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# Datasheet for the decision of 8 June 2011

**Case Number:** T 1363/08 - 3.4.01

**Application Number:** 04008430.3

**Publication Number:** 1467436

**IPC:** H01Q 7/08

**Language of the proceedings:** EN

**Title of invention:**
Antenna device for vehicles and vehicle antenna system and communication system using the antenna device

**Applicant:**
Panasonic Corporation

**Opponent:**
-

**Headword:**
-

**Relevant legal provisions:**
RPBA Art. 12(4)

**Relevant legal provisions (EPC 1973):**
EPC Art. 84, 56
EPC R. 27(1)(e)

**Keyword:**
-

**Decisions cited:**
-

**Catchword:**
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

**Case Number:** T 1363/08 - 3.4.01

# D E C I S I O N
**of the Technical Board of Appeal 3.4.01**
**of 8 June 2011**

**Appellant**: Panasonic Corporation
1006, Oaza Kadoma
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**Representative**: Grünecker, Kinkeldey
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**Decision under appeal:** **Decision of the Examining Division of the European Patent Office posted 1 February 2008 refusing European patent application No. 04008430.3 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman:** B. Schachenmann
**Members:** G. Assi
H. Wolfrum

## Summary of Facts and Submissions

I. The European patent application No. 04008430.3 (publication number 1 467 436) was refused with a decision dated 1 February 2008. The examining division held inter alia that the claims then on file did not meet the requirements of Articles 52(1) and 56 EPC 1973.

The examining division considered, among others, the following prior art documents:

(D7) JP-A-11-321471 with English Abstract and English machine translation;

(D8) US-A1-2001/0036081.

II. The applicant (appellant) lodged an appeal, received on 3 April 2008, against the decision of the examining division. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 3 June 2008.

With the grounds of appeal the appellant produced arguments against the reasons of the appealed decision and requested that the decision be set aside and a patent be granted.

With a communication of 25 March 2011 the appellant was summoned to oral proceedings scheduled to take place on 8 June 2011. With a further communication of 31 March 2011 the Board raised objections under Articles 54(1),(2), 56 and 123(2) EPC 1973 against the claims underlying the contested decision.

With a letter of 4 May 2011 the appellant submitted new sets of claims according to a main request and auxiliary requests 1 and 2.

Oral proceedings were held on 8 June 2011 as scheduled.

III. The appellant requested that a patent be granted on the basis of one of the sets of amended claims filed at the oral proceedings as a main request and auxiliary requests 1-5.

IV. The wording of claim 1 of the main request reads as follows:

"*A vehicle antenna system for use in a keyless entry system with bidirectional communication between a driver's proprietary card (19) and the vehicle antenna system, the vehicle antenna system comprising:*
*a vehicle antenna (35) comprising at least a core (21) made of a magnetic material and a coil (23) wound around the outer surface of the core (21);*
*a vehicle mirror composed of a fixing portion (16) and a movable fold-away portion (17); and*
*metal components for revolving the vehicle mirror,*
***characterised in that***
*the metal components are contained in the fold-away portion (17); and in that*
*the vehicle antenna (35) is housed within the fixing portion (16).*"

The wording of claim 1 of the auxiliary request 1 corresponds to that of claim 1 of the main request with the deletion of the features "*metal components for revolving the vehicle mirror*" and "*the metal components*

*are contained in the fold-away portion (17); and in that*".

The wording of claim 1 of the auxiliary request 2 reads as follows:
"*A vehicle antenna system for use in a keyless entry system with bidirectional communication between a driver's proprietary card (19) and the vehicle antenna system, the vehicle antenna system comprising:*
*a vehicle antenna (35) comprising at least a core (21) made of a magnetic material and a coil (23) wound around the outer surface of the core (21);*
*a vehicle mirror assembly composed of a mirror, a movable portion (17) holding the mirror, and a fixing portion (16) for mounting the vehicle mirror assembly to the outside of a vehicle body; and*
*metal components for revolving the mirror,*
***characterised in that***
*the movable portion (17) is adapted to be able to be folded away by the driver;*
*the metal components are contained in the movable portion (17); and*
*the vehicle antenna (35) is housed within the fixing portion (16).*"

The wording of claim 1 of the auxiliary request 3 corresponds to that of claim 1 of the auxiliary request 2 with the deletion of the features "*metal components for revolving the mirror*" and "*the metal components are contained in the movable portion (17)*".

The wording of claim 1 of the auxiliary request 4 corresponds to that of claim 1 of the auxiliary request 2 with the addition, at the end of the claim,

of the feature "*wherein the vehicle antenna (35) further comprises a holding portion (22) composed of a dielectric film sheet wound on an outer surface of the core (21) and a linear conductor being wound around the holding portion (22)*".

The wording of claim 1 of the auxiliary request 5 corresponds to that of claim 1 of the auxiliary request 4 with the deletion of the features "*metal components for revolving the mirror*" and "*the metal components are contained in the movable portion (17)*".

The other claims according to all the requests are dependent claims.

V. The revised version of the European Patent Convention or EPC 2000 entered into force on 13 December 2007. In the present decision, reference is made to "*EPC 1973*" or "*EPC*" for EPC 2000 (EPC, Citation practice, pages 4-6) depending on the version to be applied according to Article 7(1) of the Revision Act dated 29 November 2000 (Special Edition No. 1 OJ EPO 2007, 196) and the decisions of the Administrative Council dated 28 June 2001 (Special Edition No. 1 OJ EPO 2007, 197) and 7 December 2006 (Special Edition No. 1 OJ EPO 2007, 89).

## Reasons for the Decision

1. The appeal is admissible.

2. Main request and auxiliary request 2

2.1 The vehicle antenna system of claim 1 of the main request and the auxiliary request 2 comprises "*metal components for revolving the vehicle mirror*", which metal components "*are contained in the fold-away portion (17)*" of the vehicle mirror.

2.2 Article 84 EPC 1973 requires that the claims shall be clear.

The claimed metal components are only defined by their function of revolving the vehicle mirror and their arrangement in the fold-away portion of the vehicle mirror. The nature of these metal components can be inferred from page 13 (lines 19-22) of the application as filed (see "*such metal components as motor, cam, etc.*"). Claim 1, however, is unduly general and vague. First, the claim does not otherwise specify the structure of the metal components. Second, it does not state whether all the metal components for revolving the vehicle mirror are contained in the fold-away portion. Last but not least, it does not exclude that other metal components, which may impair the claimed bidirectional communication, are housed within the fixing portion of the vehicle mirror together with the antenna.

Therefore, claim 1 of the main request and auxiliary request 2 does not meet the requirements of Article 84 EPC 1973 as lacking clarity.

2.3 Article 83 EPC 1973 requires that the "*application*" shall disclose the invention in a manner sufficiently clear and "*complete*" for it to be carried out by a skilled person. The requirement of completeness of the

application implies, according to Rule 27(1)(e) EPC 1973, that the "*description*" shall describe "*in detail*" at least one way of carrying out the invention claimed.

The application as filed does not describe at all how the vehicle mirror is revolved by means of metal components contained in the fold-away portion. In particular, the disclosure on page 13 (lines 19-22) already mentioned above is completely insufficient in this respect.

The appellant, however, held that the present invention did not concern a special system for revolving a vehicle mirror. Rather, it dealt with the interference that metal components might have on the claimed bidirectional communication.

In the Board's view, such an argument is not convincing. As it results from the two-part form of claim 1, the claimed invention consists in the arrangement of the vehicle antenna in the fixing portion of the vehicle mirror, whereas the metal components for revolving the vehicle mirror are placed in the fold-away portion. The vehicle antenna is thus separated from the source of interference represented by such metal components. With this understanding, Rule 27(1)(e) EPC 1973 requires that the description describes in detail at least one example how the vehicle mirror can be revolved by means, i.e. the claimed metal components, that are contained in the fold-away portion. This is not the case.

Therefore, the requirement of Rule 27(1)(e) EPC 1973 is not met.

2.4 It follows that the main request and the auxiliary request 2 are not allowable.

3. Auxiliary request 1

3.1 At the oral proceedings the appellant held that document D7 represented the most relevant state of the art. The Board has no reason to disagree with this view.

3.2 D7 discloses a vehicle antenna device for use in a keyless entry system with bidirectional communication between a driver's portable apparatus of a card type and the vehicle antenna device (translation, [0001] and [0002]). The vehicle antenna device comprises at least a vehicle antenna and a vehicle mirror composed of a fixing portion and a movable fold-away portion (Figures 1-2, 8-9, 10, 11-12, 13-14). According to the embodiment of Figures 1-2, two antenna coils are fixedly arranged in the movable portion of the vehicle mirror with different orientations so as to achieve a satisfactory bidirectional communication irrespective of whether the vehicle mirror is in use or in a retracted position. The same effect is achieved by all the other embodiments disclosed (translation, [0055]). In particular, according to the embodiments of Figures 8-9 and 10 a single antenna coil rotates within the movable portion of the vehicle mirror; according to the embodiment of Figures 11-12 a single antenna coil is fixedly mounted on the fixing portion with a suitable orientation but is at the same time arranged in the movable portion of the vehicle mirror; and according to the embodiment of Figures 13-14 a single antenna coil with a ferrite bar core is vertically arranged in the movable portion of the vehicle mirror.

3.3 In the Board's view, the embodiment of Figures 13-14, in particular, may be considered as a starting point for assessing inventive step.

Using the wording of claim 1 of the auxiliary request 1, this embodiment discloses a vehicle antenna system for use in a keyless entry system with bidirectional communication between a driver's proprietary card and the vehicle antenna system.
The vehicle antenna system comprises a vehicle antenna 61 comprising a core made of a magnetic material and a coil wound around the outer surface of the core. It also comprises a vehicle mirror composed of a fixing portion 26 mounted on a vehicle door frame 24 and a movable fold-away portion 25.
The vehicle antenna 61 is housed within the movable portion 25.

The claimed vehicle antenna system thus differs from that according to the embodiment of Figures 13-14 of D7 only in that the vehicle antenna is housed within the fixing portion. This finding was not contested by the appellant at the oral proceedings.

3.4 The appellant held that it was the vertical arrangement of the ferrite bar antenna 61 shown in Figures 13-14 of D7 that permitted to achieve the effect of a good bidirectional communication both when the vehicle mirror was in use and in a retracted position. The technical problem underlying the present invention thus consisted in achieving the same effect without any need for a special orientation of the vehicle antenna.

In the Board's view, such a definition of the problem is not convincing. The ferrite bar antenna is indeed arranged vertically according to Figures 13-14 of D7. However, the disclosure of D7 (translation, [0054]) gives a hint at the fact that modifications of the disclosed embodiments are possible, for example with regard to the directivity of the antenna coil. Moreover, the appellant's definition of the problem disregards the broad scope of claim 1 that also covers antennas with a coil wound around a vertically arranged core. The appellant argued in this regard that the antenna 21, 22, 23 shown in Figure 1 of the present application as filed was disposed in a case 24 according to a certain angle, so that the directivity of the antenna housed in the fixing portion of the vehicle mirror assembly according to Figure 3 of the present application as filed could not be arbitrary. This argument, however, is, in the Board's view, irrelevant given the broad wording of claim 1.

The Board further notes that the vehicle mirror according to all the embodiments of D7 comprises a relatively small fixing portion mounted on the vehicle and a relatively voluminous movable fold-away portion. This is a matter of design that can considerably vary depending on the vehicle brand, as it is generally known. In view of this, the technical problem underlying the present invention would rather consist in achieving the same effect obtained by D7, i.e. a good bidirectional communication both when the vehicle mirror is in use and in a retracted position, taking account of the particular design of the vehicle mirror.

3.5 As a matter of fact, vehicle mirrors such as those disclosed by D7 (or D8), which are common nowadays (in any case, at the priority date of the present application), comprise a movable portion mounted on the vehicle by means of a fixing portion, both portions being in principle suitable for housing the vehicle antenna, provided that they are large enough.

Thus, a skilled person starting from the embodiment of Figures 13-14 of D7 would without any inventive activity consider that a good bidirectional communication can also be achieved by housing the known ferrite bar antenna in the fixing portion of the vehicle mirror in the same way as it is placed in the movable portion, i.e. vertically, provided that the particular design of the vehicle mirror would allow for such a change. In this respect, it is noted that, as already mentioned above, the claimed wording indeed covers the case of a vehicle antenna vertically housed within the fixing portion of the vehicle mirror.

3.6 The appellant disagreed with the Board's conclusion. In fact, from the point of view of achieving a good bidirectional communication there was a prejudice in the art that prevented the skilled person from considering the fixing portion of the vehicle mirror as being suitable for housing the vehicle antenna.

This view is not well-founded. According to the jurisprudence of the boards of appeal (Case Law, published by EPO, 6th edition 2010, I.D.9.2) a prejudice in a technical field relates to an incorrect opinion widely held by experts in that field. The existence of such prejudice is normally demonstrated by

reference to the literature or to encyclopaedias published before the priority date. The burden is on an applicant (or patentee) to demonstrate that the alleged prejudice really existed. Generally speaking, a prejudice cannot be demonstrated by a statement in a single patent application, patent specification or scientific article, since the technical information disclosed might be based on special premises or on the personal view of the author. However, this principle does not apply to explanations in a standard work or textbook representing common expert knowledge in the field concerned.

In the present case, the appellant failed to demonstrate that a known prejudice needed to be overcome. A reference to D7 and D8 is insufficient in this respect.

With regard to D7, Figures 11 and 12 show an embodiment in which the antenna is fixedly attached to the fixing portion but is housed within the movable portion of the vehicle mirror.

With regard to D8, the appellant argued that Figure 8B indeed showed an embodiment in which an antenna 248 for a remote keyless entry system was mounted on the fixing portion 20 of a vehicle mirror by means of an attachment point 246. However, the antenna 248 was mounted externally of the fixing portion 20 and not within it.

This argument is not convincing. D8 does not provide evidence for the existence of a prejudice against housing the vehicle antenna within the fixing portion

of the vehicle mirror. Figure 16 shows, as an alternative to the embodiment of Figure 8B, an antenna 248c for a remote keyless entry system, which is placed within the movable portion of the vehicle mirror. It thus results from D8 that the vehicle antenna can be placed either on the fixing portion or within the movable portion of the vehicle mirror. With regard to the former alternative the skilled person would, obviously, think of the possibility of housing the vehicle antenna completely within the fixing portion of the vehicle mirror, if the design allows for that, so as to avoid the disadvantages of having the vehicle antenna directly exposed to wind, weather and damage.

3.7 In view of the foregoing, the subject-matter of claim 1 of the auxiliary request 1 does not meet the requirement of Article 56 EPC 1973 in view of D7 (Figures 13-14).

3.8 It follows that the auxiliary request 1 is not allowable.

4. Auxiliary request 3

4.1 Claim 1 of the auxiliary request 3 differs from claim 1 of the auxiliary request 1 in that the vehicle mirror assembly is further specified by stating that it is composed of a mirror, a movable portion holding the mirror, and a fixing portion for mounting the vehicle mirror assembly to the outside of a vehicle body, the movable portion being adapted to be able to be folded away by the driver.

4.2 These features do not introduce anything that may render inventive the subject-matter of claim 1 of the auxiliary request 1 that lacks inventive step. Indeed, D7 (Figures 13-14) shows a vehicle mirror assembly composed of a mirror 25b, a movable portion 25 holding the mirror 25b, and a fixing portion 26 for mounting the vehicle mirror assembly to the outside of a vehicle body 24. Moreover, the feature that the movable portion is adapted to be able to be folded away by the driver is a triviality.

4.3 Therefore, the subject-matter of claim 1 of the auxiliary request 3 does not meet the requirement of Article 56 EPC 1973 in view of D7 (Figures 13-14).

4.4 It follows that the auxiliary request 3 is not allowable.

5. Auxiliary requests 4 and 5

5.1 Claim 1 of the auxiliary requests 4 and 5 includes the feature that the vehicle antenna further comprises a holding portion composed of a dielectric film sheet wound on an outer surface of the core and a linear conductor being wound around the holding portion.

5.2 With a communication of 17 February 2005 the examining division confirmed an objection of lack of unity under Article 82 EPC 1973 raised by the search division. The application was considered to relate to two different inventions. A first invention was claimed in claims 1-6 of the application as filed and concerned "*an antenna device comprising a coil antenna with tapered magnetic core, said coil antenna being positioned and*

*encapsulated within a housing and further comprising a thin holding portion carrying the coil windings*". A second invention was claimed in claims 7-9 of the application as filed and concerned "*a vehicle antenna system comprising a coil antenna mounted on the fixing portion of a vehicle mirror*". The examining division held that there was no single general inventive concept which linked the subject-matter of the two inventions.

With a reply of 13 June 2005 the appellant, then applicant, filed new claims 1-6 based on claims 7-9 of the application as filed and held that the objection of lack of unity had thus been overcome.

5.3 According to the procedure relating to lack of unity during substantive examination, as laid down in the Guidelines for Examination in the EPO (C-III,7.10), if the applicant has taken the opportunity to have two or more inventions searched, then it may determine that the application is to proceed on the basis of one of these, the other(s) being deleted.

In the present case, both inventions mentioned above have been searched and the appellant determined that the application was to proceed on the basis of the second invention. For the first invention the appellant had the opportunity to file a divisional application, if it liked.

Claim 1 of the auxiliary requests 4 and 5 thus represents an attempt to deviate from the choice made with the letter of 13 June 2005. Clearly, such requests could have been presented in the first instance proceedings. This was, however, not the case as these

requests were presented for the first time during the appeal proceedings.

5.4 In view of the foregoing, the Board holds the auxiliary requests 4 and 5 inadmissible in the exercise of the power conferred by Article 12(4) RPBA.

## Order

## For these reasons, it is decided that:

The appeal is dismissed.

The Registrar The Chairman

S. Sánchez Chiquero B. Schachenmann