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**Datasheet for the decision
of 27 April 2023**

Case Number: T 2400/19 - 3.5.04

Application Number: 14167380.6

Publication Number: 2942939

IPC: H04N5/225, B60R11/04, H04N13/02

Language of the proceedings: EN

Title of invention:
Imaging system for a motor vehicle and method of mounting an
imaging system

Applicant:
Arriver Software AB

Headword:

Relevant legal provisions:
RPBA Art. 12(4), 12(2)
EPC Art. 56, 84

Keyword:

Main request taken into account pursuant to Article 12(2), (4)
RPBA 2007 (no)

First, second and third auxiliary requests - Inventive step
(no)

Second auxiliary request - Clarity (no)

Decisions cited:

Catchword:



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Case Number: T 2400/19 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 27 April 2023

Appellant: Arriver Software AB
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 28 February
2019 refusing European patent application
No. 14167380.6 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair B. Willems
Members: B. Le Guen
G. Decker

Summary of Facts and Submissions

I. The appeal is against the decision to refuse European patent application No. 14 167 380.6, published with publication number EP 2942939 A1. The decision is a decision "according to the state of the file", as requested by the applicant. It refers to the examining division's communication dated 18 February 2019 for the reasons.

II. The documents cited in the examining division's communication dated 18 February 2019 included the following:

E1: WO 2013/073768 A1

E2: EP 2 722 711 A1

E3: JP 2011-205263

III. The decision under appeal was based *inter alia* on the following grounds:

- The subject-matter of claim 1 of the main request then on file and the subject-matter of claims 1 and 11 of the first and second auxiliary requests then on file did not involve an inventive step (Article 56 EPC) in the light of the disclosures of documents E1, E2 and E3.
- The subject-matter of claim 11 of the main request was not new (Article 54(1) EPC) in view of any mounting disclosed in the available prior art (*Note: it is obvious that claim 11 instead of claim 14 was meant in the second sentence under*

point 2.2 of the examining division's communication dated 18 February 2019).

IV. The applicant ("appellant") filed notice of appeal and a statement setting out the grounds for appeal. With this statement, the appellant re-filed the claims of the requests on which the decision under appeal was based. The appellant also filed claims of a third auxiliary request. The appellant provided arguments as to why the subject-matter of claim 1 of the requests on which the decision under appeal was based involved an inventive step, and indicated how claim 1 of the third auxiliary request was further restricted.

V. A summons to oral proceedings was issued. In a communication pursuant to Article 15(1) RPBA 2020 (OJ EPO 2019, A63), the board introduced the following documents into the appeal proceedings on the basis of Article 114(1) EPC:

E4 WO 2013/019795 A1
E5 CN 203423607 U
E5T Translation of E5 into English

In its communication, the board also gave reasons in support of the following preliminary opinion, *inter alia*:

- The main request did not meet the requirements of Article 12(2) RPBA 2007, and hence was not to be taken into account pursuant to Article 12(4) RPBA 2007.
- The subject-matter of claim 1 of the first, second and third auxiliary requests did not involve an

inventive step (Article 56 EPC) in view of the combined disclosures of documents E4 and E5.

- Claim 1 of the second auxiliary request did not meet the requirements of Article 84 EPC.

VI. The appellant did not reply in substance to the board's communication. With a letter dated 19 April 2023, the appellant indicated that it would not be represented at the oral proceedings.

VII. Oral proceedings took place on 27 April 2023, as scheduled, in the appellant's absence.

The board noted that it followed from the appellant's written submissions that the appellant was requesting that the decision under appeal be set aside and that a European patent be granted on the basis of the claims of the main request on which the decision was based or, alternatively, on the basis of the claims of the first or second auxiliary request on which the decision was based or of the third auxiliary request filed with the statement of grounds of appeal.

At the end of the oral proceedings, the chair announced the board's decision to dismiss the appeal.

VIII. Claim 1 of the **main request** and of the **first auxiliary request** reads as follows:

"An imaging system (11) for a motor vehicle, comprising a camera-housing part (96) and at least one camera module (12) to be mounted to said camera-housing part (96), wherein the camera-housing part (96) comprises one or more receptacles (98) each adapted to receive a camera module (12), wherein the camera module (12)

comprises a lens objective (20), a lens holder (53) holding said lens objective (20), an image sensor (24), a back plate (32) connected to said lens holder (53) and holding said image sensor (24) in or close to an image plane (A) of the lens objective (20), and first rotation locking means (94) provided at said lens holder (53), wherein said camera-housing part (96) comprises second rotation locking means (99) adapted to cooperate with said first rotation locking means (94), wherein said first and second rotation locking means (94, 99) cooperate to lock the camera module (12) against rotation relative to the camera-housing part (96), characterized in that said rotation locking means (94, 99) comprises bores (99) and pins (94) to be fittingly inserted into said bores (99), wherein said pins (94) are hollow to allow engagement of screws (103) for fixing said camera module (12) to said camera-housing part (96)."

IX. Claim 1 of the **second auxiliary request** reads as follows (features added to claim 1 of the **main request** are underlined):

"An imaging system (11) for a motor vehicle, comprising a camera-housing part (96) and at least one camera module (12) to be mounted to said camera-housing part (96), wherein the camera-housing part (96) comprises one or more receptacles (98) comprising a mounting wall (101) each adapted to receive a camera module (12), wherein the camera module (12) comprises a lens objective (20), a lens holder (53) holding said lens objective (20), an image sensor (24), a back plate (32) connected to said lens holder (53) and holding said image sensor (24) in or close to an image plane (A) of the lens objective (20), and first rotation locking means (94) provided at said lens holder (53), wherein

said camera-housing part (96) comprises second rotation locking means (99) adapted to cooperate with said first rotation locking means (94), wherein said first and second rotation locking means (94, 99) cooperate to lock the camera module (12) against rotation relative to the camera-housing part (96), characterized in that said rotation locking means (94, 99) comprises bores (99) and pins (94) to be fittingly inserted into said bores (99), wherein said pins (94) are hollow to allow engagement of screws (103) screwed into the hollow pins (94) through the bores (99) from the non-mounting side of the mounting wall (101) for fixing said camera module (12) to said camera-housing part (96)."

- X. Claim 1 of the **third auxiliary request** reads as follows (features added to claim 1 of the **second auxiliary request** are underlined):

"An imaging system (11) for a motor vehicle, comprising a camera-housing part (96) and at least one camera module (12) to be mounted to said camera-housing part (96), wherein the camera-housing part (96) comprises one or more receptacles (98) comprising a mounting wall (101) each adapted to receive a camera module (12), wherein the camera module (12) comprises a lens objective (20), a lens holder (53) holding said lens objective (20), an image sensor (24), a back plate (32) connected to said lens holder (53) and holding said image sensor (24) in or close to an image plane (A) of the lens objective (20), and first rotation locking means (94) provided at said lens holder (53), wherein said camera-housing part (96) comprises second rotation locking means (99) adapted to cooperate with said first rotation locking means (94), wherein said first and second rotation locking means (94, 99) cooperate to lock the camera module (12) against rotation relative

to the camera-housing part (96), characterized in that said rotation locking means (94, 99) comprises bores (99) and pins (94) to be fittingly inserted from a mounting side into said bores (99), wherein said pins (94) are hollow to allow engagement of screws (103) screwed into the hollow pins (94) through the bores (99) from the non-mounting side of the mounting wall (101) for fixing said camera module (12) to said camera-housing part (96)."

Reasons for the Decision

1. The appeal is admissible.

A. Appellant's non-attendance at the oral proceedings

2. Although the duly-summoned appellant did not attend the oral proceedings, this did not prevent the board from continuing them (Rule 115(2) EPC). In accordance with Article 15(3) RPBA 2020 (which is applicable in accordance with Article 25(1) RPBA 2020), the board relied on the appellant's written submissions for its decision. The board was in a position to announce a decision at the conclusion of the oral proceedings since the case was ready for decision (Article 15(5) and (6) RPBA 2020, which applies in accordance with Article 25(1) RPBA 2020), and the voluntary absence of the appellant was not a reason for delaying the decision (Article 15(3) RPBA 2020).

B. Consideration of the main request

3. The statement of grounds of appeal was filed on 25 June 2019, i.e. before the date on which the RPBA

2020 entered into force (1 January 2020; see Article 24(1) RPBA 2020). Thus, pursuant to Article 25(2) RPBA 2020, Article 12(4)-(6) RPBA 2020 does not apply. Instead, Article 12(4) RPBA 2007 (OJ EPO 2007, 536) continues to apply.

4. Article 12(4) RPBA 2007 reads as follows (emphasis added by the board):

*Without prejudice to the power of the Board to hold inadmissible facts, evidence or requests which could have been presented or were not admitted in the first instance proceedings, **everything presented by the parties under (1)** [i.e. inter alia in the statement of grounds of appeal] **shall be taken into account** by the Board **if and to the extent** it relates to the case under appeal **and meets the requirements in (2)**.*

5. Article 12(2), first and second sentences, RPBA 2007 reads as follows:

The statement of grounds of appeal and the reply shall contain a party's complete case. They shall set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld, and should specify expressly all the facts, arguments and evidence relied on.

6. Pursuant to Article 12(4) RPBA 2007, a request that does not meet the requirements of Article 12(2) RPBA 2007 cannot be taken into account by the board.

7. One of the grounds put forward by the examining division for holding the main request unallowable was that the subject-matter of claim 11 was anticipated by

any mounting disclosed in the available prior art (see point III. above, second bullet point).

8. The statement of grounds of appeal does not set out the reasons why this finding was incorrect. For this reason, the board, in its communication pursuant to Article 15(1) RPBA 2020, point 3, had expressed its preliminary opinion that the main request did not meet the requirements of Article 12(2) RPBA 2007, and hence was not to be taken into account pursuant to Article 12(4) RPBA 2007. The appellant did not reply in substance to the board's communication. Therefore the board sees no reason to depart from its preliminary opinion.

C. First auxiliary request, inventive step

9. An invention is to be considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art (Article 56 EPC).
10. Document E4 discloses an imaging system for a motor vehicle (see Figure 1 and paragraph [0021]: "*vehicular camera system*") comprising a camera-housing part (see Figure 1 and paragraph [0021]: "*housing 12*") and a camera module to be mounted to said camera-housing part (see Figure 4C and paragraph [0027]: "*imager assembly 24*").

The camera module comprises a lens objective (see paragraph [0027]: "*lens 28*"), a lens holder holding the lens objective (see paragraph [0027]: "*lens holder 32*"), an image sensor (see paragraph [0027]: "*imager 26*") and a back plate (see paragraph [0027]: "*imager circuit board 30*") connected to the lens holder

(see paragraph [0027]: "*a lens holder 32 mechanically fixes the lens 28 to the imager PCB 30*") and holding said image sensor in or close to an image plane (A) of the lens objective (see Figure 4C). The camera module also comprises bores provided at said lens holder (see paragraph [0034]: "*The lens holder 32 (see also FIG. 4B) includes wings 54 on either side having openings for receiving the fasteners 52.*").

The camera-housing part comprises a receptacle adapted to receive a camera module (see Figure 5A and paragraph [0029]: "*The housing upper cover 12a includes a lens opening 68 through which the lens 28 of the imager assembly 24 receives light.*"). It also comprises features such as, for example, threaded holes adapted to cooperate with the bores of the camera module (see paragraph [0034]: "*corresponding features (such as, for example, threaded holes or the like) in the upper cover 12a*").

It is implicit that the imager assembly will not be able to rotate relative to the camera-housing part after it has been fastened by means of the one or more fasteners (such as, for example, screws) mentioned in paragraph [0034] (reference sign 52 in Figure 5A).

11. The imaging system of claim 1 of the first auxiliary request differs from the imaging system disclosed in document E4 in that the rotation locking means specified in the claim comprises pins to be fittingly inserted into the bores, wherein the pins are hollow to allow engagement of screws for fixing said camera module to the camera-housing part.
12. The provision of pins to be fittingly inserted into bores makes it easier to position the camera-housing

part relative to the camera module in preparation for their fastening.

13. It is undisputable that the problem of positioning modules prior to their fastening is part of the common general knowledge of the person skilled in the art. Hence the objective technical problem can be formulated as that of making it easier to position the camera-housing part relative to the camera module in preparation for their fastening, even if that problem is not hinted at in document E4.
14. This objective technical problem prompts the person skilled in the art to seek its solution in a field including fastening means for consumer electronics. Hence the person qualified to solve the objective technical problem is the specialist in that field (see Case Law of the Boards of Appeal of the European Patent Office, 10th edition, 2022, I.D.8.1).
15. Document E5 discloses means for attaching the upper and lower parts of the housing of a power source adapter comprising two pins in the upper part to be fittingly inserted into respective bores in the lower part, wherein the pins are hollow to allow engagement of screws for fixing the lower part to the upper part (see document E5, Figures 2 to 5 and document E5T, abstract: "*the upper casing is internally provided with a **screw column** [i.e. pin 112 of Figures 2 to 5 of document E5], ... the lower casing is provided with a **screw hole** corresponding to the screw column, one side of the screw hole is provided with a **groove** [i.e. bore 125 in Figures 3 and 5 of document E5] **in matching with the end portion of the screw column, ... the end portion of the screw column of the upper casing is inserted into the groove arranged at the side of the screw hole** [i.e.*

the pin is fittingly inserted into the bore] **and is fixedly connected through screws.**"; emphasis added).

16. The person skilled in the art would have recognised that the pins 112 and bores 125 disclosed in document E5 make it easier to position the upper and lower parts in preparation for their fastening. Hence they would have implemented this solution in the system disclosed in document E4 to make it easier to position the camera-housing part relative to the camera module in preparation for their fastening, either by providing the upper part of the camera housing (reference sign 12a in Figure 5A of document E4) with pins to be fittingly inserted into respective bores provided in the wings of the lens holder (reference sign 54 in Figure 5A) or by providing the wings of the lens holder with pins to be fittingly inserted into respective bores provided in the upper part of the camera housing. By doing so, the skilled person would have arrived at the subject-matter of claim 1 of the first auxiliary request.

17. The reasons given under points 10. to 16. above correspond to those given by the board under points 6.1 to 6.7 of its communication pursuant to Article 15(1) RPBA 2020 for its preliminary opinion that the subject-matter of claim 1 of the first auxiliary request lacked inventive step (Article 56 EPC) in view of the combined disclosures of documents E4 and E5. The appellant did not reply in substance to the board's communication. Therefore the board sees no reason to depart from its preliminary opinion.

D. Second auxiliary request, clarity

18. Article 84 EPC provides that the claims must be clear.

19. Compared with claim 1 of the first auxiliary request, claim 1 of the second auxiliary request further specifies that the screws are screwed into the hollow pins through the bores from the "non-mounting side" of a mounting wall of the one or more receptacles.
20. Claim 1 does not specify which side of the mounting wall is the non-mounting side. On pages 5 and 6 of the statement of grounds of appeal, the appellant referred to Figures 5 to 8 and paragraphs [0020], [0022] and [0024] of the application at hand and submitted that the mounting side of the mounting wall was defined by the direction from which the pins were plugged into the bores. However, this is not specified by the claim.
21. For the reasons given under point 20. above, the board, in its communication pursuant to Article 15(1) RPBA 2020, point 7.2, had expressed its preliminary opinion that claim 1 of the second auxiliary request did not meet the requirements of Article 84 EPC. The appellant did not reply in substance to the board's communication. Therefore the board sees no reason to depart from its preliminary opinion.

E. Second auxiliary request, inventive step

22. For the sake of assessing whether the subject-matter of claim 1 of the second auxiliary request involves an inventive step, the board finds it expedient to interpret the claim as if it specified that the pins and the screws were inserted from different sides of the mounting wall. In the light of the second to fourth paragraphs on pages 9 and 10 of the application at hand, it can be deduced that the expression "mounting

wall" simply refers to the structure of which the receptacle consists.

23. The board is of the view that the person skilled in the art would have arrived at the features identified under point 22. above by implementing the second obvious alternative identified under point 16. above (see under that point: "*providing the wings of the lens holder with pins to be fittingly inserted into respective bores provided in the upper part of the camera housing*") into the system of document E4.
24. For this reason, the board, in its communication pursuant to Article 15(1) RPBA 2020, point 8.1, had expressed its preliminary opinion that the subject-matter of claim 1 of the second auxiliary request lacked inventive step within the meaning of Article 56 EPC. Since the appellant did not reply in substance to the board's communication, the board sees no reason to depart from its preliminary opinion.

F. Third auxiliary request, inventive step

25. In its communication pursuant to Article 15(1) RPBA 2020, point 9.1, the board had expressed its preliminary opinion that (i) the subject-matter of claim 1 of the third auxiliary request corresponded to the subject-matter of claim 1 of the second auxiliary request as interpreted by the board under point 22. above and (ii) the subject-matter of claim 1 of the third auxiliary request lacked inventive step for the reasons already given with respect to claim 1 of the second auxiliary request (see previous section). Since the appellant did not reply in substance to the board's communication, the board sees no reason to depart from its preliminary opinion.

G. Conclusion

26. Since none of the appellant's requests is allowable, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



K. Boelicke

B. Willems

Decision electronically authenticated