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Datasheet for the decision of 15 March 2018

Case Number: T 0880/15 - 3.2.01

Application Number: 09009817.9

Publication Number: 2159116

IPC: B60T8/00, B60T8/32, B60T13/66, B60T13/68, B60T13/74, B60T17/02

Language of the proceedings: EN

Title of invention:
Trailer electronic braking system

Patent Proprietor:
KNORR-BREMSE Systeme für Nutzfahrzeuge GmbH

Opponent:
WABCO GmbH

Headword:

Relevant legal provisions:
EPC Art. 56, 84, 100(b), 100(c)
EPC R. 49(11), 53(3)
RPBA Art. 15(4)

Keyword:
Grounds for opposition - insufficiency of disclosure (no) - lack of clarity no ground for opposition
Novelty - (yes)
Inventive step - (yes)

Decisions cited:
G 0003/14

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 0880/15 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 15 March 2018

Appellant: (Patent Proprietor)	KNORR-BREMSE Systeme für Nutzfahrzeuge GmbH Moosacher Strasse 80 80809 München (DE)
Representative:	JENSEN & SON 366-368 Old Street London EC1V 9LT (GB)
Respondent: (Opponent)	WABCO GmbH Am Lindener Hafen 21 30453 Hannover (DE)
Representative:	Wasiljeff, Johannes M.B. Jabbusch Siekmann & Wasiljeff Patentanwälte Otto-Lilienthal-Strasse 25 28199 Bremen (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 26 February 2015 revoking European patent No. 2159116 pursuant to Article 101(3)(b) EPC**

Composition of the Board:

Chairman	G. Pricolo
Members:	H. Geuss
	O. Loizou

Summary of Facts and Submissions

I. The appeal of the patent proprietor is directed against the decision of the opposition division of the European Patent Office posted on 26 February 2015 revoking European patent No. 2 159 116 pursuant to Article 101(3)(b) EPC.

II. The opposition division held that the subject-matter of claim 1 of the main request as filed on 29 July 2013 was novel, in particular over the disclosure of document

(**D11**) WO 2010/010319 A2,

which was comprised in the state of the art under Article 54(3) EPC, but that it lacked inventive step, starting from either

(**D2**) EP 1902917 A2 or
(**D15**) Bosch, Kraftfahrtechnisches Handbuch, pp. 903-909.

The opposition division also held that the subject-matter of claim 1 of the sole auxiliary request, filed as fifth auxiliary request on 28 November 2014, was not inventive, inter alia in view of D16 in combination with D2.

III. Oral proceedings were held on 15 March 2018.

The patent proprietor (appellant) requested that the decision under appeal be set aside and that a patent be maintained in amended form on the basis of the main request, filed by fax on 29 July 2013.

The opponent (respondent) requested that the appeal be dismissed.

Both parties requested that the case be remitted to the department of first instance for adaptation of the description and the figures.

IV. Claim 1 of the main request reads as follows:

"A braking system for a trailer, which trailer has a front and a rear end, the braking system comprising a pressure control module (13) capable of generating a braking force on a wheel end or an axle on the trailer, an electronic control unit (49) adapted to actuate the pressure control module (13), which electronic control unit comprises a pressure transducer (48) adapted to receive a pressure signal from a prime mover and further adapted to convert the pressure signal to an electronic signal, wherein the electronic signal is processable by the electronic control unit (49), so that signals from the prime mover can be transmitted to the pressure control module (13)

characterised in that

electronic signals from the pressure control module (13) can be transmitted to a further trailer by the electronic control unit (49)."

V. The appellant's submissions where relevant to the present decision may be summarised as follows:

The subject-matter of claim 1 does not extend beyond the original disclosure. The passage on page 5, lines 1 and 2, of the description clearly indicates that the pressure transducer forms part of the electronic

control module. It is clear for a skilled person that the term *trailer control module* in this passage corresponds to the electronic control module according to claim 1. Claim 1 as originally filed discloses an electronic control unit which is able to process a pressure signal from the pressure transducer. In the embodiment of page 5, lines 1 and 2, the trailer control module is the module processing the pressure signal.

Further, it is clear for a person willing to understand the description that figure 2 does not show an embodiment of the invention. This figure was erroneously left in the description after the amendment of claim 1 during opposition proceedings.

Even if different terms were used in the description and in the claim for the module corresponding to the electronic control module recited in the claim, this did not render the disclosure so insufficient that the skilled person could not reproduce the invention.

Similarly, the set of claims according to the main request is clear in the sense of Article 84 EPC. The provisions of Rule 49(11) EPC apply to a European patent application but not to the claims of a granted patent.

D11 cannot destroy the novelty of the subject-matter of claim 1 since it does not disclose that the ECU 48 of the dolly (cf. figure 3) transmits data to the ECU 18 in the further trailer 14. There is no basis in D11 for this assertion. The fact that the ECUs are linked by a CAN Bus protocol does not constitute evidence that data from the pressure control module 50 is transferred to the ECU 18. None of the documents on file disclose the

last feature of claim 1 (designated as feature f)), whereby electronic signals from the pressure control module can be transmitted to a further trailer by the electronic control unit.

In particular, the function of the small square box in D2 (at the bottom left side of figure 1) is completely unclear. It can be assumed that this is a kind of junction box in which the 5-pole ISO 7638 line is distributed to the control device 7 and to the additional trailer as well. A 5-pole ISO 7638 link is per se a unidirectional connection which is not suitable for bidirectional communication. In any case, there is no disclosure in D2 that the 5-pole ISO 7638 line (10) to the further trailer is provided with signals from the control unit (7) and not with signals coming from the tractor.

For this reason each of the respondent's lines of argument fails because they are all based on the assertion that feature f) is disclosed in D2. All documents cited by the respondent address the issue that it is known to the skilled person to combine a pressure transducer and an electronic control unit.

Thus the opposition division's conclusion that the subject-matter of claim 1 lacks inventive step starting from D15 or D2 is also incorrect.

VI. The respondent’s rebuttal is essentially as follows:

Claim 1 of the main request contains undisclosed subject-matter. Claim 1 defines the pressure transducer as a part of the electronic control unit. This is not disclosed in the originally filed documents.
The version of claim 1 as originally filed discloses a

pressure transducer which converts a pressure signal into an electronic signal. The electronic signal is processable by an electronic control unit. Thus, claim 1 as originally filed cannot form the basis for an electronic control module into which the pressure transducer is incorporated.

This also finds no basis in the description. In particular, the passage on page 5, lines 1 and 2, refers to a trailer remote module which is adapted to measure the pressure signal. Given that "adapted to measure" (on page 5, lines 1 and 2) means that the pressure transducer is part of the trailer remote module, it is still not directly and unambiguously disclosed that the cited trailer remote module corresponds to the electronic control module in claim 1.

In the description, the term *electronic control unit* is to a considerable extent used inconsistently as a: braking ECU (600; column 2, line 57), electronic pressure control module (column 4, line 39), pressure control module/BCU (13, column 4, line 41) and electronic control module (with reference sign 49 or 600) in the claims and in columns 5 and 6. Further confusion is caused by Figure 2, which shows an embodiment of the invention. It is not clear which part of Figure 2 corresponds to the pressure control unit or the electronic control unit. This inconsistency leads to both a lack of disclosure and a lack of clarity.

For this reason the respondent requested during oral proceedings before the board of appeal that the appellant adapt the description relating to the amended claims before discussion of the objections concerning lack of disclosure and lack of clarity.

The skilled person is not able to perform the invention since there is contradictory information about the invention as such. Figure 2 is designated as being a part of the invention, but the skilled person would be confused, being unable to establish a connection between the features of claim 1 and the invention as shown in Figure 2. In particular it is not understandable which part of Figure 2 corresponds to the pressure control unit or to the electronic control unit.

For the same reason, claim 1 is not clear. In addition, the patent specification as it stands does not meet the requirement of Rule 49(11) EPC for terminology and reference signs to be consistent throughout the patent specification.

The subject-matter of claim 1 is not new with regard to document D11.

D11 discloses a vehicle arrangement with a tractor 12, a semi-trailer 14 and a dolly 42, connected to a CAN Bus with an optional pressure connection, cf. figure 3 and page 10, lines 22 to 25. The trailer and the dolly, respectively, comprise an ECU 48 with a pressure transducer and a pressure control unit 50. Since a CAN Bus is a bidirectional Bus protocol, it is clear that data from the ECU in the first trailer can be transferred to the ECU 18 of the further trailer.

Further, the subject-matter of claim 1 does not involve an inventive step starting from D2.

D2 claims a brake system in which the brake signal (referred to as the second brake signal) from the ECU

is relayed to an additional trailer (cf. claim 1).

Therefore, the small square box at the bottom left side of figure 1 corresponds to the electronic control unit. This box at least provides for the amplification and distribution of a signal, comparable to a network switch. In particular, it manages the signal coming from the electronic control device 7 (which corresponds to the pressure control unit) and distributes this signal to the further trailer via the ISO outlet.
The only difference between D2 and the disputed invention is feature d), whereby the pressure transducer is included in the electronic control unit.

However, this feature is commonly known in the art, cf. D15 and any of documents D1 to D5 cited in the opposition proceedings.

The same result is obtained when starting from document D15, figure J.
D15 discloses an electronic brake system with all features of claim 1, except for the feature of the pressure control signal being transmitted to a further trailer. However, this feature is obvious in view of the teaching of D2, see above.

Reasons for the Decision

1. The appeal is admissible.

2. The subject-matter of claim 1 of the main request does not extend beyond the content of the application as filed, Article 100(c) EPC.

2.1 The respondent objects to undisclosed subject-matter in claim 1 and argues that claim 1 is worded in such a manner that the pressure transducer is a part of the electronic control unit. However, the passage on page 5, lines 1 and 2, of the description as originally filed discloses a *trailer remote module* which is adapted to measure the pressure in the control line; as a consequence it is not directly and unambiguously derivable that the *trailer remote module* corresponds to the *electronic control unit*. The terms (electronic control unit/ECU/pressure control modul/BCU etc.) have been used so inconsistently that the skilled person cannot know what is meant by a trailer remote module and whether or not it is the same part as the electronic control unit according to claim 1.

The problem also arises from the fact that Figure 2 is indicated in the patent description as an embodiment of the invention. This allows a broad interpretation of the term *electronic control unit*, which consequently means for Figure 2 that the electronic control unit according to claim 1 must be the EBS module.

2.2 The board is of the opinion that it is unambiguously and directly derivable for the skilled person what is meant by a trailer remote module and that the trailer remote module corresponds to the electronic control unit according to claim 1 in suit.

Claim 1 as originally filed defines an electronic control unit 49 which is able to process the pressure signal from a pressure transducer 48. The same function is explained for the trailer remote module on page 5, lines 1 and 2, of the originally filed description. Thus, the combination of said passage of the description and claim 1 (of the originally filed

documents) leads directly and clearly to the conclusion that the *electronic control unit* in claim 1 represents the generalised form (which is commonly used in claim wording) of the *trailer remote module*, "which is adapted to measure the pressure" by "way of a pressure transducer 48".

2.3 The above objection of the respondent relating to feature d) of claim 1 pursuant to Article 100(c) EPC was contested by the appellant also as being late-filed, and hence as such it requested that it should not be admitted into the appeal proceedings.

Although the board decided to admit the respondent's objection into the proceedings, in view of the above findings of the board there is no need to discuss this issue further.

3. The respondent requested that the description be amended before discussion of its objection regarding sufficiency of disclosure pursuant to Article 100(b) EPC. This request was rejected by the board for the following reasons:

The board alone has the power to determine the procedure to be followed regarding the discussion of the relevant points during the oral proceedings, and it is not up to the parties to establish that procedure. Moreover, according to Article 15(4) RPBA the chairman presides over the oral proceedings and ensures their fair and efficient conduct.

The board judged that the filing of an amended description before the discussion on sufficiency of disclosure started was not necessary. Such a procedure would ultimately hinder the efficient conduct of the

oral proceedings, especially if the claims were later found not to fulfill the requirements of sufficiency of disclosure.
A rejection of this request is also not to the detriment of the respondent, because the file includes the description both of the application as filed and of the granted patent.
Moreover, the board retains the discretionary power to remit a case to the department of first instance with an order to adapt the description and/or the figures if necessary.

4. The patent specification on which this decision is based, i.e. the description and the figures as granted in combination with the set of claims according to the main request, discloses the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art, Article 100(b) EPC.

4.1 Having regard to point 2.1 above and to the respondent's objection that the term *electronic control unit* is used inconsistently, the board considers that the disclosure is sufficiently clear for the invention to be carried out. The fact that the description uses different terms for the electronic control unit feature does not prevent the skilled person from understanding how the invention should be carried out.

4.2 The fact that Figure 2 does not show an embodiment of the invention does not change the situation for the skilled person. Feature f) of claim 1 explicitly defines the transmission of a signal to a further trailer.

However, because this possibility is only shown in Figure 2a, which is the sole figure showing an outlet

for a further trailer, the skilled person would immediately understand that figure 2 does not fall within the scope of the claims and that it was erroneously not deleted from the patent specification after amendment of claim 1 in opposition proceedings.

5. The respondent objects to the clarity of the patent according to Article 84 EPC.

5.1 The respondent objects to lack of clarity for the same reasons as discussed in sections 2.1 and 4.1 above. In particular, it submits that the inconsistent use of terms for the electronic control unit (ECU, trailer remote module, etc.) and for the pressure control module (pressure control module/ECU) infringes Rule 49(11) EPC.

5.2 However, according to G 3/14, lack of clarity which is already present in the granted patent is not subject to examination by the opposition division or the boards of appeal.

Since the alleged inconsistencies as objected to by the respondent in view of the terms *electronic control unit* and *pressure transducer* were already present in the granted patent, regardless of whether or not they cause a lack of clarity, the board is not competent to examine whether claim 1 is clear and concise with respect to the features regarding the electronic control unit and the pressure transducer and their respective support in the description.

Since clarity and support by the description are not open to objection, and since the alleged inconsistency in terminology was present in the granted patent, the board cannot see how said inconsistency can be objected

to under Rule 49(11) EPC, which by itself is not a ground for opposition. Allowing the respondent's objection would amount to allowing an objection under Rule 49(11) EPC against the granted patent.

6. The subject-matter of claim 1 according to the main request is novel over D11, cf. Article 54(3) EPC.

6.1 The board is of the opinion that D11 does not disclose feature f) whereby electronic signals from the pressure control module can be transmitted to a further trailer by the electronic control unit.

6.2 Even following the respondent's argument that a CAN Bus arrangement as disclosed in D11 is per se suitable for transferring signals from one control unit to any other control unit, there is no direct and unambiguous disclosure in D11 that data from the pressure control 50 is made available to any other unit. In particular, it is not disclosed in D11 that signals coming from the pressure control 50 are gathered by ECU 48 and transmitted to ECU 18 of the further trailer.

7. The subject-matter of claim 1 is based on an inventive step, Article 56 EPC.

7.1 The respondent objects to lack of inventive step starting from document D2 in combination with the common general knowledge as disclosed in D15 or in each of D1 to D5.

From the feature of claim 1 of D2 disclosing that the brake system according to D2 provides “means for relaying the second brake signal generated by the electronic control device to the at least one additional trailer” and figure 1, the respondent

concludes that the electronic control unit 7 delivers a signal via the small square box (at the bottom left side of figure 1) to signal line 10, to which an additional trailer is connected. According to the respondent the small square box in the left lower half of figure 1 corresponds to an electronic control unit according to claim 1 of the invention in suit. The missing feature, that the pressure transducer is part of the electronic control unit, is commonly known in the prior art, cf. D15 or each of D1 to D5.

7.2 The board does not agree. Since there is no information in D2 as to the function of the small box, it might well be assumed that the box is a simple distributor, e.g. a junction box. Both the line to the small box coming from the truck and the line from the small box to the additional trailer are indicated as being a (5-pole) ISO 7638 line, which is per se not a connection with a bidirectional functionality.

Thus, it cannot be regarded as disclosed that the connecting line between this box and the electronic control device 7 transmits both the signals of the ISO connection from the truck to the control device (part 7) and the signals from control device 7 to the additional trailer. If this assumption were correct, it would mean, first, that the connecting line between the small box and part 7 (electronic control unit) would be bidirectional (bus) wiring and, second, that the small box would contain any signal processing features in order to match the different line signals or protocols between the line to the control device and the ISO 7638 lines.

However, D2 does not disclose any information to support this assumption. There is no hint that the type

of line between the small box and the electronic control device 7 is different from the lines from the small box to the truck or the additional trailer and that the small box contains more than some connection terminals.

7.3 Thus, document D2 does not disclose feature f) of claim 1 in suit. As a consequence, none of the cited documents D1 to D5 and D15 can add a teaching which challenges inventive step for claim 1.

7.4 For the same reason, the combination of documents starting from D15 is not able to challenge inventive step for the contested invention.

The respondent alleges that a braking system according to D15 is generally known in the prior art. D15 discloses all features of the preamble of claim 1. Feature f) is not shown. Given the need to control more than one trailer, the skilled person would take D2 into account, which teaches that the pressure signal from the trailer (second brake signal, cf. claim 1 of D2) is relayed to an additional trailer.

7.5 Since document D2 does not disclose feature f), this line of argument fails likewise, see above.

8. In view of the extensive modifications necessary to adapt the description to the wording of the present claims, and of the parties' request to that effect, the board considers it appropriate to remit the case to the department of first instance for this purpose (Article 111(1) EPC).

Order

For these reasons it is decided that:

1. The decision is set aside.

2. The case is remitted to the department of first instance with the order to maintain the patent in amended form on the basis of the claims of the main request as filed by fax on 29 July 2013 and a description and drawings to be adapted thereto.

The Registrar: The Chairman:

A. Vottner G. Pricolo

Decision electronically authenticated