application need to be considered in order to determine whether an inventive step is involved.



One such effect, according to the appellant, is that the resin layer will protect the upper surface of the chip from fraudulent manipulations. The Board finds this problem at least as consistent with the description of the patent under consideration as the one suggested by the respondent. The formulation of this problem has no inventive merit in view of the common application of IC cards as bank cards and pay cards.

As noted in the decision under appeal, D3 discloses a technique of covering the upper surface of the chip (see fig.4) with a "substance" in order to protect it from manipulations. The Opposition Division was of the opinion that a resin was an obvious choice of material for the substance since resins are commonly used in cards and easy to work with. The Board can only agree with this conclusion.

Thus also the addition of the second feature is not regarded as inventive. There is no interrelationship between the two characterising features. It follows that the subject-matter of claim 1 does not involve an inventive step.

*The respondent's subsidiary request 1*

9. Claim 1 according to this request specifies that the distance between the contact rows is 5.62 mm. This implies that the claimed card conforms to the ISO standard.

The Board notes first that the feature is implicitly disclosed in D1 and thus does not constitute a difference over the closest prior art. This fact, which is confirmed by the respondent's having included the characteristic in the preamble of the claim, would normally mean that the feature does not contribute to

any inventive activity. The respondent nevertheless argues that the limitation serves to distinguish the invention from the teaching of D2, which is not expressly said to concern an ISO card. As set out above, however, D2 is not regarded as essential for the argumentation. Nor is the ISO standard crucial: if the technical problem concerns the relationship between the dimensions of a certain area of the card and the size of an *unspecified* chip, it cannot be of any importance whether that area is exactly 5.62 mm wide or not.

Thus the subject-matter of this claim also does not involve an inventive step.

*The respondent's subsidiary request 2*

10. According to claim 1 of this request, the leads connecting the electrical terminals on the chip to the internal connecting members on the card have portions not covered by resin. The basis for this additional feature is a drawing (Figure 3). The appellant objected to the wording "a portion" since it might imply that some parts of the leads are indeed covered by resin, something which was not disclosed. In reply, the respondent changed the formulation into "the internal connecting members are not covered..". This latter version of the claim is considered here.

As the appellant pointed out in the oral proceedings before the Board, the drawings in D3 already disclose the feature that the electrical leads connecting the chip with the external contacts are not covered by the layer applied to the upper surface of the chip. (The "embedded material" also shown in the drawings of D3 is optional - see column 7, lines 13 to 15 - and therefore

circumstances since there is no need to protect the leads to the external contacts, which are anyway accessible. The skilled person would therefore have taken over also this feature when combining D3 with D1.

Thus also the subject-matter of this claim does not involve an inventive step.

*The respondent's subsidiary requests 3 to 5*

11. The claims of these three requests are identical with the claims of three higher-ranking requests, except that the resin molded on the upper surface of the chip is said to *contact* the top sheet. This feature was included in the version of claim 1 which was considered by the Opposition Division. In fact, claim 1 according to subsidiary request 3 is identical with the independent claim which the Opposition Division finally accepted.
- 11.1 The basis in the patent application as originally filed for the feature that the resin layer contacts the top sheet is solely Figure 3. In its communication, the Board raised the question whether this figure constitutes an unambiguous disclosure of the feature in view of the fact that a schematic drawing would not be capable of depicting any small gap which might exist between the resin layer and the top sheet. However, it need not be decided whether or not the modification represents an inadmissible extension of subject-matter since, for the reasons given below, the Board is of the opinion that the inventions according to these requests do not involve an inventive step in any case.

11.2 The technical effect of the resin layer being in contact with the top sheet seems to have been difficult to express in precise terms. This is natural considering that the description does not even mention the feature; still, the problem-solution approach requires that a technical effect and a corresponding problem be identified.

The decision under appeal gives the relevant problem as "protecting the upper surface of the chip". This is rather general. The Opposition Division was more specific in its communication dated 20 September 1995 (point 6.2), where it is said that in D3 (fig.4) the substance covering the chip does not contact the top sheet and therefore "does not appear to protect the (upper) surface of the chip from an external force applied to the card and does not help to support the chip".

The appellant, on the other hand, submits that the illustrated contact could be purely coincidental and stresses that no effects or advantages are mentioned in the description.

11.3 As to the effect indicated by the Opposition Division in its communication, the Board has some difficulties in accepting that a resin layer contacting the top layer of the card would actually protect the surface of the chip from an external force applied to the card better than a resin layer separated from the top layer by an (arbitrarily small) distance. In fact, the respondent has at one time argued before the Opposition Division (see the letter dated 23 March 1995, page 3) that it is preferable that the IC chip can move somewhat for the very reason that it would then be better protected from external forces. The true nature of the effect therefore appears controversial. In the Board's view, if there are serious doubts about the

alleged technical effect of a feature which was originally disclosed only in a drawing, this effect cannot fairly be said to be derivable from the application. It would then follow that the feature does not involve an inventive step since it has not been shown to solve a technical problem.

11.4 Furthermore, the feature in question seems to be obvious for a different reason. Standard IC cards, with which D1 and D3 are concerned, are only about 0.76 mm thick. It therefore appears probable, as the appellant has argued, that neighbouring layers of a card resulting from the contemplated combination of D1 and D3 would touch for the simple reason that, otherwise, the thickness requirements might not be met. It should be noted that the claimed resin layer is applied on the chip, ie where space is particularly limited.

11.5 The Board concludes that the additional feature that the chip contacts the top sheet does not involve an inventive step. Thus subsidiary requests 3 to 5 also have to be refused.

*Referral to the Enlarged Board of Appeal*

12. Coming back to the respondent's request for a referral to the Enlarged Board of Appeal, since none of the requests for maintenance of the patent is allowable for substantive reasons, the Board must conclude that it cannot refer any question under Article 112 EPC to the Enlarged Board of Appeal.

13. It follows that the appellant's request for revocation of the patent is to be granted.

**Order**

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

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg