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**Datasheet for the decision  
of 20 May 2011**

**Case Number:** T 0644/10 - 3.4.01

**Application Number:** 01902473.6

**Publication Number:** 1266238

**IPC:** G01S 7/02

**Language of the proceedings:** EN

**Title of invention:**  
Speed trap detection and warning system

**Patentee:**  
Origin Technologies Limited

**Opponent:**  
Performance Products Limited

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 54, 56  
EPC R. 117, 118  
RPBA Art. 13(3)

**Keyword:**  
"Novelty (yes)"  
"Inventive step (yes)"  
"Late submitted material - evidence admitted (no)"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 0644/10 - 3.4.01

**DECISION**  
of the Technical Board of Appeal 3.4.01  
of 20 May 2011

**Appellant:**  
(Opponent)

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**Decision under appeal:**

**Decision of the Opposition Division of the  
European Patent Office posted 9 December 2009  
rejecting the opposition filed against European  
patent No. 1266238 pursuant to Article 102(2)  
EPC.**

**Composition of the Board:**

**Chairman:** B. Schachenmann  
**Members:** F. Neumann  
G. Assi

## **Summary of Facts and Submissions**

- I. The appeal lies from the decision of the opposition division rejecting the opposition against the European patent number 1 266 238.
- II. The appellant (opponent) requested that the decision under appeal be set aside and the European patent number 1 266 238 be revoked.

As a precautionary measure, oral proceedings were requested.

With the statement setting out the grounds of appeal, the appellant raised objections of lack of novelty of claim 1 and lack of inventive step of claims 1 and 26. It was also argued that claims 23 to 25 - which the opposition division had treated as independent claims - also lacked an inventive step.

New evidence (E1 to E4) was filed with the statement setting out the grounds of appeal and it was requested that this evidence be admitted.

One month before the scheduled oral proceedings, a first witness statement (E5) from Mr M. Burch was filed referring to a potentially novelty-destroying prior oral disclosure and it was requested to admit the written statement, to hear the witness and, if necessary, to remit the case to the opposition division for consideration. Two days before the oral proceedings a witness statement (E6) from a second witness was filed allegedly confirming the contents of E5. It was requested to admit this statement too.

III. The main request of the respondent (proprietor) was to dismiss the appeal and to maintain the patent as granted.

Alternatively, it was requested to maintain the patent in amended form on the basis of one of the sets of claims and amended description pages filed with the letter of 07 October 2010 as first to seventh auxiliary requests.

The respondent also requested accelerated processing of the appeal.

As a precautionary measure, oral proceedings were requested.

Having regard to the new evidence E1 to E6, it was requested that this evidence not be admitted into the proceedings and that Mr M. Burch not be heard as a witness.

IV. During the appeal proceedings, the following citations were taken into account:

- D1: WO 94/27268;
- D2: US-A-5 523 765;
- D3: EP-A-0 524 814;
- D4: EP-A-0 539 143;
- D5: EP-A-0 440 105;
- D7: US-A-5 177 685;
- D10: EP-A-0 789 344;

- E1: An article entitled "Communications #2: Entrepreneur touts radio mixing audio, data, navigation", from Inside ITS, published on 23 October 1995;
- E2: A witness statement by Gary Keith Noreen;
- E3: Computer files recorded on a CD-ROM from a website referred to in E1 and E2;
- E4: A witness statement by Christopher Leonard Ballard;
- E5: A witness statement by Martin George Burch;
- E6: A witness statement by Philip Ian Tyrrell.

V. Independent claim 1 of the appellant's **main request** reads as follows (see the patent as granted):

*" A speed trap detection and warning system (11, 61, 83, 107, 109) for a vehicle, comprising:*

*signal processing means (41, 111, 112, 139) for receiving signals and for processing the received signals to generate vehicle location data defining the location of the vehicle; and*

*storage means (49) configured to store location data defining a respective location for each of a plurality of speed traps;*

*characterised in that:*

*the storage means (49) is further configured to store speed trap bearing data defining the respective operating direction of each of the speed traps; and*

*the apparatus further comprises:*

*travel parameter calculating means (41, 111, 112, 139) for calculating vehicle bearing data defining the direction of travel of the vehicle;*

*location comparing means (43, 89, 112, 140) for comparing the vehicle location data with the stored location data to determine the distance of the vehicle from a stored location and to determine whether to alert the user in dependence upon an alert threshold;*

*direction comparing means (43, 89, 112, 140) for comparing the calculated vehicle bearing data with the stored speed trap bearing data to determine whether to alert the user in dependence upon whether the vehicle is travelling in a direction in which a speed trap is operational; and*

*alerting means (25, 27, 43, 65, 67, 89, 112, 140) for alerting a user to the presence of a speed trap, the alerting means being controlled, in use, to alert the user if it is determined by both the location comparing means and the direction comparing means that the user is to be alerted."*

Independent claim 26 of the appellant's **main request** reads as follows:

*"A method of alerting the driver of a vehicle to the presence of a speed trap, comprising:*

*processing signals to generate vehicle location data defining the location of the vehicle;*

*characterised by:*

*calculating vehicle bearing data defining the direction of travel of the vehicle;*

*a location comparing step of comparing the vehicle location data with stored location data defining a respective location for each of a plurality of speed traps to determine the distance of the vehicle from a stored location and to determine whether to alert the user in dependence upon an alert threshold;*

*a direction comparing step of comparing the calculated vehicle bearing data with stored speed trap bearing data defining the respective operating direction of each of the speed traps to determine whether to alert the user in dependence upon whether the vehicle is travelling in a direction in which a speed trap is operational; and*

*alerting the driver to the presence of a speed trap if it is determined in both the location comparing step and the direction comparing step that the user is to be alerted."*

Claims 2 to 22 are all dependent claims.

Claims 23 to 25 each concern an apparatus for use in a system according to claims 20, 21 and 22 respectively.

VI. The arguments of the parties, insofar as they are pertinent to the present decision, are set out below in the reasons for the decision.

## **Reasons for the Decision**

### 1. Acceleration of the appeal proceedings

The respondent requested accelerated processing of the appeal due to ongoing licence discussions. In particular, it was submitted that a number of potential licensees insisted on delaying the commencement of licence negotiations until the appeal proceedings were concluded. Moreover, it was submitted that the proprietor intended to bring infringement proceedings against a number of competitors but that he preferred to await the final outcome of the appeal before commencing such proceedings.

The appellant preferred not to accelerate the appeal proceedings. It was submitted that the respondent did not have sufficient legitimate interest to merit the acceleration. It was argued that a number of licences had apparently already been negotiated and that appeal proceedings are not necessarily a barrier to the commencement of infringement proceedings. In the view of the appellant, there was no compelling commercial reason to expedite the proceedings.

The Notice from the Vice-President Directorate-General 3 dated 17 March 2008 concerning accelerated processing before the boards of appeal (OJ EPO 2008, 220) indicates that circumstances which could justify an appeal being dealt with particularly rapidly could include cases in which infringement actions are envisaged and where the decision of potential licensees hinges upon the outcome of the appeal proceedings.



Since the alleged reasons for requesting accelerated processing coincide with the examples given in the above-referenced Notice, the Board sees no reason not to speed up the appeal as far as the procedural regulations allow.

2. Admissibility of the evidence E4, E5 and E6

2.1 E5 was filed only one month before the oral proceedings, i.e. after the oral proceedings had been arranged. E6 was filed two days before the oral proceedings.

E5 is a sworn statement by Mr Burch concerning the development of the Geodesy product and the concept for the further development thereof. Mr Burch alleges to have orally disclosed the idea of extending the Geodesy device, the details of which are documented in the post-published UK patent application GB-A-2 353 647, to include data reflecting the operational direction of speed traps before the priority date of the contested patent. The statement outlines the ideas for improvement, without indicating whether any enabling prior disclosure had actually occurred. E6 is a sworn statement by Mr Tyrrell - who was mentioned in the statement E5 - allegedly confirming the contents of E5.

The appellant submitted that when considering whether to admit late-filed evidence, the main criterion was always the relevance thereof. In the present case, E5 represented potentially novelty-destroying prior art in the form of an oral disclosure, the contents of which and the absence of any form of confidentiality agreement had been confirmed by Mr Tyrrell in the

statement E6. The high probative value of a sworn statement meant that such evidence should not be dismissed lightly.

Article 13(3) of the Rules of Procedure of the Boards of Appeal (RPBA) states that "*Amendments [to a party's case] sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the Board or the other parties cannot reasonably be expected to deal with without adjournment of the oral proceedings.*"

The Board notes that Mr Burch's statement E5 was filed after the oral proceedings had been arranged and only one month before the scheduled date.

In the present case, if the appellant's arguments were to rely on the allegations contained in Mr Burch's statement, then it would have been necessary to hear him as a witness in order to establish the credibility of these allegations. Moreover, in view of the fact that E5 had not been considered by the opposition division, it would probably have been necessary to remit the case to the first instance should E5 be admitted.

The procedure to be followed for hearing a witness is set out in Rules 117 and 118 EPC. This procedure requires a summons to be issued to the witness with at least two months' notice (unless the parties agree to a shorter period) and the facts in respect of which the witness is to testify are to be outlined. Following this procedure would have inevitably involved re-scheduling the oral proceedings for a later date. In

these circumstances, Article 13(3) RPBA gives the Board the power to refuse to admit E5 into the proceedings.

The appellant disagreed that the remittal of the case to the first instance could be equated with an adjournment of the oral proceedings and that this could therefore not be cited as a reason for not admitting E5. Moreover, it was argued that the EPC set out an obligation to examine the facts and evidence; an "*unfettered consideration of evidence*" should prevail, otherwise there was a risk that an invalid patent would be maintained. It was submitted that in the present case, the public interest was not served if the RPBA were to be strictly adhered to. Furthermore, the appellant suggested that postponement of the proceedings was not required and that Mr Burch, who was present at the proceedings, could have been heard immediately.

The Board emphasises that the procedure set out in Rules 117 and 118 EPC is mandatory and could not be complied with without deferring the date of the oral proceedings. Irrespective of a possible remittal of the case to the first instance, the new evidence could not have been dealt with during the scheduled oral proceedings. In the Board's view, any delay caused by the fact that the witness would have to be properly summoned amounts to an adjournment of the oral proceedings.

The Board thus concludes not to admit Mr Burch's statement E5 (and the statement of Mr Tyrrell E6) into the proceedings and not to hear Mr Burch as a witness.

2.2 Having regard to E4, this document was filed with the grounds of appeal and is a statement by Mr Ballard, who was the managing director of the opponent when the opposition was filed. This statement essentially summarises the development of the opponent's activities in the field of speed trap detection and briefly explains why various manufacturers migrated from radar-based detection to GPS technology.

Both parties agreed that E4 was only really useful as a historical overview of the evolution of the relevant field in general and, at most, could be helpful in understanding the context in which the system of the contested patent was developed.

On this basis, the Board left open the question of the admissibility of E4.

3. Admissibility of the evidence E1 to E3

The three pieces of evidence E1-E3 were all filed with the statement of the grounds of appeal and all concern a device referred to therein as "RadioSat". This device is essentially a GPS navigation system with added functionality provided over a two-way radio link. Specifically, the RadioSat in-car terminal can receive a periodic broadcast of a continuously updated database which contains the locations of police radar sites. This information is used to display these known locations on the displayed map.

The respondent objected to the fact that E1 to E3 were presented after the nine-month opposition period and

argued that appeal proceedings should not be misused as an opportunity to present a new case.

Moreover, the respondent submitted that since E1 to E3 were no more relevant than D10, which was held to be the closest prior art during the opposition proceedings, E1 to E3 should not be admitted into the appeal proceedings. It was argued that the RadioSat system did not contain a location comparison means for establishing a distance between the vehicle and the nearest speed trap and for alerting the driver when he came within a certain threshold distance of the nearest speed trap: the red dot indicating the speed trap locations was displayed on the map and the distance to the closest speed trap was displayed irrespective of how far each of the speed traps were from the vehicle. Moreover, RadioSat did not compare vehicle travel direction with the operational direction of the speed traps; the only directional data which was taken into account was the as-the-crow-flies direction to the nearest speed trap. Consequently, the alerting means did not provide a warning in dependence on both the proximity and the speed trap operational direction.

The Board agrees with these findings. Although Annex F of E2 refers to the "*nearest police radar*", thus implying that a location comparison is indeed performed, this information is displayed (i.e. the driver is alerted to the speed trap) with no regard for whether the speed trap lies within a threshold distance. Similarly, Annex G of E2 - which does not concern speed trap locations - makes reference to certain actions which are performed in relation to traffic alerts based on "*the direction in which the car*

*is headed*", thus meaning that travel direction is indeed taken into account in E2, but only insofar as it is determined whether the hazard is located ahead of the car or behind the car. Certainly no comparison of vehicle travel direction with the operational direction of speed traps is disclosed.

The Board thus concludes that the RadioSat system disclosed in E1 to E3 is less relevant than the prior art considered during the proceedings before the opposition division. In view of the fact that this evidence was filed after the nine-month opposition period, it was not admitted into the proceedings.

4. Novelty - Article 54 EPC

4.1 The appellant submitted that claim 1 lacked novelty with respect to the disclosure of D7.

4.2 D7 does not primarily concern a speed trap warning system. It relates in general terms to a navigation system comprising a vehicle location system, a map database and a route finder. A position sensor measures vehicle movement and this information is used by the vehicle location system to track the location of the vehicle on a map. The navigation system allows the locations of various road hazards - including speed traps - to be recorded in the map database so that the driver can be appropriately warned; speed traps are specifically mentioned at column 7, line 5 and column 19, line 14.

The system of D7 is a map-based system which functions on a segment-by-segment basis. The road network is

split into straight line segments, each segment being bounded by nodes (column 4, lines 20-25). Each segment has associated with it various pieces of information describing the segment. These "attributes" could relate, for example, to certain landmarks or buildings, to street quality or to height restrictions (column 5, line 66 to column 6, line 4; column 6, lines 60-63); dangerous bends in that stretch of road, concealed entrances, dangerous intersections and indeed the presence of speed traps may also be recorded (column 19, lines 9-15).

4.3 Comparing the features of claim 1 of the contested patent to the disclosure of D7, it was common ground that D7 discloses

a speed trap detection and warning system for a vehicle (column 7, lines 3-7; column 19, lines 7-15) comprising:

signal processing means for receiving signals and for processing the received signals to generate vehicle location data defining the location of the vehicle (column 3, lines 30-33);

storage means configured to store location data defining a respective location for each of a plurality of speed traps (col. 19, lines 7-18), at least to the extent that the locations of the speed traps are defined as being in a specific segment;

travel parameter calculating means for calculating vehicle bearing data defining the direction of travel of the vehicle (column 3, lines 30-33; column 4, lines

49-54), at least to the extent that "vehicle bearing" can be taken to mean a travel direction from node A to node B or vice versa;

location comparing means for comparing vehicle location data with the stored (speed trap) location data (column 19, lines 7-18: this must be the case, so that the driver can be warned of the speed trap); and

alerting means for alerting a user to the presence of a speed trap (column 19, lines 7-18).

4.4 However, there was some disagreement about whether D7 discloses the following features:

Δ1 the storage means is configured to store **speed trap bearing data** defining the respective operating direction of each of the speed traps;

Δ2 the location comparing means is for determining the **distance** of the vehicle from a stored (speed trap) location to determine whether to alert the user in dependence upon an alert **threshold**;

Δ3 a **direction comparing means** for comparing the calculated vehicle bearing data with the stored (speed trap) bearing data to determine whether to alert the user in dependence upon whether the vehicle is travelling in a direction in which a speed trap is operational; and

Δ4 the alerting means is controlled, in use, to alert the user if it is determined by **both the location**



**comparing means and the direction comparing means**  
that the user is to be alerted.

4.5 The absence of any one of these features in D7 would suffice to establish the novelty of claim 1 of the contested patent with respect to D7. Nevertheless, in the following, each of these features will be considered in order to determine the distinguishing features for the subsequent inventive step analysis.

4.6 With regard to the storage means (feature  $\Delta 1$ ), the appellant submitted that the term "configured to" used in claim 1 had to be interpreted as meaning simply "capable of" or "suitable for". Similarly, the direction comparing means "for comparing..." (feature  $\Delta 3$ ) and the alerting means "for alerting..." (feature  $\Delta 4$ ) had to be interpreted as means merely suitable for performing these respective tasks. When assessing whether D7 disclosed these features, it therefore only had to be established whether D7 contained means suitable for carrying out these functions.

4.7 D7 does indeed disclose the storage of data containing directional information. Specifically, D7 stores data concerning the permitted travel direction of one-way streets (column 19, lines 9-15) and of certain traffic lanes (column 6, lines 43-45). Since the system of D7 is capable of storing directional information, the appellant concluded that D7 must be considered to be capable of storing speed trap bearing data.

Similarly, a direction comparison is performed in D7 in order to establish that a vehicle is travelling the wrong way down a one-way street and an alert is issued

based on both locational and directional information. From this functionality of D7, the appellant concluded that the system of D7 must be considered to be capable of carrying out the functions set out in features Δ3 and Δ4.

4.8 The Board considers that the term "configured to" has to be read in a restrictive manner and must be taken to mean that the storage means set out in claim 1 is actually arranged to store speed trap bearing data. As argued by the respondent, it is not enough that D7 discloses a memory unit which is capable of storing mere directional information: it is necessary that some sort of link is provided between the location data defining the respective locations of the speed traps and the speed trap bearing data defining the operating direction of each of the speed traps. D7 does not disclose a memory means providing such a link. The system of D7 stores directional data associated with the permitted travel direction of various roads and traffic lanes and it also stores speed trap location data; however, there is no indication that it stores any speed trap data other than the locations thereof. Hence, the system would have to be modified in order to allow the position and the operational direction of speed traps to be linked together and stored.

Similarly, with regard to the direction comparing means and the alerting means, the Board considers that these features too must be understood in a restrictive manner in that the means must be arranged for actually performing the respective tasks. Although D7 may be considered to disclose a direction comparison means and alerting means as alleged by the appellant, neither of

these features in the system of D7 perform the tasks set out in claim 1 of the contested patent since D7 does not disclose the use of speed trap bearing data.

Thus, none of the features  $\Delta 1$ ,  $\Delta 3$  or  $\Delta 4$  may be considered to be disclosed in D7.

4.9 Turning now to the location comparing means (feature  $\Delta 2$ ), the appellant held that a location comparing means suitable for determining the distance of the vehicle from a speed trap to determine whether to alert the driver in dependence on a threshold must also be present in D7. The appellant pointed out that D7 produced real-time advance warnings of other hazards (e.g. an upcoming bend for which the current speed is too high). In view of this functionality, the appellant considered that the speed trap warnings must also be given in real-time as the vehicle approaches them. This would imply a comparison of vehicle position with speed trap position in order to establish whether the vehicle is within a threshold distance of the speed trap.

The Board disagrees with this conclusion. No indication is provided in D7 as to the manner in which the speed trap warnings are provided. As argued by the respondent, it is conceivable that when the route is calculated, a list of speed traps lying along that route may simply be provided on departure. Or, given the segmented structure of the navigation system, a warning may simply be given when the vehicle enters a segment in which the attribute "*speed trap*" is stored. Neither of these possibilities would require a comparison between speed trap location and vehicle

location to be performed in order to determine a distance between the two.

Moreover, the Board notes that the form in which the speed trap location data is stored is not elaborated in D7. The Board considers that from column 7, lines 3-7 it would appear that merely the presence of a speed trap in a particular segment is stored. The appellant contested this finding and held that it was implausible that the reference to "*a speed trap is here*" in this passage would mean simply that a speed trap is located somewhere along this road; it was more likely, in his view, that GPS coordinates were stored which would then make a distance determination possible. Moreover, even if the locations of the speed traps were only stored in a segment-wise manner, the appellant submitted that the "*distance*" which was determined in D7 in order to provide timely warnings could simply be, e.g., the number of segments separating the vehicle and the speed trap. The Board observes, however, that neither of these scenarios is derivable from D7 and that irrespective of the manner in which speed trap location data is stored, the Board could see no disclosure in D7 that the speed trap location is compared to the vehicle location in order to establish the distance therebetween. Indeed, for the novelty of a feature to be denied, it is not sufficient that such feature is merely likely to have been derivable from D7.

4.10 The Board therefore concludes that claim 1 is novel with respect to the disclosure of D7.

5. Inventive step - Article 56 EPC

5.1 Whilst the novelty objection was raised only against claim 1 of the contested patent, the appellant held that both independent claims 1 and 26 lacked an inventive step. Since claim 26 was the method claim corresponding to apparatus claim 1, the arguments presented for claim 1 were equally applicable to claim 26.

5.2 Starting from D7:

5.2.1 As has been shown above, the Board holds that the subject matter of claim 1 differs from the disclosure of D7 by the features  $\Delta 1$  to  $\Delta 4$  listed in section 4.4.

5.2.2 The appellant submitted that the technical effect of these differences was to reduce false positives in a map-based speed trap warning system and indicated that it was apparent from paragraph [0059] of the patent that this was indeed an aim of the invention. The corresponding objective technical problem to be solved may therefore be seen to be the modification of the system of D7 to refine the speed trap warnings such that false positives are reduced.

It was submitted that the formulation of this problem could not be seen to involve an inventive step. The appellant maintained that in the field of speed trap detection, the problem of drivers being unnecessarily alerted to speed traps was well known at the priority date of the contested patent. Indeed, in the earlier radar detectors, false positives were often produced when encountering a source of radar other than a police

radar gun, e.g. automatic supermarket doors. In the context of map-based systems in which the locations of speed traps may be stored, false positives would occur when a warning is given which relates to a speed trap which cannot actually catch the driver; this would typically be the case when a static speed camera is not operational in the direction of travel of the vehicle. It was argued that, on using the device of D7, the problem of false positives would be immediately apparent to the driver and the desire to refine the warning system to eliminate, or at least reduce, the false positives would be an obvious wish.

- 5.2.3 The appellant submitted that in order to achieve the desired aim in the map-based system of D7, it would have been obvious to attempt to ensure that those cameras which point in the "wrong" direction did not give rise to a warning.

From D7 it is known that directional data associated with direction-specific hazards may be stored and used to warn of the hazard. For example, the system of D7 was capable of warning a driver when he was driving the wrong way down a one-way street (column 19, lines 10 and 11). The appellant maintained that this teaching provided a very clear indication that a specific hazard could be associated with data which indicated the "operable" direction of the hazard. This, the appellant insisted, would suggest to the skilled person that hazard locations could be linked to directional data indicating the direction in which the hazard actually represented a threat. In the case of a one-way street, the direction of travel of the vehicle had to be compared with the permitted direction of travel down

the one-way street. When this teaching was applied to speed trap locations, this would mean that the skilled person would immediately consider storing directional information concerning the speed trap (i.e. its operational direction) and comparing this with the vehicle's direction so as to warn the approaching driver only in those cases when the speed trap really was a danger. No jump could be seen in going from the storage of directionality data for one-way streets to directionality data for speed traps. To illustrate the pertinence of D7, the appellant argued that if the term "*speed trap*" in claim 1 were replaced by the term "*one-way street*", then D7 would be novelty destroying for claim 1. This, it was argued, emphasised just how close the disclosure of D7 was to the subject-matter of claim 1.

In addition to this, it was submitted that D7 included a function which enabled a warning to be issued when the driver was travelling along a one-way street which became a two-way street ahead (column 19, lines 12 and 13). Thus the navigation system of D7 contained the functionality to compare the direction of travel to data which contained directional information concerning the upcoming hazard. The technique employed in D7 to warn of upcoming two-way traffic could be directly transferred to the speed trap scenario to solve the stated problem. It would therefore have been obvious for the skilled person to store data concerning the operational direction of the individual speed traps and to use this data to determine whether or not the speed traps represent a threat.

The respondent argued that the examples in D7 cited above were unrelated to the speed trap warnings of D7. The problem of false positives in a speed trap warning system was not mentioned in D7 so there was no apparent reason why the skilled person would look to the other hazard warnings in D7 for any advice on how to solve this (unrecognised) problem.

The Board takes the view that it cannot be unambiguously derived from D7 whether the two-way traffic alert actually involves the storage of directional information for this particular hazard. What is at least clear is that a distinction is made between two-way and one-way traffic and that at least the one-way roads are associated with stored directional information. So it can be concluded that D7 does include a means for storing directional data and that this directional information enables the system to establish that the present one-way segment will become two-way ahead. However, the warning of upcoming two-way traffic appears to be simply a warning that the hazard exists. It is not disclosed whether the upcoming hazard is associated with information reflecting its operating direction or whether, instead, only the limited extent of the one-way street is used to establish the presence of the upcoming two-way traffic.

At any rate, it is perhaps more relevant to consider the situation in which an advance warning of an upcoming one-way street is provided in order to alert the driver to a no-entry regulation at an upcoming junction. This situation was discussed in detail at the oral proceedings with reference to the fact that D7 provides an indication of legal connectivity and alerts



the driver to roads he may not enter. Although advance warnings of one-way streets are not mentioned in D7, advance warnings are specifically discussed with regard to an upcoming curve for which the vehicle is travelling too fast. As pointed out by the respondent, it does not make sense to alert only those vehicles travelling in a particular direction to the presence of a dangerous bend: the radius and inherent danger of the curve is the same for traffic travelling in either direction. Similarly, any advance warning of a no-entry junction will be equally relevant to vehicles approaching the junction from either direction.

Thus, although D7 indeed discloses the storage and use of directional information concerning the passable direction of one-way streets, the other warnings which are given in D7 cannot be considered to have a specific directional relevance; instead, the danger presented by such hazards is independent of the travelling direction of the vehicle. For this reason, the Board believes that D7 does not suggest that directional information could be attached to speed-trap locational information in order to provide a warning only in those cases where the vehicle is approaching a speed trap in a direction for which the speed trap is a threat. Whilst the Board does not deny that the drawbacks associated with the system of D7 and the consequential formulation of the objective technical problem would be immediately apparent to any user employing the system of D7, the idea of modifying the system to take the operational direction of the speed traps into account does not appear to derive in an obvious manner - without the benefit of hindsight - from the teaching of D7.

5.2.4 During the written procedure it was also argued that documents D1, D2, D3 and D5 all disclosed the use of directional information and that it would have been obvious for the skilled person to combine the teaching of D7 with that of any of these documents to arrive at the subject matter of claim 1 of the contested patent. In particular, it was argued that providing a means for storing the operating direction of a speed trap and a means for comparing this operating direction with the direction of travel of a vehicle could not be seen as inventive in view of the teachings of these documents.

D1 and D3 both concern portable GPS navigation devices which constantly monitor the direction of movement. The map contains various landmarks which are used as navigation prompts or which represent points of touristic interest and for which background information is provided to the user; speed traps are not mentioned. None of the landmarks are associated with bearing data or an operational direction. The teachings of D1 and D3 therefore cannot be seen to suggest to the skilled person that the operational direction of speed traps in D7 should be compared with the direction of travel of the vehicle.

Similarly, D2 and D5 both concern navigation devices which monitor vehicle direction. Speed traps are not mentioned in either of these documents and no feature-related directional information is discussed. Therefore the teaching of these documents cannot be seen to lead the skilled person to modify the system of D7 to take speed trap bearing data into account and to compare such data with the vehicle direction.

5.2.5 Moreover, the appellant considered that a combination of the teachings of D7 and D4 would lead to the subject matter of claim 1 of the contested patent.

The navigation device of D4 aims at reducing display clutter. In those cases in which a large number of facilities are displayed on the map, the visual clarity of the information is compromised. The system of D4 therefore displays only the type of facility which the user actually wants to view. This could be, for example, just petrol stations, just cinemas or just a certain type of restaurant.

The Board cannot follow the appellant's opinion that the skilled person would find it obvious to apply analogous selectivity when seeking to reduce the number of speed trap warnings in the system of D7 and that the operational direction of the speed traps would be used as the basis for this selectivity. The selections which are made in D4 to avoid visual cluttering of the display are made on the basis of feature type; the features have no directional data associated with them and no suggestion is made that directional data may somehow be used as a selection criterion. D4 makes no mention of speed traps and offers no solution to the problem of how to reduce false alarms in a speed trap detection and warning system.

5.2.6 The above arguments all concern the provision of a means for storing (and later using) directional data of the speed traps. However, this is not the only feature distinguishing the subject-matter of claim 1 from the disclosure of D7. As shown in the novelty analysis above, a further distinction is provided by the means

for comparing location information such that the distance between the speed trap and the vehicle can be determined.

The appellant argued that since D7 provides advance warnings of upcoming hazards, it is inherent that some type of location comparison, distance determination and threshold comparison must be performed. Even if it may not be considered that a comparison of precise hazard locations (in the form of GPS coordinates) could be derived from D7, it was argued that the system of D7 recognised that a hazard was present in an upcoming segment and warned the vehicle accordingly. This, at least, was how the two-way traffic warning appeared to function. Since the claim did not specify the units of the distance measurement, a warning issued on the basis of, e.g., a three segment threshold would anticipate this particular feature. Moreover, it was pointed out that location comparison and distance measurements were inherent in a map-based system. In order to overlay the position of the vehicle on the stored map, some sort of distance determination must take place.

Considering first the one-way street warning of D7, the Board agrees with the respondent that the driver is only alerted that he is travelling the wrong way down a one-way street once he is actually located on that street. How this is ascertained is not elaborated in D7. As submitted by the appellant, it is likely that some kind of location comparison between the location of the vehicle and the location of the nodes is undertaken, given that the position of the vehicle is defined in terms of the segment, the orientation (i.e. the direction of travel between the nodes) and the

distance from one of the nodes (see D7, column 4, lines 51-60). The Board notes, however, that this location comparison only enables it to be established whether the vehicle is in a specific segment. Directly applying this concept to the speed trap warning system, this location comparison will permit the system to establish that the vehicle is located in a segment to which the attribute "*speed trap*" has been assigned.

In contrast, the alert which is provided for upcoming two-way traffic (see D7, column 19, lines 12 and 13) is issued when the system recognises that an upcoming segment contains an attribute denoting two-way traffic. Although not disclosed in D7, the Board considers that it is likely that an advance warning of a speed trap will be issued in a similar manner. The only "*location comparison*" which can be seen to be performed for the two-way traffic alert is the recognition that the segment which contains the hazard lies ahead of the vehicle. There is no disclosure that a distance between the vehicle and the hazard itself is ascertained. At most, it could perhaps be argued that a comparison is made between vehicle location and the location of the node marking the start of the hazardous segment. The Board is of the opinion that the recognition that an upcoming segment is assigned the attribute "*speed trap*" cannot be equated to a location comparison and distance determination in the sense of claim 1. The wording of claim 1 requires that it is the location of the speed trap - and not merely the location of the segment in which the speed trap is present - which is compared to the location of the vehicle in order that a distance between the vehicle and the speed trap - and not the entry node of the segment - may be determined.

5.2.7 So starting from D7, the subject matter of claim 1 (and correspondingly claim 26) cannot be seen to derive in an obvious manner, either considering D7 in isolation or taking the teachings of any of D1 to D5 into account.

5.3 Starting from D10:

5.3.1 D10 discloses a GPS navigation device for vehicles which incorporates a warning system to alert drivers to the presence of traffic monitoring facilities, in particular speed traps. In this system, the coordinates of known speed traps are stored in the memory. The position of the vehicle is continuously compared to the known positions of the speed traps and an alarm is issued if the distance separating the vehicle from a speed trap falls below a threshold value.

Having regard to the concrete features of claim 1 of the contested patent, it can be seen that D10 discloses:

a speed trap detection and warning system for a vehicle (page 2, lines 39-40) comprising:

signal processing means for receiving signals and for processing the received signals to generate vehicle location data defining the location of the vehicle (page 2, lines 7-9; page 3, lines 2-3);

storage means configured to store location data defining a respective location for each of a plurality of speed traps (page 2, lines 42-46);

location comparing means for comparing the vehicle location data with the stored (speed trap) location data to determine the distance of the vehicle from a stored (speed trap) location and to determine whether to alert the user in dependence upon an alert threshold (boxes 4-7 of the figure; page 3, lines 3-8);

alerting means for alerting a user to the presence of a speed trap (box 7 of the figure; page 3, lines 6-8).

The appellant held that the system of D10 also comprised a means for determining the travel direction of the vehicle. This assertion was based on the passage in the penultimate paragraph of an English translation of D10, in which reference was made to an "*approach*" of the vehicle to the traffic monitoring facility. In the view of the appellant, in order to determine if the vehicle is approaching the traffic monitoring facility, the direction of the vehicle must be established. However, as the Board pointed out, the original German version of D10 uses the term "*Annäherung*" which denotes only a reduction of distance without any implication as to the direction of travel.

5.3.2 Thus, the subject matter of claim 1 is distinguished from the system of D10 in that

Δ1 the storage means is configured to store **speed trap bearing data** defining the respective operating direction of each of the speed traps;

Δ2 **travel parameter calculating means** for calculating vehicle bearing data defining the direction of travel of the vehicle;

- Δ3 a **direction comparing means** for comparing the calculated vehicle bearing data with the stored speed trap bearing data to determine whether to alert the user in dependence upon whether the vehicle is travelling in a direction in which a speed trap is operational; and
- Δ4 the alerting means is controlled, in use, to alert the user if it is determined by **both the location comparing means and the direction comparing means** that the user is to be alerted.
- 5.3.3 The appellant submitted that the technical effect of these distinguishing features was a refinement of the speed trap alerts whereby the number of false alarms could be reduced. In this regard, the problem to be solved with respect to D10 was the same as the problem to be solved with respect to D7.
- 5.3.4 Based on his understanding of D10, i.e. that vehicle direction was determined and taken into account in D10, the appellant argued that it would represent a natural progression of the teaching of D10 to employ speed trap directional information and to compare the direction of travel of the vehicle with the operational direction of the speed traps.

The Board notes that in D10, only the distance separating the two locations is established and used to trigger the warning; the travel direction of the vehicle is not known or taken into account in D10. Therefore it goes without saying that it cannot be argued that the presence of directional information in



D10 would lead the skilled person to consider expanding the teaching of D10 to include speed trap directional information. There is nothing in D10 which would suggest to use directional information associated with either the vehicle or the speed traps. The Board was therefore not convinced by the argument that the system of D10 would evolve in an obvious manner to result in the system defined in claim 1.

5.3.5 The appellant further argued that even if the natural evolution of the system of D10 could not be seen as obvious, a combination of the teachings of D10 and D7 would lead to the subject matter of claim 1. The teaching of D7 relating to the manner in which directional warnings were dealt with could be incorporated into D10. It was argued that D7 not only related to the same field, but that the teaching of D7 filled the gap in the teaching of D10. Whilst recognising that the disclosure of D7 did not teach to use speed trap bearing data, the appellant insisted that the use of the directional information associated with other hazards was discussed therein and the skilled person would readily adapt this teaching to apply it to the speed trap hazards in the manner set out in claim 1.

It will be clear from the preceding assessment of inventive step starting from D7 that the Board was not convinced by the arguments put forward by the appellant with regard to the adaptation of the teaching of D7 in order to provide a means for comparing vehicle bearing data with speed trap bearing data. That the skilled person, starting from D10 and looking to solve the problem of refining the speed trap warning system

thereof, would consider turning to D7 and would extract the required information therefrom, is even less convincing. D7 does not even hint at the problem of false alarms, let alone suggest a solution to this problem. From D7, the skilled person obtains no information on how the speed trap warnings are actually implemented. In fact, as is apparent from the above, D7 does not even suggest to compare the locations of the speed traps with the location of the vehicle as is done in D10. Therefore, there is no credible reason why the skilled person would turn to D7 for any information which would help him solve the stated problem. Even if he were to consult D7, the teaching required to arrive at the subject matter of claim 1 is simply not to be found therein.

5.3.6 Using similar arguments to those outlined in paragraphs 5.2.4 and 5.2.5 above, the appellant argued that claim 1 lacked an inventive step based on a combination of D10 with any of D1 to D5. The Board was not convinced by these arguments for the same reasons as given in paragraph 5.2.4 and 5.2.5 above.

5.3.7 Therefore, starting from D10, the subject matter of claim 1 (and correspondingly claim 26) cannot be seen to derive in an obvious manner, either considering D10 in isolation, or taking the disclosures of any of D1 to D5 or D7 into account.

#### 5.4 Claims 23-25

In the contested decision, claims 23 to 26 were treated as independent claims. These claims are each directed to an apparatus "for use in a system" according to a

respective previous dependent claim. Each of these claims contain the location comparing means and the direction comparing means as set out in claim 1 and so the above findings with regard to inventive step of claim 1 apply equally to the inventive step of claims 23 to 25.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

R. Schumacher

B. Schachenmann