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**Datasheet for the decision
of 22 February 2022**

Case Number: T 2645/17 - 3.4.02

Application Number: 10814347.0

Publication Number: 2473871

IPC: G02B5/08

Language of the proceedings: EN

Title of invention:

IMAGING AND DISPLAY SYSTEM FOR VEHICLE

Patent Proprietor:

Magna Mirrors Of America, Inc.

Opponent:

BCS Automotive Interface Solutions GmbH

Headword:

Relevant legal provisions:

EPC Art. 56

RPBA 2020 Art. 13(1)

Keyword:

Inventive step - (no)

Amendment to appeal case - justification by party (no) -
amendment gives rise to new objections (yes)

Decisions cited:

Catchword:



Beschwerdekammern

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Chambres de recours

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Case Number: T 2645/17 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 22 February 2022

Appellant: Magna Mirrors Of America, Inc.
(Patent Proprietor) 49 West Third Street
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Representative: FRKelly
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Respondent: BCS Automotive Interface Solutions GmbH
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Representative: Prinz & Partner mbB
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 6 October 2017
revoking European patent No. 2473871 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman R. Bekkering
Members: H. von Gronau
T. Karamanli

Summary of Facts and Submissions

- I. The patent proprietor's appeal is directed against the decision of the opposition division revoking European patent No. 2473871. The opposition division was of the opinion that the subject-matter of claim 1 of the patent as granted and of then auxiliary requests 1 to 11 did not involve an inventive step.

- II. The following document is relevant for the present decision:

E2: DE 10 2007 044 535 A1

- III. With the statement setting out the grounds of appeal, the appellant (patent proprietor) requested that the decision of the opposition division be set aside and that the patent be maintained as granted. As an auxiliary measure, it requested that the patent be maintained as amended on the basis of the claims "*in accordance with any of the first to third auxiliary requests*" filed with the statement of the grounds of appeal.

- IV. The respondent (opponent) requested with its reply to the appeal that the appeal be dismissed.

- V. Both parties requested as an auxiliary measure that oral proceedings be held.

- VI. With letter dated 7 November 2018, the appellant put forward further arguments as to why the grounds for opposition did not prejudice the maintenance of the patent as granted and filed in addition claims according to auxiliary requests 4 to 6.

- VII. In a communication pursuant to Article 15(1) RPBA 2020, the board expressed its provisional opinion that inter alia the subject-matter of claim 1 of the patent as granted (main request) and of auxiliary requests 1 to 3 did not involve an inventive step in view of document E2 in combination with the common general knowledge of the person skilled in the art. With respect to auxiliary requests 4 to 6 the board was of the provisional opinion that it had to be decided whether they were to be admitted into the appeal proceedings.
- VIII. With letter dated 22 February 2021, the respondent put forward that it never had received the appellant's submission dated 7 November 2018 and requested that auxiliary requests 1 to 6 not be admitted. It also put forward arguments as to why the subject-matter of the independent claims of the auxiliary requests was not allowable.
- IX. With a communication dated 4 March 2021, the registrar of the board sent a copy of an attendance note about a telephone conversation dated 25 February 2021, in which the assistant of the respondent's representative had confirmed that the appellant's submissions of 7 November 2018, which, according to the EPO file, was forwarded to the opponent with the communication EPO Form 3345 of 13 November 2018, had not been received by the respondent's representative. With this communication the registrar also sent copies of the appellant's submissions of 7 November 2018 to the respondent.
- X. With letter dated 7 February 2022, the appellant informed the board that it had decided not to attend the oral proceedings scheduled for 22 February 2022 and

that the request for oral proceedings was withdrawn. Furthermore, the appellant submitted arguments, *inter alia*, why the subject-matter of claim 1 of the granted patent was based on an inventive step. In the last paragraph of that letter, however, oral proceedings were requested before any adverse decision was taken.

- XI. With letter dated 8 February 2022, the respondent noted that the appellant's request situation with respect to oral proceedings was not clear and also withdrew its request for oral proceedings under the condition that that the appellant had withdrawn its request for oral proceedings.
- XII. With letter dated 8 February 2022, the appellant confirmed that it had indeed withdrawn its request for oral proceedings.
- XIII. Oral proceedings took place on 22 February 2022. No one appeared for the parties as indicated in the submissions of 7 February 2022 and 8 February 2022.

The chairman noted that the appellant (patent proprietor) had requested in writing that the decision under appeal be set aside and that the patent be maintained as granted, or, alternatively, that the patent be maintained as amended on the basis of the claims of one of auxiliary requests 1 to 3 filed with the grounds of appeal or of one of auxiliary requests 4 to 6 filed by letter dated 7 November 2018.

The chairman noted that the respondent (opponent) had requested in writing that the appeal be dismissed.

At the end of the oral proceedings the chairman announced the board's decision.

XIV. Claim 1 of the patent as granted (main request) reads as follows, wherein the feature numbering used by the opposition division and the parties has been added by the board in square brackets:

"[a] A vehicular vision system comprising:
[b] a rear backup video camera (12) at a rear portion of a vehicle, wherein said rear backup video camera has a wide angle rearward field of view (22);
[c] a video processor (18) operable to process video image data captured by said rear backup video camera, wherein said video image data comprises a left zone image data set, a right zone image data set and a middle zone image data set;
[d] wherein said left zone image data set comprises video images of a left zone (22a) that encompasses where another vehicle may approach from the rear of and/or may overtake the equipped vehicle in a left side lane adjacent to the equipped vehicle;
[e] wherein said right zone image data set comprises video images of a right zone (22b) that encompasses where another vehicle may approach from the rear and/or may overtake the equipped vehicle in a right side lane adjacent to the equipped vehicle;
[f1] wherein said middle zone image data set comprises video images of a middle zone between said left zone and said right zone;
[f2] a video display screen (16) for displaying video images;
[g] wherein said video display screen comprises a left display region (16a) at a left portion of said video display screen and a right display region (16b) at a right portion of said video display screen, and wherein said left display region and said right display region

comprise separate portions of said video display screen;

[h] wherein, during a reversing maneuver of the equipped vehicle, said video display screen uses both said left display region and said right display region to display video images captured by said rear backup video camera;

[i] wherein, during forward travel of the equipped vehicle, said video display screen is operable to selectively display images representative of said left zone image data set captured by said rear backup video camera at said left display region in order to display a scene occurring at the left side lane adjacent to the equipped vehicle responsive to at least one of (a) actuation of a left turn signal indicator of the equipped vehicle, (b) detection of another vehicle in or approaching the left side lane adjacent to the equipped vehicle and (c) a lane departure warning system of the equipped vehicle, and wherein, during said forward travel of the equipped vehicle and when said video display screen is selectively displaying images representative of said left zone image data at said left display region, said video display screen does not display images representative of said middle zone image data or said right zone image data at said right display region; and

[j] wherein, during forward travel of the equipped vehicle, said video display screen is operable to selectively display images representative of said right zone image data set captured by said rear backup video camera at said right display region in order to display a scene occurring at the right side lane adjacent to the equipped vehicle responsive to at least one of (a) actuation of a right turn signal indicator of the equipped vehicle, (b) detection of another vehicle in or approaching the right side lane adjacent to the

equipped vehicle and (c) a lane departure warning system of the equipped vehicle, and wherein, during said forward travel of the equipped vehicle and when said video display screen is selectively displaying images representative of said right zone image data at said right display region, said video display screen does not display images representative of said middle zone image data or said left zone image data at said left display region."

Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that it comprises at the end of feature [b] in addition the following wording:

", said rear backup camera being a camera of a reverse backup-aid rear vision system present on the vehicle for capturing images of the rear blind zone area immediately rearward and to the sides of the vehicle for assisting the driver of the equipped vehicle in making a reversing maneuver".

Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 in that feature g comprises at the end the following additional wording:

", and wherein said video display screen comprises a middle display region (16c') between said left display region and said right display region",

and in that in feature h the wording

"both said left display region and said right display region to display video images captured by said rear backup video camera"

is replaced by the wording

"all three of said left, middle and right display regions to display video images of [sic] captured by said rear backup video camera"

Claim 1 of auxiliary request 3 differs from claim 1 of auxiliary request 2 in that feature h comprises at the end in addition the following wording:

", and said video images displayed by said video display screen are representative of said left zone image data set, said middle zone image data set and said right zone image data set".

Claim 1 of auxiliary request 4 differs from claim 1 of the main request in that it comprises at the end of feature b in addition the following wording:

"of at least about 130 degrees".

Claim 1 of auxiliary request 5 is identical to claim 1 of auxiliary request 4.

Claim 1 of auxiliary request 6 differs from claim 1 of the main request in that feature g reads:

"wherein the video display screen comprises a left display region (16a) at a left portion of said video display screen and a right display region (16b) at a right portion of said video display screen;"

Reasons for the Decision

1. The appeal is admissible.
2. Main request (patent as granted) - claim 1 - ground for opposition according to Article 100(a) EPC in combination with Article 56 EPC (lack of inventive step)
 - 2.1 The opposition division considered that the subject-matter of claim 1 did not involve an inventive step in view of document E2 in combination with the common general knowledge of the person skilled in the art (see decision under appeal, Reasons 3.2.4).
 - 2.2 The appellant put forward that document E2 showed a camera in a position that would never be used for a backup camera and it did not disclose the camera being used in any reversing operation (cf. feature b). Furthermore, features c, d, e, f1, h, i and j were also not disclosed in E2 (see grounds of appeal, section on pages 6-28; submission of 7 November 2018, section with respect to E2 on pages 12-17). The skilled person was aware that capturing the area immediately behind the vehicle was not a specific feature of any country's standards but was the entire *raison d'être* for backup cameras in the first place. A camera that had a field of view starting e.g. 3, 4, 5 or 6 meters rearwardly of the vehicle failed at the only task required of a backup camera and therefore was not a backup camera within the understanding of the skilled person. This was a consequence of the fact that if a camera could not capture a child or pet standing e.g. half meter

behind the rear bumper, it did not fulfil the function of a "backup camera" within the normal meaning of the art. Also paragraph [0002] of E2 which described the prior art having cameras which were positioned to more suitably view the close-in rearward vehicle environment than a rear view mirror disposed in front of the driver's seat did not disclose a backup camera. Thus feature b was clearly lacking from document E2. With respect to feature c the fact was that E2 disclosed no such data sets. It disclosed (i) a wide angle image and (ii) the adaptive extraction of a single section of the image (data set) to represent on screen. Reading any more than this into the disclosure was pure hindsight. E2 had no disclosure of three data sets as claimed. In relation to features i and j, it appeared that the specific feature of the claim had been generalised in the boards preliminary interpretation to include detecting another vehicle "somewhere to the left of the vehicle" equipped with the system of the invention. The skilled person would be an expert in vehicle vision systems and would have a definite and very specific understanding of what was meant by "a vehicle in or approaching the left side lane". It would not mean any vehicle that was somewhere to the left of the vehicle. The detection of a vehicle in the correct zone, and this zone being an adjacent lane of traffic, was a feature of the claim, and it was a feature that the skilled person fully understood and took specific meaning from. A car emerging from a side road, as was referenced in paragraph [0121] and Figure 6 of document E2, was not what the current system was concerned with and should not give rise to the displaying of the left zone image data in the left display region according to the present invention (see letter dated 7 February 2022, pages 3 and 4).

2.3 The respondent argued that all features of claim 1 were known from document E2 except for feature h. However, it would be obvious to use the video camera of E2 also when reversing the vehicle (see reply to appeal of 27 June 2018, section V).

2.4 The board shares the opinion of the opposition division that the subject-matter of claim 1 does not involve an inventive step in view of document E2 in combination with the common general knowledge of the person skilled in the art.

With respect to feature b the board is of the opinion that the video camera of E2 falls under the definition of "a rear backup video camera" having "a wide angle rearward field of view". This is because Figures 3 to 6 of E2 show view angles of the camera directed backwards and showing a traffic situation occurring behind the travelling vehicle. Moreover, paragraph [0097] describes a wide angle image input. To provide such an input the camera used in E2 must be a wide angle rear video camera. Furthermore, in paragraph [0002], for example, it is indicated that such a camera can be directed to the close backward environment of the vehicle and at a low speed (e.g. manoeuvring speed) a relatively wide-angle overview view can be displayed to the driver, which complements the conventional mirror image (see paragraph [0111]), so that the camera of E2 is also a backup camera. Therefore, the board cannot recognise any difference between the claimed camera and the camera disclosed in document E2.

Document E2 also discloses features c, f1 and f2 of claim 1 because it describes that a wide angle camera continuously provides the image data of the image taken over the entire view angle (see paragraph [0097] of

E2), which image data is thus implicitly composed of a plurality of zone image data sets (see paragraph [0138]) including hence a left, a right and a middle zone image data set, the middle zone by definition being between the left and right zone, to be processed (implicitly by a processor), such that an image of such a zone may selectively be produced and displayed on a display screen. With respect to feature c, the claim does not specify that there are "only" three image data sets (right zone, left zone, middle zone). Document E2 discloses implicitly a plurality of selectable zone image data sets (see paragraph [0138], field 222 that can be positioned at a plurality of positions) and three of those data sets can be considered as a right zone image data set, left zone image data set and middle zone image data set. The claim does not exclude that there are more data sets than these three.

Furthermore, paragraphs [0119] and [0121] of E2 describe that such a zone image should represent a direction from which other road users could approach or are approaching the vehicle. The zones may of course also encompass zones where another vehicle may approach from the rear and/or may overtake the equipped vehicle in a left or right side lane adjacent to the equipped vehicle. The lanes mentioned in claim 1 do not form part of the claimed system and the claimed system does not consider any particular features of the lanes. The claim only defines a corresponding zone in a very general way. Indeed, the size or any other features of the lanes are not specified in the claim and the zones are not limited to the areas of left and right lanes. Hence, the features d and e of claim 1 are disclosed in document E2.

Paragraphs [0012] to [0014] of E2 describe that a zone

image is reproduced as a function of the position of the corresponding zone in relation to the vehicle by arranging the zone image within a larger display surface of the display in a corresponding region. The effect of this arrangement is that the majority of observers can intuitively correlate between the position and the arrangement. The display surface not used for representing this zone image can be transferred into a reflective state. Hence the image data of the remaining part of the image (after the relevant zone image is extracted and displayed) is not displayed. Thus, the observer can easily recognise, based on the arrangement of the zone image in a region of the reflecting surface, the part of the environment currently displayed to him or her. Here again the lane is not part of the claimed system but the system only detects another vehicle that may be in or approaching a zone covering the left side lane and this zone is therefore somewhere to the left of the vehicle. The same applies for the right side. Figure 6 of E2 just shows an example of how the system could work, but E2 is not limited to the shown example. As disclosed in paragraph [0121], the display can show a zone in which another vehicle is approaching the equipped vehicle. Depending in which zone the other vehicle is approaching, the display in the mirror is displaying the zone images in the corresponding display region as disclosed in paragraph [0138]. Therefore, features i) and j) are disclosed in document E2.

Left and right regions of the display are not only derivable from the above cited portions, but are also implicitly shown in Figures 8 to 10 of E2. Hence, feature g) is also disclosed in document E2.

- 2.5 With respect to feature h, the board agrees with the opposition division and the parties that this feature is not disclosed in document E2. Document E2 only discloses to display a wide-angle image when the vehicle is moved slowly, for instance at manoeuvring speed (see paragraph [0111], "Rangier-Geschwindigkeit"). The board shares the view of the opposition division that, when trying to improve the safety of the vehicle, it would have been obvious for a person skilled in the art to use the camera to show the wide-angle image also when slowly reversing the vehicle. As to the question whether the person skilled in the art would have used both a left display region and a right display region to display the wide-angle image captured by said camera, in the board's view it would have been obvious for a person skilled in the art to show the wide-angle image on a wide region of the screen when reversing to give the driver a better overview of the rearward situation behind the vehicle. This wide region obviously covers a left display region and a right display region. The information, indicating the direction of the image zone, provided by displaying the image only in a corresponding display region is evidently not needed in case a wide-angle image is displayed.
- 2.6 The subject-matter of granted claim 1 therefore does not involve an inventive step. Consequently, the ground for opposition under Article 100(a) in combination with Article 56 EPC prejudices the maintenance of the patent as granted.
3. Auxiliary requests 1 to 3 - admittance (Article 12(4) RPBA 2007)

- 3.1 The claims of the auxiliary requests 1 to 3 were first filed with the statement setting out the grounds of appeal.
- 3.2 The respondent argued that auxiliary requests 1 to 3 were late filed and should not be admitted into the appeal proceedings (see letter dated 22 February 2021, section I.).
- 3.3 The appellant did not present arguments justifying the late filing of the auxiliary requests (see grounds of appeal, page 2, section "REQUESTS ON APPEAL" and page 29, section "AUXILIARY REQUESTS").
- 3.4 Auxiliary requests 1 to 3 were filed with the statement of grounds of appeal. In the case in hand, the statement of grounds of appeal was filed before 1 January 2020, i.e. before the entry into force of the revised version of the Rules of Procedure of the Boards of Appeal (RPBA 2020, OJ EPO 2019, A63). In accordance with Article 25(2) RPBA 2020, therefore, Article 12(4) to (6) RPBA 2020 is not to be applied, but Article 12(4) as amended in 2007 continues to apply instead. Article 12(4) RPBA 2007 gives the boards of appeal the power to hold inadmissible facts, evidence or requests which could have been presented or were not admitted in the first-instance proceedings. The boards of appeal, whose primary function is to review the decisions of the department of first instance, thus have the discretion not to admit sets of claims according to requests which could and should have been submitted during the first-instance proceedings but were not (see Case Law, V.A.4.11).

In the present case, the amendments made to the claims of auxiliary requests 1 to 3 are simple and of such low

complexity that they do not raise issues which the board or the respondent could not easily address.

The board therefore saw no reason not to admit auxiliary requests 1 to 3 into the appeal proceedings.

4. Auxiliary request 1 - claim 1 - inventive step (Article 56 EPC)

4.1 The appellant argued that claim 1 of auxiliary request 1 addressed the finding in the decision that the camera of E2 was a "backup camera", contrary to the lengthy arguments presented by the appellant at oral proceedings before the opposition division on this point. Therefore, claim 1 specified the rear backup camera in more detail with features from paragraph [0005] of the application as filed (see statement of grounds of appeal, page 29, section "AUXILIARY REQUESTS", portion relating to "Auxiliary Request 1").

4.2 The respondent was of the opinion that claim 1 contained merely a repetition of features of granted claim 1 with a different wording (see reply to appeal, page 14, section VI, third paragraph).

4.3 The amendment in claim 1 according to auxiliary request 1 adds an explanation of what a rear backup video camera is and which purpose it serves. The board shares the view of the respondent that the amendment does not limit the camera by further features. The board considers a rear backup camera being a camera present on the vehicle for capturing images of the rear blind zone area immediately rearward and to the sides of the vehicle for assisting the driver of the equipped vehicle in making a reversing maneuver. Such a camera that allows to capture also a zone immediately rearward

and to the sides of the vehicle when moving slowly is disclosed in document E2 (see point 2.4 above).

4.4 The subject-matter of claim 1 therefore does not involve an inventive step within the meaning of Article 56 EPC for the same reasons as the subject-matter of granted claim 1 (main request).

5. Auxiliary request 2 - claim 1 - inventive step (Article 56 EPC)

5.1 The amendment in claim 1 according to auxiliary request 2 adds to claim 1 the feature that the display has in addition a middle display region and that during reversing all three display regions are used.

5.2 The appellant argued that this amendment further distanced the display and its use during a reversing maneuver from the system of document E2, which did not contain a display in three parts and which was not used during reversing (see statement of grounds of appeal, page 29, section "AUXILIARY REQUESTS", portion relating to "Auxiliary Request 2").

5.3 The respondent was of the opinion that the claimed display had no physical separation of the video screen into corresponding display regions and any video screen could be divided into countless areas on which corresponding images could be displayed so that for each screen there were such left, centre and right display regions (see reply to appeal, section VI.).

5.4 The board shares the view of the respondent. As explained above, document E2 does not disclose how the wide-angle image is displayed on the screen. The board is convinced that it would have been obvious for a

person skilled in the art to display a wide-angle image on a large area of the screen while the vehicle is moving slowly, also when reversing, in order to give the driver a better overview of the rearward situation behind the vehicle. This of course also covers a display region between a left and a right display region of the display.

5.5 The subject-matter of claim 1 therefore does not involve an inventive step within the meaning of Article 56 EPC.

6. Auxiliary request 3 - claim 1 - inventive step (Article 56 EPC)

6.1 Claim 1 according to auxiliary request 3 defines in addition that all three of the display regions are representative of the corresponding zone image data sets.

6.2 The appellant argued that document E2 contained no teaching of displaying the full image data, across left, middle and right image zone data sets, on all three left, middle and right display regions during a reversing maneuver (see statement of grounds of appeal, page 29, section "AUXILIARY REQUESTS", portion relating to "Auxiliary Request 3").

6.3 The respondent argued that the additional feature of claim 1 of auxiliary request 3 added merely what was already included in granted claim 1 (main request). Of course, the respective images of the data sets corresponded to the previously taken images, so that they were "representative" of them (see reply to appeal, section VI.).

- 6.4 The board shares the opinion of the respondent. Document E2 in fact also discloses amongst others a left display region, a middle display region and a right display region which can show a left, middle and right zone image data set respectively when correspondingly activated.
- 6.5 The subject-matter of claim 1 therefore does not involve an inventive step within the meaning of Article 56 EPC for the same reasons as the subject-matter of claim 1 of auxiliary request 2.
7. Auxiliary requests 4 to 6 - admittance (Article 13(1) RPBA 2020)
- 7.1 The respondent argued that auxiliary requests 4 to 6 were late filed and should not be admitted into the appeal proceedings (see letter dated 22 February 2021, section VI).
- 7.2 The appellant merely stated that it was submitting auxiliary requests 4 to 6 in response to the additional grounds introduced in the respondent's reply and to address new issues introduced into the framework of the appeal proceedings by the reply to its appeal. (see letter dated 7 November 2018, section "INTRODUCTION" on page 2 and section "AUXILIARY REQUESTS" on page 18).
- 7.3 Auxiliary requests 4 to 6 were only filed with letter dated 7 November 2018. The board has a discretion under Article 13(1) RPBA 2020, which applies in accordance with Article 25(1) RPBA 2020 in the present case, as to whether or not admit and consider any amendment to a party's case at this stage of the proceedings. In its letter dated 7 November 2018 the appellant did not specify which additional grounds or new issues were

introduced by the respondent's reply that could justify filing of these auxiliary requests, and the board could not identify either such grounds or issues in the respondent's reply. The appellant did neither demonstrate why the amendments, prima facie, overcome the objections raised nor why the amendments, prima facie, do not give rise to new objections, as required by Article 13(1) RPBA 2020. In view of the objections raised by the respondent in its letter dated 22 February 2021, sections VI. and VII., the board could not see prima facie that auxiliary requests 4 to 6 were clearly allowable.

- 7.4 The board therefore decided not to admit auxiliary requests 4 to 6 into the appeal proceedings.
8. Since none of the appellant's requests is allowable, the appeal has to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



A. Voyé

R. Bekkering

Decision electronically authenticated