Europäisches Patentamt
Beschwerdekammern

European Patent Office
Boards of Appeal

Office européen des brevets
Chambres de recours

Veröffentlichung im Amtsblatt ja/Nein
Publication in the Official Journal Yes/No
Publication au Journal Officiel Oui/Non

0006044

Aktenzeichen / Case Number / N° du recours : T 251/84

Anmeldenummer / Filing No / N° de la demande : 79 200 007.7

Veröffentlichungs-Nr. / Publication No / N° de la publication : 11880

Bezeichnung der Erfindung:
Title of invention:
Titre de l'invention : A vehicle guidance system

Klassifikation / Classification / Classement : G 01 C 21/00, G 05 D 1/02

ENTSCHEIDUNG / DECISION
vom / of / du 30 October 1987

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /
Titulaire du brevet : Gebre, Admasu

Einsprechender / Opponent / Opposant : Robert Bosch GmbH

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Articles: 56, 83 and 123(2) EPC; Rules 55 and 56 EPC

Kennwort / Keyword / Mot clé : Inventive step; sufficiency of description; added subject-matter; admissibility of opposition.

Leitsatz / Headnote / Sommaire

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number : T 251 /84

D E C I S I O N
of the Technical Board of Appeal 3.4.1
of 30 October 1987

Appellant : (Proprietor of the patent)
Gebre, Admasu
Kerkstraat 22
NL-3741 AK Baarn (NL)

Representative :

Respondent : (Opponent)
Robert Bosch GmbH
Postfach 50
D-7000 Stuttgart 1 (DE)

Representative :

Decision under appeal : **Decision of Opposition Division of the European Patent Office dated 31 July 1984 posted on 6 September 1984 revoking European patent No. 11 880 pursuant to Article 102(1) EPC.**

Composition of the Board :

Chairman : J. Roscoe

Members : H. Reich
J. van Voorthuizen
E. Persson
C. Payraudeau

Summary of Facts and Submissions

I. European patent No. 11880 incorporating three claims was granted on 2 March 1983 on the basis of European patent application No. 79 200 007.7 filed on 5 January 1979 and claiming priority from European patent application No. 78 200 337 filed 4 December 1978.

Claim 1, the only independent claim, reads as follows:

"1. Vehicle guidance system comprising:-

(a) memory means for storing groups of binary data, in which each group includes a coded distance, instruction and direction signal,
(b) means (SUR) for addressing the memory means
(c) a register (CMR) for storing one of said groups of binary data selected by said addressing means,
(d) means for generating a signal representing a distance travelled,
(e) comparator means (UDC) responsive to the coded distance signal in the register (CMR) and to the signal representing distance travelled for generating a signal representing the difference between the coded distance and the distance travelled,
(f) means responsive to the signal from the comparator means for switching through the instruction and direction signal in the register (CMR) to an instruction and direction unit (IAD),
(g) means (SPT) for generating a signal representing a change of course of the vehicle and
(h) control means (SCU) responsive to signals from the instruction and direction-unit (IAD), the register (CMR) and the signal representing the change of course of the vehicle for checking whether the driver correctly followed

the instruction and direction, and for triggering the addressing means (SUR) to select the next group of data if the driver has followed the instruction and direction correctly,
characterised in that the control means (SCU) is so arranged that if the driver does not follow the instruction and direction signal correctly, the system instructs the driver to make a U-turn to bring the vehicle back to the point where the error occurred and then issues the correct instruction."

Claim 2 had the following form:

"A vehicle guidance system according to Claim 1 in which provision for all kinds of possible errors has been integrated."

II. The respondent filed notice of opposition against the European patent on 4 November 1983 and requested revocation of the patent on the grounds that the subject-matter of the claims was lacking in inventive step and that Claim 2 stated a problem the solution to which was indicated neither in the claim itself nor in the specification as a whole. In support of its allegation of lack of inventive step the opponent firm referred to the references cited on the published patent and the following documents:

(1) two articles, on pages 610 to 631 of the book "Entwicklungslinien in Kraftfahrzeugtechnik, Forschungsbilanz 1978" published by Verlag TÜV Rheinland GmbH, relating to lectures given at a seminar stated to have taken place in Bad Aachen from 5th to 7th September 1978, and

(2) US-A-3 789 198.

III. The patentee (appellant in the present proceedings) challenged the admissibility of the opposition on the basis that the opponent had not established that doc. (1) had been published before the priority date of the patent-in-suit, and in the oral proceedings held on 31 July 1984 it emerged that it had not been so published. During the oral proceedings the patentee requested that the patent be maintained on the basis of amended Claims 1 and 2 submitted during the oral proceedings, and Claim 3 as granted.

IV. The Opposition Division found that the requirements for admissibility as laid down in Rule 56 EPC were all met and admitted the opposition. It revoked the patent in a decision made at the oral proceedings and communicated to the parties on 6 September 1984 on the ground that the amended Claim 2 extended beyond the content of the application as filed, and therefore infringed Article 123(2) EPC and, as a consequence, was open to objection under Article 100(c) of the EPC. Moreover, the patent did not disclose the subject matter of this claim in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. It therefore also failed to meet the requirements of Article 83 and, as a consequence, was open to objection under Article 100(b) EPC.

V. The appellant (patentee) filed an appeal against this decision on 26 October 1984 and a statement of grounds on 29 December 1984. Following inter alia a submission in answer hereto by the opponent and communications from the Board dated 31 July 1985 and 5 December 1986 respectively oral proceedings were held on 1 June 1987.

VI. The appellant finally requested that the decision under appeal be set aside and the patent maintained as granted (main request).

He also made auxiliary requests that the patent be maintained on the basis of:

(i) the claims as granted and description as granted amended as indicated in his letter dated 9 March 1987, that is to say by replacement of the passage in column 4 of the granted patent extending from the words "The card memory ... " on line 1 to the end of line 37 by the annex to the letter (first auxiliary request) containing a more elaborate description of the system;

(ii) Claims 1 and 3 as granted, and a new Claim 2 submitted in the oral proceedings before the Board of Appeal and reading as follows "A vehicle guidance system according to Claim 1 in which a provision for forced error like that of diversion or congestion has been integrated.", and the description as in the first auxiliary request (second auxiliary request);

(iii) the description and Claims 1 and 3 of the granted patent and Claim 2 as in the second auxiliary request (third auxiliary request); and

(iv) the description and Claim 1 of the granted patent and another Claim 2 (derived from Claim 3 as granted) worded as follows:-

"2. A vehicle guidance system according to Claim 1 in which means are provided for producing one pulse for each meter of the distance travelled (fourth auxiliary request).

VII. The respondent requested that the appeal should be dismissed.

VIII. The appellant's submissions can be summarised as follows:

(a) The opposition had been inadmissible because the opponent (respondent) had not complied with the provisions of Rule 55(c) EPC in that he had failed to present any evidence as to the date of publication of document (1) within the time limit prescribed by Article 99 EPC. In fact this document had not been published until 6 December 1978, that is to say after the priority date of the patent-in-suit, which was 4 December 1978. Thus, this document had not constituted a valid ground for opposing the patent. Apart from that, the content of this document did not in any way prejudice the maintenance of the patent as granted.

(b) The system of the patent was essentially different from that of document (1) since the direction information was derived within the system, which was mounted in the vehicles, whereas in document (1) it was received from roadside equipment. With regard to details, the keyboard in document (1) could not be equated with the SCU of Claim 1 of the patent. Also in that document the comparison of programmed with covered distance was not for the purpose of computing the route and there was no generation of a change of heading signal. Furthermore, the SCU control means of Claim 1 was quite different from that in the document (1) system since it initiated selection of a second group of binary data and decided, in association with the IAD, which group was to be selected, and determined whether the driver had followed the instruction and, if not, issued the correct instruction.

In the system of GB-A-1 414 490 (document (3)), which in the granted patent is cited as closest prior art to the invention and was relied on by the rapporteur of the Board in the communication of 31 July 1985 to question the inventiveness of Claim 1, the motorist had to transfer a separate set of direction information to tape for each route to be followed. The tape could not, therefore, be equated with the memory of Claim 1, which stored a map with coordinates of each intersection as addresses and the distance to and bearing of each adjacent intersection, the latter representing the data transferred to the CMR when the addressing means went to a particular intersection address. In the document (3) system there was no addressing to select another group of binary data representing distance, sense of heading, and verbal instruction and nothing corresponding in function to the register of Claim 1. In this prior system there was also no means of identifying, at a junction with several wrong exits, which exit had in fact been taken. On the other hand, in the system of the patent, when the U-turn had been made a new correct instruction was issued which put the motorist back on the route he left irrespective of which wrong exit he took.

As to Claim 2, this related to error situations where a U-turn would lead to a non-useful or less than optimum result. Thus, if the vehicle entered a one-way street in the right direction, or made a turn which, though not that indicated, still led towards the destination, no U-turn instruction was issued, but instead a new correct instruction to be followed at the next intersection. Also, the system was programmed to recognise a situation such as diversion or congestion

when a U-turn instruction given after an error (in accordance with Claim 1) was ignored by the motorist, and to supply the next intersection information to the SCU.

IX. The respondent submitted, in essence, as follows:

(a) The opposition had been admissible. As to document (1) it was true that this had not been published until 6 December 1978. However the relevant parts of it contained articles based on lectures given at a seminar which took place in Bad Aachen on 5-7 September 1978, that is to say well in advance of the priority date of the application which resulted in the patent-in-suit. This seminar, organised by the Bundesminister für Forschung und Technologie, was open to the public and there were no restrictions imposed on the participants preventing them from disclosing the information given in the lectures. As far as the question of admissibility was concerned it had also to be taken into consideration that the opposition was based not only on Article 100(a) EPC but also on Article 100(b) EPC in that it was submitted that the application with regard to Claim 2 did not meet the requirement of Article 83 EPC. The opposition must therefore in all the circumstances be considered as admissible.

(b) The subject-matter of the claims of the main request was lacking in inventive step. A vehicle guidance system (hereafter abbreviated to VGS) having the characterising feature of Claim 1 was already known from doc. (1). Fig. 5 on page 629 showed a VGS with memory units for storing groups of binary data each comprising a distance, instruction and direction signal and the arrangement of the information communicated to

the vehicle could be seen in more detail from Fig. 6 "Telegramm Strasse/Auto" in Bytes 6 to 9. That this telegram must be stored in the CPU until it was processed was entirely self-evident in the light of the associated description. There was also a register in which a group of binary data was entered via a keyboard and an arrangement for generating and feeding to the vehicle equipment a signal representing distance covered. As appears from Fig. 6 the direction instruction and the distance to the point at which it is to be issued are both transmitted in the telegram, the distance signal being compared with the distance travelled as determined by the odometer. When equality was achieved the associated stored direction instruction was passed to the indicator. Were it considered necessary to provide a signal representing a change of course of the vehicle this measure was not novel even in the context of VGS's. It was described in both the prior art notified by the Examining Division and in doc. (2) where a compass was used to determine a change of direction in an on-board VGS. Control arrangements for checking the correctness of heading were described in these documents and also in doc. (1) since the system was switched off if after a given distance no further exchange of data had taken place, and it also detected and provided a visual indication, if the driver had failed to follow an instruction, which the driver knew required him to turn back at the next motorway exit. The subject-matter of Claims 2 and 3 was also lacking in inventive step.

The points of distinction between the subject-matter of this invention and that of doc. (3), to which the appellant referred, did not feature in the original disclosure nor in Claim 1 and what was claimed in that

claim could be read on to the disclosure in doc. (3). In that document the amplifier 5 and loudspeaker 6 corresponded to the instruction and direction unit of Claim 1 since the speech signal was switched through when the signal unit was again set into operation in response to an order from the logic gate 7 and comparator 8.

(c) Claim 2 of the main request was formulated in terms of a problem and its subject-matter was not sufficiently clearly and completely disclosed to enable the skilled man to perform the invention defined in it i.e. to solve the problem.

X. The appellant contested that the seminar referred to under paragraph IX(a) above had been open to the public.

Reasons for the decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is therefore admissible.

2. As to the question raised by the appellant of the admissibility of the opposition, it is, generally speaking, no doubt desirable and within the provisions of Rule 55(c) EPC that an opponent presenting fresh documents in support of his case in the notice of opposition indicates, if this is not evident in the circumstances, when the new documents were published and the evidence needed to establish the actual dates of publication.

3. In the present case, however, the document in question contained a number of articles based on lectures given at a seminar well ahead of the priority date, which could be

seen from the document itself. Thus the actual date of publication of the document was obviously of less importance. In these circumstances, the failure of the opponent (respondent) to establish the date of publication within the nine month period provided for in Article 99 EPC cannot be considered to have rendered the notice of opposition inadmissible. Furthermore, it cannot be considered to have been necessary for the opponent (respondent) to produce evidence at that initial stage certifying that the lectures given at the seminar were made available to the public and that the content of document (1) corresponds to what was actually orally stated in the lectures. Evidence of this kind may, in accordance with generally accepted procedural rules, not necessarily be demanded until it becomes clear that these matters are being disputed or, for some other reasons, appear to be doubtful. Moreover, the citation of document (2), which was published before the priority date, in the notice of opposition in itself renders the opposition admissible.

4. Having taken note of a written declaration of 6 March 1986 by Mr. Klaus Ottenroth, an employee of Firma Blaupunkt-Werke GmbH, Hildesheim, who participated in the seminar which took place at Bad Aachen on 5-7 September 1978 and having heard Mr. Ottenroth as a witness at the oral proceedings, the Board is satisfied that this seminar was open to a very wide circle of people interested in the problems involved and that no restrictions were imposed on the participants preventing them from disclosing the information given at the seminar. The Board is further satisfied that the content of the relevant parts of document (1) properly reflects the substance of what was orally stated in the lectures given at the seminar. In these circumstances the Board takes the view that the

teaching of document (1) was made available to the public within the meaning of Article 54(2) EPC already at the seminar and thus forms part of the state of the art to be taken into consideration in deciding this appeal.

5. Claim 1 is an element common to all the appellant's requests; it is therefore convenient to first deal with the issue of its allowability.

6. Since it is Claim 1 of the patent as granted it gives rise to no objection under Article 123(3) EPC, nor in the Board's considered opinion can it be objected to under Article 123(2) EPC as containing matter which extends beyond the content of the application as filed.

7. Novelty

7.1 In doc. (1) there is described a vehicle guidance system in which information is exchanged between a transmitter/receiver system mounted on a road vehicle and corresponding systems in roadside equipments spaced at intervals along a motorway system and connected to a central computer. In passing a roadside equipment the vehicle transmitter sends out a message identifying itself and its destination and containing information relating to vehicle speed etc. On the basis of the received information and other updatable stored information relating to weather and road conditions etc., the roadside equipment in turn transmits a string of digital data causing a display of information to appear on a screen in the vehicle immediately and/or after a certain distance has been covered. Information representing the path to be followed at the next intersection is initially stored and first displayed only when the vehicle is at a set distance from the intersection sufficient for the

driver to be able to respond to it in time, the set distance being measured with the aid of the vehicle odometer.

Should the driver inadvertently fail to follow the displayed route instruction at an intersection he is not made aware of this until he reaches the next roadside equipment which, by causing illumination of a special symbol, instructs him to turn off at the next intersection and take the opposite track of the motorway to reach the junction where the error was made. Moreover the failure to follow the indicated route is sensed only by the discrepancy between the actual and expected position of the vehicle and not (as provided for in Claim 1) by comparison of a sensed change of course signal with a stored instruction and direction signal. There is therefore no means for selecting a new group of data or issuing a U-turn signal according to whether the comparison shows the turn instruction to have been followed or not. This known system thus lacks at least features (g) and (h) and the so-called characterising feature of Claim 1.

7.2 Doc. (2) discloses a system using dead-reckoning for indicating at a central location the instantaneous location of vehicles, which derives the necessary information from a counter storing revolutions of the vehicle odometer and a heading sensor e.g. magnetic compass located in each vehicle. Changes in distance and heading are communicated periodically by a time-multiplex system from the vehicle to the control location. The system is however not intended to issue route instructions to the drivers of the vehicles and thus lacks at least the features (a) to (c), (e), (f) to (h) and the characterising feature of Claim 1.

7.3.1 Doc. (3), discussed in the patent-in-suit, and to which the attention of the parties was drawn by the rapporteur's communication issued 31 July 1985 discloses a vehicle guidance system in which two synchronised tapes or parallel tracks on a single tape have prerecorded on them during a preliminary run over a specific route verbal instructions and coded information respectively. Each group of coded information is associated with a verbal instruction (A_x) and includes a distance to be covered before issue of next verbal instruction signal (B_x), a tape stop signal (BS), a change of heading signal (cosR or cosL) and a signal representing a nominated distance up to the point at which change of heading is required to have been completed (cosE). Each time the tape is restarted the instruction and the associated coded information are read out whereupon the tape is stopped in response to the signal BS. The equipment includes an odometer-driven distance travelled coding device 16, the output of which is fed to a code converter/comparator 8 where it is subtracted from the stored signal B_x read off the tape. The comparator issues a start control signal to the tape drive when its output falls to zero and the next instruction and group of coded information is read.

A signal discriminator 7 routes any CosR/cosL signals to logic circuitry 34-37 to alert a compass counter zeroising circuit 33, and a cosE signal to a nominated distance comparator 38. On recognition of a cosR/cosL signal logic is set and an up and down counter driven by compass-associated rotation logic is zeroised and the subsequent counter output representing change of heading compared with a stored preset value. Associated logic circuitry provides signals at different outputs according to whether the actual change of heading corresponds to the preset value or not. If the comparison shows the turn instruction to have

been followed the comparator 8 is zeroised and the cosL/cosR logic reset. If it does not an alarm is given and reading of the data on the tape is prevented until a manual reset button 49 is pressed.

In response to the alarm the driver can, of course, retrace his path to the point where he went wrong and knows that if he then presses the reset button the next group of data will be read.

7.3.2 This system thus has many features in common with that of Claim 1. It includes:

(i) memory means in the form of tape (cf. feature (a)) which stores groups of data each of which includes a coded distance, and instruction and direction signals both in the form of recorded speech, and as coded cosR/cosL signals indicating the sense of turn; in addition there is a preset value store 40 containing data relating to the angle of turn;

(ii) a distance travelled signal generator 16 (feature (d));

(iii) comparators 8, 38 responsive to the signal from that generator and stored coded distance signals B_x, cosE for producing a signal representing the difference between the distances or at least indicating whether this difference is zero or not (cf. feature (e));

(iv) equipment for generating a signal representing a change of course 31 (feature (g)); and

(v) a control means 41-44 (cf. feature (h)) responsive to signals from logic circuits 36, 37 and the preset value store 40, and the generator 30-32 of the change of course signal for checking whether the driver correctly followed the instruction and direction, e.g. turn left, and for instructing the driver, by means of the alarm, if he hasn't or for reading out the next group of data (from the tape) if he has.

7.3.4 On the other hand the system lacks any means for going to selected addresses in the memory means (tape) to bring out a particular group of data and transferring it to a register for storage (features (b), (c)). There is also no switching through of an instruction and direction signal held in a register to an instruction and direction unit in response to a signal from a comparator (feature (f)). In fact when the comparator 38 registers equality, subject to certain other conditions being met, the other comparator 8 is zeroed and the tape restarted, causing a new group of information to be read so that the new instruction is issued and all the logic which was set by the previous cosR, cosL signals, which are also in a sense instruction and direction signals, is reset for receipt of the corresponding signals of the new group.

7.3.5 Finally, although the known system can be said to instruct the driver to make a U-turn, since the driver is aware that this is what is expected of him on recognising the alarm signal, it does not "then issue the correct instruction" in the sense in which the Board understands this claimed requirement. Considering only the wording of this part of the claim one is in doubt whether this instruction is simply to be issued after the U-turn instruction, in response to the turn having been made, or in response to the vehicle's arrival back at the point where the error

occurred. However, looked at in the context of the description as a whole the Board considers that the "correct" instruction can only mean that instruction which will bring the driver back on to the path he would have been following had he not made an error, from which it follows, since instructions are issued some distance before they have to be acted on, that it must be issued after the U-turn is made but before the point of error is reached.

7.3.6 It follows from the foregoing that the subject-matter of Claim 1 and hence that of the appendant claims of all the requests is novel (Article 54 EPC).

7.4 The question now to be considered is whether the subject-matter of Claim 1 involves an inventive step.

7.4.1 In the Board's opinion the closest prior art is the above-discussed on-board guidance system disclosed in doc. (3). With this system however once an error has been made recovery of the planned route depends on the driver being able to remember what he had been instructed to do at the junction where the error occurred. Since the error may well have arisen from a misinterpretation of the original instruction and the junction may be complex, with many exits, he may easily again take the wrong turning when he arrives back at the junction. Should he do so the system can issue no further warnings and he will be lost. Also, since only periodic navigation checks are made, errors made at road junctions between those associated with checks will go unrecognised or only be recognised long afterwards by a lack of correspondence between the verbal information on the tape and the situation in which the driver finds himself. In neither case does the system assist the driver

to regain his intended route. Apart from all this the system requires an individual tape(s) to be prepared for each route a driver wishes to take.

7.4.2 In relation to this known system the problem to be solved by the invention can be objectively seen as the provision of a more flexible and comprehensive system of vehicle guidance in which the possibility of losing one's way is eliminated or at any rate substantially reduced.

7.4.3 It is plausible in the Board's view that the system as claimed in Claim 1 provides a solution to this problem.

7.4.4 No contribution to inventive step is to be found in recognition of the problem since this is immediately evident on reading document (3) itself and would swiftly become apparent to anyone making use of the system described therein. It remains therefore to be determined whether any one or any combination of the prior art documents at the Board's disposal would suggest to the skilled man the modifications to the systems disclosed in doc. (3) needed to arrive at a system as claimed in Claim 1.

7.4.5 In doc. (3) itself the only hint that the skilled man could find for improving the system in the required sense derives from the recognition (page 6, line 124 - page 7, line 8) that errors may be made at turnings for which no cosR/cosL and associated angle of turn information is provided. If this turned out to be a serious problem in practice it would be natural for the skilled man to increase the number of such turnings, although this is not the solution proposed in the quoted passage. There is however absolutely nothing to suggest that the system be adapted to issue a

new instruction in response to an error, or to the first step (U-turn) to correct such an error, still less how that could be accomplished.

7.4.6 As previously indicated doc. (2) is not concerned with vehicle guidance, and the only features it has in common with the system of Claim 1 are also present in doc. (3). It could therefore offer the skilled man no hint as to how to eliminate the above-mentioned shortcomings of that system.

7.4.7 The only part of doc. (1) dealing with faults in navigation and issue of instructions enabling them to be corrected is under the heading "Falsche Richtung" at the foot of page 611, where it is stated that the system recognises the situation and uses a special symbol to instruct the driver to return in the opposite direction from the next motorway intersection. The system is said to be arranged to select only intersections with a single traffic guidance arrangement for this purpose.

It is neither stated how the fault is recognised nor how the system responds to the instruction not having been correctly followed, and indeed no reference is made to the special symbol in the subsequent discussion at pages 629-631 of the telegrams exchanged between the vehicle and the roadside transmitter-receivers. There is absolutely no suggestion that either the vehicle or the roadside equipment is able to sense change in vehicle heading.

The Board therefore can find nothing in this document which would lead the skilled man to make use of the vehicle heading sensors in the system of doc. (3) to sense a U-turn and to initiate the issue of a correct instruction in response thereto.

7.4.8 Careful study of the other documents cited on the Search Report and on which the respondent has not relied at all during either the appeal or the earlier opposition proceedings leads to the conclusion that whether read singly or in combination, they also contain nothing which could lead the skilled man to the Claim 1 system.

7.4.9 Accordingly the subject-matter of Claim 1 cannot be regarded as obvious in the light of the prior art disclosed by the documents available to the Board. Consequently Claim 1 is held to be allowable.

8. However, the main request as a whole cannot be allowed because the European patent does not disclose the invention as claimed in Claim 2 in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. Claim 2 relates to a system as claimed in Claim 1 in which provision for all kinds of possible errors has been integrated. The sole support for it in the description is the verbally corresponding statement at col. 4, lines 33-34. The remainder of the description and Claim 1 make reference only to one error in the context of the invention, i.e. failure to follow an instruction and direction correctly, and the manner in which this error is handled is set out in Claim 1. The only other kind of error referred to, and then only in the context of the system of doc. (3), is the accumulated mileometer error and there is absolutely no indication as to how this possible type of error is provided for in a system according to Claim 1 nor is there any information as to how other errors are to be eliminated or even identified.

9. **First auxiliary request**

9.1 Since this request also includes Claim 2 it is open to the same objection as the main request and is thus not allowable either. Moreover it is also unallowable for another reason.

9.2 As the documents forming the basis of the request differ from those of the granted patent the Board, before allowing maintenance of the patent on the basis of them, has to be satisfied under the provisions of Article 102(3) EPC that the patent and the invention to which it relates meets the requirements of the Convention, one of which, Article 123(2) EPC, states that a European patent may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed. An amendment should be regarded as introducing such subject-matter if the change in the content of the application (whether by addition, alteration or excision) results in the skilled person being presented with information which is not directly and unambiguously derivable from that previously presented by the application, even when account is taken of matter which is implicit to a person skilled in the art in what has been expressly mentioned. The test for additional subject-matter therefore corresponds to the test for novelty. In assessing the allowability of amendments to the description a distinction has therefore to be drawn between what is novel and what is obvious.

9.3 In the present case the passage substituted for that at col. 4, lines 1-37 of the granted patent contains information relating to the data on the programmed punch card, operation of the up-and-down counter and errors (see above discussion), and details of the steering position trigger which are certainly not explicitly disclosed either

in the patent as granted or in the application as originally filed and cannot in the Board's view be regarded as implicitly disclosed there either even though some of the information may have been obvious for the skilled man.

10. **Second auxiliary request**

The documents forming the basis of this request include the same amended description as that of the first auxiliary request. The request is therefore not allowable for the reasons set out above.

11. **Third auxiliary request**

11.1 This differs from the main request solely by the replacement of Claim 2 of the granted patent by a new Claim 2 (see point VI(ii)) relating to integration in the system of a "provision for forced error like that of diversion or congestion".

11.2 As support for this claim the appellant points to the statement at col. 3 lines 59-61 of the published patent, which was also in the original application, that it (the system) can be programmed to avoid one way streets, diversions and congested areas". However programming to avoid one-way streets, diversions and areas known to be congested would be understood by the skilled man to mean that the direction instructions would be selected with such known hazards in mind, i.e. instructions which for such reasons could not be followed or would inevitably place the driver in a difficult situation would not be given, whereas Claim 2 speaks of forced errors, which is taken to mean errors in following instructions which are due not to inadvertence but because the situations with which the driver is faced do not allow the instruction to be

followed. As was pointed out above, in the description of the patent as granted, the only specific type of error referred to was the failure of the driver to carry out an indicated instruction. The consequence of such a failure is the issue of a U-turn instruction, and if this instruction is followed the issue of the correct instruction to bring the driver back on to the planned route. Although Claim 1 and the corresponding description states what happens when the control means in response to the change of course signal determines that the driver has or has not followed the instruction and direction correctly there is absolutely no indication anywhere in the description as to how, or indeed if, the system responds if the U-turn instruction is not followed within a certain period of time. Moreover there is nothing in the description to suggest that the response of the system depends in any way upon whether the failure to obey the direction instruction was a mistake on the driver's part or a conscious action to deal with some unforeseen circumstance such as a diversion caused by an accident, unauthorised procession etc. and there is no means provided for the driver to feed such information into the system. In all cases the "failure" identified by a non-programmed change of course results in a U-turn instruction.

11.3 The application as originally filed therefore fails to disclose the invention as claimed in this new Claim 2 in a manner sufficiently clear and complete for it to be carried out by the skilled man, and the requirement of Article 83 EPC is not fulfilled.

Therefore the third auxiliary request must also be refused.

12. **Fourth auxiliary request**

12.1 This request differs from the main request only by the deletion of Claim 2, the presence of which led to the rejection of that request, and the renumbering of Claim 3 to 2 with consequential cancellation of its appendance to Claim 2.

12.2 Since Claim 1 has already been found to be allowable and the renumbered claim (now 2) relates to a specific embodiment of the system of Claim 1, which derives support from page 2, lines 16, 17 of the description as originally filed, all the claims of this auxiliary request are allowable.

13. Neither during the Opposition nor in the present proceedings has the respondent produced arguments to show that the description was insufficient to enable the skilled man to perform the invention claimed in Claim 1. The Board, having reconsidered its own position, is now satisfied that a skilled man provided with the hardware listed in the claim connected as shown in the drawing and aware of the performance required by the claim would be able to program the system to achieve this by exercise of his routine skills. The amended patent is not therefore objectionable under Article 83 EPC.

14. In view of the extent to which the matters involved have already been discussed in this case and of the fact that the amended form of the patent according to the fourth auxiliary request differs from the granted patent only in the suppression of Claim 2 and the redrafting of Claim 3

into a new Claim 2, the Board does not consider it necessary, at this stage of the proceedings, to let the parties provide any further observations under Rule 58(4) EPC.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the European patent on the basis of the following documents:

   Claims 1 and 3 of the granted patent with Claim 3 renumbered 2 and appended to Claim 1 (instead of to Claims 1 and 2)

   the description and Figure 1 of the drawings of the granted patent.

The Registrar The Chairman

F. Klein J. Roscoe