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Datasheet for the decision of 26 October 2012

Case Number: T 1783/08 - 3.4.01

Application Number: 99100094.4

Publication Number: 929049

IPC: G06K 7/00, G06K 7/10

Language of the proceedings: EN

Title of invention:
Method and system for controlling contactless IC cards

Patentee:
Denso Wave Incorporated
NIPPON TELEGRAPH AND TELEPHONE CORPORATION
Hitachi, Ltd.
Nec Tokin Corporation

Opponent:
Giesecke & Devrient GmbH

Headword:
-

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 100(a), 52(1), 56

Keyword:
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1783/08 - 3.4.01

D E C I S I O N
of the Technical Board of Appeal 3.4.01
of 26 October 2012

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 25 July 2008 rejecting the opposition filed against European patent No. 929049 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman: G. Assi
Members: F. Neumann
M. J. Vogel

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal, received on 28 August 2008, against the decision of the opposition division, dispatched on 25 July 2008, to reject the opposition against European patent number EP-B-0929049. The appeal fee was paid on 28 August 2008. The statement setting out the grounds of appeal was received on 5 November 2008.

II. The opposition was filed against the patent as a whole and based on Article 100(a) EPC 1973 together with Articles 52(1) and 56 EPC 1973.

III. In the contested decision, the opposition division held that the above-mentioned ground for opposition did not prejudice the maintenance of the patent as granted. In the reasons for the decision, the opposition division discussed the inventive step of the claimed invention starting from each of the following documents:

D1: EP-A-0 709 803,
D3: DE-T-692 00 097,
D5: Document relating to proposals for the Working Group ISO/IEC JTC1/SC17/WG8/TF2; Document N-194; 2 June 1997.

IV. In the statement setting out the grounds of appeal, the appellant maintained that the invention defined in claims 1 and 2 of the contested patent was not inventive and based this finding on two lines of argument starting from documents D3 and D5 respectively.

V. In a communication issued in preparation of oral proceedings, the Board outlined the issues to be discussed with respect to inventive step.

VI. During the oral proceedings before the Board on 26 October 2012, the appellant did not present any further arguments in support of the attack based on D3 but elaborated the attack based on D5.

VII. The appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

The respondents requested, as a main request, that the appeal be dismissed and that the patent be maintained as granted, or, as an auxiliary request, that the patent be maintained in amended form on the basis of independent claims 1 and 2 filed with letter of 1 October 2012.

VIII. Claim 1 of the contested patent as granted reads as follows:

"*A contactless IC card control system comprising:*
first means (200) for causing a reader/writer (RW) to require identification information pieces of respective plural IC cards (A, B, C);
second means (310) for causing the plural IC cards to return the respective identification information pieces in response to the requirement by the first means;
characterized by:
third means (212, 213, 220, 230, 320, 330) for assigning logical addresses to some IC cards among the plural IC cards respectively to cause the reader/writer

to select the some IC cards among the plural IC cards in response to the return of the identification information pieces by the second means;
fourth means (240, 241, 250, 340, 370) for controlling the some IC cards selected by the reader/writer;
fifth means (260, 261, 360) for causing the reader/writer to transmit a logical address cancel requirement signal to one of the some IC cards and to receive a logical address cancel response signal from the one of the some IC cards, and thereby causing the reader/writer to cancel the assignment of the logical address to the one of the some IC cards;
sixth means (262, 263, 320 330) for assigning the logical address, the assignment of which has been canceled (sic) by the fifth means, to an IC card among the plural IC cards to which any logical address has not been assigned yet; and
seventh means (264, 340, 370) for controlling the IC card to which the logical address has been assigned by the sixth means."

Claim 2 of the contested patent as granted reads as follows:

"*A method of controlling contactless IC cards, comprising the steps of:*
causing a reader/writer (RW) to require identification information pieces of respective plural IC cards (A, B, C);
causing the plural IC cards to return the respective identification information pieces in response to the requirement by the reader/writer;
characterized by:

assigning logical addresses to some IC cards among the plural IC cards respectively to cause the reader/writer to select the some IC cards among the plural IC cards in response to the return of the identification information pieces by the plural IC cards;
controlling the some IC cards selected by the reader/writer;
causing the reader/writer to transmit a logical address cancel requirement signal to one of the some IC cards and to receive a logical address cancel response signal from the one of the some IC cards, and thereby causing the reader/writer to cancel the assignment of the logical address to the one of the some IC cards;
assigning the logical address, the assignment of which has been canceled (sic) by the reader/writer, to an IC card among the plural IC cards to which any logical address has not been assigned yet; and
controlling the IC card to which the logical address has been assigned by the immediately-preceding step."

There are no dependent claims.

The text of the independent claims of the auxiliary request does not play a role in the current decision (see below) and so will not be reproduced here.

IX. The arguments of the parties, insofar as they are pertinent to the present decision, are set out below in the reasons for the decision.

Reasons for the Decision

1. The appeal is admissible.

2. The invention

The contested patent as granted concerns a contactless IC card control system (claim 1) and a method of controlling contactless IC cards (claim 2) and, in particular, the communication between a reader/writer and a number of contactless IC cards located in the communication range of the reader/writer. The reader/writer assigns different logical addresses to respective IC cards in its communication range and controls the reading and writing of information from and to each of these assigned cards in response to the respective logical address.

Problems arise with this manner of communication when the number of cards located in the communication range of the reader/writer exceeds the number of available logical addresses (paragraph [0005] of the patent as granted). Since each card cannot be allocated a logical address in such a situation, the invention proposes to assign logical addresses firstly to only some of the IC cards and to perform the required communication initially with only the selected cards. Once the required communication with one of these cards has been completed, the respective logical address can be cancelled and re-assigned to one of the as yet non-selected cards so that communication may be performed with this further card.

3. Respondents' main request

3.1 Inventive step starting from D5

3.1.1 D5 is a document discussing communication between a Proximity Coupling Device (PCD) and Proximity Integrated Circuit Cards (PICCs). In particular, this document concerns the development of an International Standard for communication to and from PICCs and relates to the procedures from initialisation through to protocol selection. Reference is made on page 8 of D5 to ISO/IEC 7816-3 (an excerpt of which was submitted by the appellant as document D6) when discussing the structure with which the PICC transmits data to the PCD.

3.1.2 It is common ground that D5 discloses the first two features of claims 1 and 2 of the patent as granted. Specifically, in order that the PCD in D5 recognises that at least one PICC is in its communication range, a polling procedure requests any cards in the communication range to send their respective identification information to the PCD.

The opposition division held that D5 also disclosed the assignment of logical addresses to the identified cards (see section 6.1 of the contested decision). In particular, node addresses (NADs) which identify the PCD and the specific card involved in the communication are employed in D5 (see pages 8 and 9). This has not been contested.

It has also not been contested that D5 discloses that the cards to which the logical addresses have been assigned are controlled by the PCD.

3.1.3 The appellant held that the remaining features of claims 1 and 2 follow in an obvious manner from D5.

In particular, it was argued that a normal wallet belonging to an average German citizen would typically contain a set of cards which, when held in the communication range of a PCD, could result in the PCD having to deal with a number of cards exceeding the maximum number of logical addresses available for allocation foreseen by ISO/IEC 7816-3. In this respect, it was disputed by the parties whether the exact number of logical addresses which were available for allocation was 6 or 7. In the Board's view, this point is, however, not critical for the discussion of inventive step and may be left open.

Thus, starting from D5, the problem to be solved was how to communicate with more than 6 or 7 cards when they are presented simultaneously to the PCD. In such a case, it was inevitable that only **some** of the cards would be assigned logical addresses because, due to the limited number of available logical addresses, it would simply not be possible to assign a logical address to the remaining cards. However, it was argued that this shortage of logical addresses in D5 was only temporary: from page 8 it was apparent that upon completion of communication with a card in D5, a Card Stop Request was issued to the card and a Card Stop Response was issued by the card confirming receipt of the Card Stop Request. The appellant explained that these commands were the same as the "*logical address cancel requirement signal*" and the "*logical address cancel response signal*" in claims 1 and 2 of the patent as

granted. Moreover, the skilled person understood that the Card Stop Request put the card into a halt mode and that in this mode, the card released the assigned logical address. The logical address was thereby made available for assignment to one of the other PICCs which had not yet received a logical address, enabling this further card to then be controlled by the PCD. The card to which the logical address was initially assigned would have to be assigned a new logical address as and when it was re-activated.

3.1.4 The Board does not agree with the appellant's argumentation leading to the conclusion that the subject-matter of claims 1 and 2 of the patent as granted derives in an obvious manner from D5.

In the Board's view, the presence of an excess number of PICCs in the PCD range was not even envisaged in D5. The Board does not contest that the Card-Stop-Request in D5 causes the release of the logical address assigned to a particular PICC making the released logical address available for re-assignment to another PICC. What counts, however, is the fact that D5 does not disclose or suggest that logical addresses are initially assigned to only a sub-group of the identified PICCs and that one of the logical addresses used for this sub-group may subsequently be re-assigned to one of the remaining PICCs.

In the view of the Board, the central question of inventive step thus hinges on the question of whether it would have been obvious - or, as the appellant maintains, inevitable - to assign logical addresses to only some of the PICCs in a larger group of PICCs and

to assign a lapsed logical address to one of the waiting PICCs.

When using the problem-solution approach, the problem posed has to be one which the skilled person would realistically face when starting from the teaching of the selected closest prior art document. In the present case, starting from D5, the Board has its doubts that the problem of too many PICC cards being located in the communication range of the PCD in D5 would actually have occurred at the priority date.

As pointed out by the respondents, the priority date of the contested patent is January 1998. At that date, contactless IC cards were not as common as they are today. In fact, it was only in the mid-1990s that contactless chip cards were beginning to be introduced to the mass market. The Board does not contest that the dimensions of IC cards would enable a large number of such cards to be located in the 10 cm communication range of the PCD of D5. However, the Board considers it unlikely that, at the start of 1998, the number of PICCs in a wallet would exceed the number of available logical addresses.

Moreover, it is self-evident that the PCD of D5 will only be configured to support given applications corresponding to certain PICCs. With this understanding, logical addresses will only be assigned to those PICCs with which the PCD is configured to communicate. For example, a PCD which allows access to a building will only be configured to communicate with identification cards which authorise holders to enter the building. Any other PICCs with banking or public

transport applications will be of no interest to the PCD and will consequently not have to be allocated a logical address by the PCD. Thus, in the scenario presented by the appellant, it is, in the view of the Board, unlikely that the number of PICCs in the communication range of the PCD at any one time and to which a logical address can be assigned by the PCD will exceed the number of available logical addresses.

3.1.5 In summary, when using D5 as a starting point, it has to be shown that the stated problem would indeed arise in the specific environment of proximity cards. The Board considers that at the priority date of the patent, in the specific PICC context of D5, the skilled person would not have encountered or considered the problem of more cards being present in the PCD range than there are logical addresses available. Since the problem on which the appellant based his attack on inventive step would not have been apparent and D5 does not discuss how to proceed when more cards are available than logical addresses, it cannot be considered obvious to assign logical addresses to only some of the PICCs and then to re-use the lapsed addresses for allocation to those cards which were not assigned a logical address in the first place.

It follows that the subject-matter of claims 1 and 2 of the patent as granted involves an inventive step over D5.

3.2 Inventive step starting from D3

3.2.1 D3 discloses a system for automatically collecting vehicle tolls. Each vehicle carries an "answering

device" which can incorporate an IC card (page 8, lines 6-9) and which communicates with a fixed terminal as the vehicle moves past the terminal. This concept is not limited to the collection of vehicle tolls but can be implemented in similar settings, for example payment systems in public transport or monitoring the comings and goings of individual fleet cars (page 1, 3rd paragraph).

3.2.2 It is common ground that in the system of D3, the fixed terminal has an interrogation zone large enough to accommodate a number of vehicles at any one time and as a result, the communication with the answering devices is controlled to take this into account. An initialisation signal periodically polls the interrogation zone to establish whether any vehicles are within range of the terminal. Each of the vehicles receiving the initialisation signal replies to the terminal identifying itself. An anticollision procedure is performed if necessary and each vehicle ultimately receives a unique identification code (which may be equated with a "*logical address*") from the terminal which is used to carry out further communication. When the communication is completed, an "*end of data transfer*" signal is issued by the terminal (see page 4, 2nd paragraph; Claim 8) and the identification code of the respective vehicle is cancelled (page 10, "Stufe 2"; claim 6).

The subject-matter of claims 1 and 2 of the patent as granted is distinguished from the disclosure of D3, *inter alia*, in that logical addresses are initially assigned to only some of the IC cards in the interrogation zone, and that one of the logical

addresses is then re-assigned to one of the IC cards which identified itself to the reader at the start of the procedure but has not yet received a logical address.

3.2.3 There was some discussion throughout the opposition and appeal proceedings as to whether the "*end of data transfer*" signal in D3 may be equated with the logical address cancel requirement signal of claims 1 and 2 of the patent as granted and whether a logical address cancel response signal may be considered to be implied in D3. The Board considers that it is not necessary to decide on these issues because the question of inventive step hinges instead on the question of whether it would have been obvious to select and process at least a first sub-group of vehicles (and their associated IC cards) from the group present in the interrogation zone of the terminal before processing at least one further vehicle in the group.

3.2.4 As pointed out by the respondents, all vehicles located within the terminal's range have to be processed quickly; they are moving past the terminal - possibly at high speed - and all necessary communication has to be completed by the time they move out of range. This would imply that all answering devices should be assigned a logical address as soon as possible after they have identified themselves to the reader. This requirement is in conflict with the concept of splitting the answering devices of the vehicles into at least first and second groups, as is the case in claims 1 and 2 of the patent as granted.

The Board thus agrees that the skilled person would not at all consider processing the vehicles of D3 in sub-groups due to the fact that they might move out of range by the time they are dealt with. Every effort would be made to ensure that the data communication is effected as quickly as possible. At the oral proceedings before the Board the appellant refrained from responding to this argument.

For this reason alone, the claimed invention cannot be considered as obvious to a person skilled in the art when starting from D3.

3.3 In conclusion, the ground for opposition submitted by the appellant does not prejudice the maintenance of the patent as granted.

4. Respondents' auxiliary request

4.1 In view of the findings concerning the respondents' main request, it is not necessary to deal with the respondents' auxiliary request.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

R. Schumacher G. Assi