

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 3 March 2022**

Case Number: T 1751/20 - 3.4.02

Application Number: 15899589.4

Publication Number: 3330667

IPC: G01C21/36

Language of the proceedings: EN

Title of invention:

ROUTE GUIDANCE DEVICE AND ROUTE GUIDANCE METHOD

Applicant:

Nissan Motor Co., Ltd.

Headword:

Relevant legal provisions:

EPC Art. 56, 84

RPBA Art. 12(4)

Keyword:

Inventive step - main request (no)

Claims - clarity - first and second auxiliary requests (no)

Admissibility of third and fourth auxiliary requests (no) -
exceptional circumstances (no)

Decisions cited:

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1751/20 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 3 March 2022

Appellant: Nissan Motor Co., Ltd.
(Applicant) 2, Takara-cho
Kanagawa-ku
Yokohama-shi, Kanagawa 221-0023 (JP)

Representative: Hoefler & Partner Patentanwälte mbB
Pilgersheimer Straße 20
81543 München (DE)

Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 20 April 2020
refusing European patent application No.
15899589.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman R. Bekkering
Members: A. Hornung
C. Almberg

Summary of Facts and Submissions

I. The applicant appealed against the decision of the examining division refusing European patent application No. 15899589.4 on the basis of Article 56 EPC (main request and first auxiliary request then on file) and Article 84 EPC (first and second auxiliary requests then on file).

II. With the statement setting out the grounds of appeal, the applicant filed sets of claims according to a main request and to first to fourth auxiliary requests, and requested that the decision of the examining division be set aside and a patent be granted on the basis of one of these sets of claims. The sets of claims according to the present main request and the present first and second auxiliary requests are identical, respectively, to the sets of claims underlying the appealed decision.

As a precaution, the applicant requested oral proceedings.

III. In a communication annexed to a summons to oral proceedings, the board informed the applicant about its provisional and non-binding opinion according to which, *inter alia*, the invention as defined in claim 1 of the main request did not seem to involve an inventive step. Moreover, it informed the applicant about its preliminary view according to which claim 1 of the first and the second auxiliary request lacked clarity. Still further, the board informed the applicant about its intention to exercise its discretion under Article 12(4) RPBA 2020 in not admitting the sets of claims according to the third and the fourth auxiliary request into the proceedings.

IV. Reference was made to document D1: EP 2 775 262 A1.

V. The board's opinion concerning lack of inventive step of the subject-matter of claim 1 of the main request was worded as follows (citation running across pages 2 to 8 of this decision, see point 7. of the communication annexed to the summons):

"7. Main request - inventive step

The subject-matter of claim 1 seems to lack an inventive step in view of D1 (Article 56 EPC).

*[The explanation of the numbering **A** to **J** of the features of claim 1 is given in point X. below]*

7.1 Features **A to **E** and **G****

It seems to be undisputed between the examining division and the applicant that D1 discloses a route guidance device comprising features **A** to **E** and **G** of claim 1.

7.2 Feature **H**

The board, in its preliminary opinion, concurs with the examining division's view according to which feature **H** does not contribute to an inventive step of the subject-matter of claim 1 (see appealed decision, pages 4 and 5, point 1.4). Indeed, it would have been obvious for the skilled person to avoid information overcharge of the driver by providing subsequent guidance only after a certain lapse of time.

7.3 Features **F, **I** and **J****

Features **F**, **I** and **J** define, on the basis of so-called points of guidance, distances d , d_0 , d_{12} and d_{23} at which guidance to change lanes is provided. The board is of the preliminary opinion that features **F**, **I** and **J** do not contribute to an inventive step of the subject-matter of claim 1, as elaborated below.

7.3.1 Appealed decision

According to the appealed decision, pages 3 and 4, point 1.2, features **F** and **J** were anticipated by D1. The short reasoning provided by the examining division seems to be based essentially on distances between points of guidance identified by the examining division in figures 5 and 6 of D1 (concerning feature **F**, see the sentences in italics in the paragraph bridging pages 3 and 4 of the appealed decision; concerning feature **J**, the examining division merely referred to figure 5 at the end of the fourth paragraph on page 4 of the appealed decision).

Feature **I** was considered to be novel by the examining division but to lack an inventive step (see appealed decision, pages 4 and 5, paragraphs 1.3 and 1.5).

In order to decide whether features **F**, **I** and **J** are novel over D1, it is necessary first of all to identify the points of guidance in D1.

7.3.2 Disclosure of points of guidance in D1

- (a) Claim 1 defines various points of guidance, namely "a point of last guidance"; "a first point of guidance"; "a second point of subsequent guidance"; "a third point of last guidance".

The applicant submitted that "it remains unclear from the examining division's arguments what in document D1 can concretely be referred to as 'a first point of guidance', 'a second point of subsequent guidance', and 'a third point of a last guidance'" (see statement of grounds of appeal, page 5, last paragraph)

- (b) The board acknowledges that it is not clear from the appealed decision what exactly the various points of guidance are supposed to be in D1. The board's understanding of the examining division's argumentation is as follows:

D1 does not disclose the wording "points of guidance" but discloses that a "route guidance is provided in the map view 200 for both positions 220-1, 220-2 by means of a graphical indication for the at least one position" (see D1, [0070], last sentence). "The graphical indication uses a greyscale in order to represent a chance of successfully following the route guidance 210, i.e., successfully executing the right turn at the exit 151-1. In-between the first and second positions 220-1, 220-2 the graphical indication 201d of the route guidance includes coloring of the driving lane 202-1 using a colour gradient, the colour gradient spanning from the first colour of the first position 220-1 to the second colour of the second position 220-2" (see D1, [0071]).

In figure 6 of D1, a graphical indication similar to that of figure 5 is shown. Instead of the colour gradient of figure 5, "a plurality of lines arranged on the driving lanes 202-1, 202-2, 202-3, 202-4 is used where the neighboring lines have decreasing distance. The distance between neighboring lines is

proportional to the chance of successfully following the route guidance event 210" (see D1, [0074]).

In D1 not a single point of guidance per lane is defined but a continuous series of points of guidance, located in a lane between the two positions 220-1 and 220-2 of that lane, wherein "the first position 220-1 is determined as the particular position where the chance of successfully following the route guidance event 210 equals the lower threshold, i.e., where it is particularly unlikely to successfully execute the right turn at the exit 151-1. Likewise, the second position can be determined as the particular position where the chance of successfully following the route guidance event equals an upper threshold" (see D1, [0072]). Moreover, "the route guidance is provided separately for the driving lanes 202-1, 202-2, 202-3, 202-4" (see D1, [0074]), i.e. each lane of the four driving lanes comprises its own positions 220-1 and 220-2 of lower and upper threshold at different places. In figure 5, each lane is coloured by using a colour gradient between these two positions 220-1 and 220-2, the colour gradient in one lane being shifted with respect to the colour gradient of the other lanes. In figure 6, each lane comprises a series of lines, the series of lines in one lane being shifted with respect to the series of lines of the other lanes.

This means that the point of first guidance referred to in claim 1, corresponds in D1 to a point located in the most left-hand lane (202-1) between the first and the second positions 220-1 and 220-2. The point of second guidance, referred to in claim 1, corresponds to a point located in the second lane (202-2) from the left between the respective first and the second

positions 220-1 and 220-2. The point of third and last guidance, referred to in claim 1, corresponds to a point located in the third lane (202-3) from the left between the respective first and the second positions 220-1 and 220-2. The three points in the three lanes are corresponding points in the sense that the three points correspond to the same level of chance of successfully exiting the route.

According to the appealed decision, page 3, last paragraph, the examining division considered the upper threshold position 220-2 in each of the three lanes to correspond to the three guidance points.

7.3.3 Board's preliminary opinion

(a) Features **F**, **I** and **J** are novel over D1

D1 discloses first, second and third points of guidance equivalent to the respective points of guidance defined in claim 1. Moreover, when considering the actual lengths between points shown in figures 5 or 6, the board agrees with the examining division that these lengths would anticipate features **F** and **J** for the reasons given in the appealed decision, pages 3 and 4, point 1.2.

However, numerical values of the distances d , d_0 , d_{12} and d_{23} between first, second and third points of guidance and the branch point are not disclosed in the description of D1. Trying to deduce the numerical values of the distances d , d_0 , d_{12} and d_{23} only from the schematic drawings in figures 5 and 6 of D1 makes no technical sense due to the inherently schematic nature of the drawings. Therefore, features **F**, **I** and **J** are novel over D1.

(b) Distinguishing features **F**, **I** and **J** do not seem to contribute to an inventive step of the subject-matter of claim 1 in view of D1

Features **F**, **I** and **J** have the technical effect of determining the point of guidance in each lane at which guidance to change lanes is provided to the driver of a host vehicle. In particular, feature **F** defines the conditions $d > d_0$ and $d < N \times d_0$, feature **I** stipulates that $d_{12} < d_{23}$ and feature **J** stipulates that $d_{23} < d_0$. In other words, as submitted by the applicant, features **F**, **I** and **J** define the "aspect of increasing distances between directly subsequent guidance points" (statement of grounds of appeal, page 5, second but last paragraph).

The first condition $d > d_0$ of feature **F** is necessarily fulfilled in a situation with four lanes and three lane changes as defined in claim 1 and as shown in figures 5 and 6 of D1.

The three remaining conditions of features **F**, **I** and **J**, i.e. $d < N \times d_0$, $d_{12} < d_{23}$ and $d_{23} < d_0$, have an implication for the driver of the host vehicle which depends on the concrete driving circumstances on the four-lane road, such as the speed of the host vehicle, the speed of the other vehicles in each lane, the traffic density in each lane, whether the driver of the host vehicle has a more cautious or a more aggressive style of driving and/or whether the branch point is on an overtaking lane side or on the lowest speed lane. In this respect, it is to be noted that according to the applicant, figure 4 of the patent application "only shows the present invention's situation for the Japanese situation and roads in Japan". In such a specific situation, "the guidance provided as described above [i.e. as defined in claim 1] can prevent the driver from keeping

traveling in the (Japanese rightmost and continental European leftmost) overtaking lane for a long distance" (see statement of grounds of appeal, page 5, second and third paragraphs).

Since none of these concrete driving circumstances is defined in claim 1, no particular technical effect going beyond an arbitrary selection of points of guidance seems to be related to the features **F**, **I** and **J**. In particular, the alleged technical advantage submitted by the applicant, i.e. "[w]ith this cascade of increasing distances between directly subsequent guidance points, a more reliable and improved economic driving of the host vehicle can be guaranteed" (statement of grounds of appeal, page 5, sixth paragraph), does not appear to be convincing.

Confronted with the technical problem of determining points of guidance at which guidance is to be provided to the driver of the host vehicle, the skilled person would have considered all the relevant concrete circumstances of the driving situation and chosen the points of guidance so that the chance of taking the exit is sufficiently high without staying unnecessarily long in an inconvenient lane. Conditions $d < N \times d_0$, $d_{12} < d_{23}$ and $d_{23} < d_0$, defined in features **F**, **I** and **J**, appear to have been obvious possibilities of choosing the position of the points of guidance depending on the driving circumstances. Therefore, features **F**, **I** and **J** do not seem to contribute to an inventive step of the subject-matter of claim 1."

VI. The board's opinion concerning lack of clarity of the subject-matter of claim 1 of of each of the first and the second auxiliary request was worded as follows (see points **8.** and **9.** of the communication annexed to the summons):

"8. First auxiliary request

Claim 1 of the first auxiliary request is not clear (Article 84 EPC) for the reasons given in the appealed decision, page 5, points 2 and 3. Moreover, the route guidance device of claim 1 cannot be clearly defined by referring to a driver who does not form part of the claimed subject-matter.

9. Second auxiliary request

Claim 1 of the second auxiliary request is not clear (Article 84 EPC) for the reasons given in the appealed decision, page 5, point 5 [...]".

VII. The board's opinion concerning its intention to exercise its discretion under Article 12(4) RPBA 2020 in not admitting the third and fourth auxiliary requests into the proceedings was worded as follows (citation running across this and the next page, see point **10.** of the communication annexed to the summons):

"10. Third and fourth auxiliary requests - Admissibility

The board, in its preliminary view, intends to exercise its discretion under Article 12(4) RPBA 2020 in not admitting the third and fourth auxiliary requests into the proceedings.

10.1 According to Article 12(2) RPBA 2020, to which Article 12(4) refers, a party's appeal case shall, in view of the primary object of the appeal proceedings to review the decision under appeal in a judicial manner, be directed to the requests, facts, objections, arguments and evidence on which the decision under appeal was based.

10.2 In the present case, claim 1 of the third and the fourth auxiliary requests, respectively, has been amended by addition of a certain number of features taken from the description.

10.3 Contrary to Article 12(4), second paragraph RPBA 2020, the applicant did not provide reasons for submitting an amended claim 1 only in the appeal proceedings.

10.4 Under Article 12(4), first paragraph RPBA 2020, claim 1 of the third and the fourth auxiliary requests, respectively, is to be regarded as an amendment which "may be admitted only at the discretion of the Board".

10.5 Indeed, lack of novelty and lack of inventive step objections in view of D1 were raised against the subject-matter of claim 1 throughout the entire first-instance examination proceedings. Moreover, instead of using the opportunity to defend and/or amend claim 1 then on file during the oral proceedings scheduled by the examining division, the applicant chose to withdraw the request for oral proceedings before the examining division and to file amended claim sets only upon entering the appeal proceedings. Under Article 12(6), second paragraph RPBA 2020, the board "shall not admit requests ... which should have been submitted in the proceedings leading to the decision under appeal, unless the circumstances of the appeal case justify their admittance". The applicant did not present any such circumstances, and the board does not see any".

VIII. In response to the summons to oral proceedings, the applicant informed the board with its letter dated 17 February 2022 that the request for oral proceedings is withdrawn. The applicant did not file any comments

concerning the board's preliminary opinion as annexed to the summons.

IX. Following the applicant's letter of 17 February 2022, the oral proceedings were cancelled.

X. Independent claim 1 according to the main request reads as follows (features of claim 1 are numbered from **A** to **J**; the various distances recited in claim 1 are identified by the board by respective parameters d , d_0 , d_{12} and d_{23} ; the number of lane changes is identified by the board by parameter N):

A: A route guidance device (1) used for a vehicle which is configured to provide a travel route to a predetermined destination or for an autonomous vehicle which is configured to be autonomously driven along the travel route,

the route guidance device comprising:

B: - a position detection unit (10, 20) configured to detect a position of a host vehicle and a travel lane;

C: - a route retrieval unit (62) configured to retrieve per lane the travel route to the destination from the position of the host vehicle detected by the position detection unit (10, 20);

D: - a determination unit (63) configured to determine whether the host vehicle should change the travel lane detected by the position detection unit (10, 20) to another lane several times so as to travel toward a branch point or an intersection on the travel route; and

E: - a guide unit (64) configured to provide guidance to change lanes depending on the position of the host vehicle and the travel lane,

wherein:

F: - when the determination unit (63) determines that the host vehicle should change the travel lane to other lanes

sequentially several times, the guide unit (64) is configured to provide first guidance at a point at which a distance $[d]$ from the position of the host vehicle to the branch point is longer than a predetermined distance $[d0]$ and is shorter than a distance $[d0 \times N]$ obtained such that the predetermined distance is multiplied by a number $[N]$ of lane changes,

- the predetermined distance $[d0]$ is from a point of last guidance provided by the guide unit (64) to the branch point,

G: - a lane where the first guidance is provided and a lane where the last guidance is provided are different,

H: - the guide unit (64) is configured to provide subsequent guidance after a lapse of a predetermined time period when a lane change is detected by the position detection unit (10, 20), and

- wherein the route guidance device (1) is configured such that

I: - a distance $[d12]$ from a first point of guidance to a second point of subsequent guidance provided by the guide unit (64) is shorter than a distance $[d23]$ from the second point of subsequent guidance to a third point of a last guidance provided by the guide unit (64) and

J: - the distance $[d23]$ from the second point of subsequent guidance to the third point of the last guidance is shorter than a distance $[d0]$ from the third point of last guidance to the branch point".

XI. Claim 1 of the first auxiliary request differs from claim 1 of the main request in that the following feature is added at the end of the claim:

"and the predetermined time period is set so as to avoid annoying the driver".

XII. Claim 1 of the second auxiliary request differs from claim 1 of the main request in that the following feature is added at the end of the claim:

"and the predetermined time period is set so as to be 10 s or to correspond to 100 m of travel of the host vehicle".

XIII. Claim 1 of the third auxiliary request differs from claim 1 of the main request in that the expression "after a lapse of a predetermined time period" is deleted from feature **H** and in that the feature "and the branch point is on an overtaking lane side" is added at the end of the claim.

XIV. Claim 1 of the fourth auxiliary request differs from claim 1 of the third auxiliary request in that features I and J are deleted and in that the following features are added after feature **H**:

"- the route guidance device (1) is configured to provide the first guidance when the distance from the position of the host vehicle to the branch point reaches a first distance, a second guidance when the distance from the position of the host vehicle to the branch point reaches a second distance, and the last guidance when the distance from the position of the host vehicle to the branch point reaches a third distance,

- a value obtained by subtracting from the first distance the second distance is smaller than a value obtained by subtracting from the second distance the third distance, and the value obtained by subtracting from the second distance the third distance is smaller than the third distance".

Reasons for the Decision

1. In its letter dated 17 February 2022 the applicant stated that "*[t]he request for oral proceedings is herewith withdrawn and reimbursement of 25% of the appeal fee are requested*". Consequently, the oral proceedings were cancelled and an immediate decision on the file as it stood was taken.

2. In the communication annexed to the summons to oral proceedings (see point V. above), the board expressed its preliminary opinion, along with the underlying reasons, that the subject-matter of claim 1 of the main request did not involve an inventive step.

Moreover, it informed the applicant about its preliminary view that claim 1 of the first and second auxiliary requests lacked clarity and about its intention to exercise its discretion under Article 12(4) RPBA 2020 in not admitting the sets of claims according to the third and the fourth auxiliary request into the proceedings (see points VI. and VII. above).

The applicant neither rebutted the board's preliminary opinion, nor submitted any new requests aiming at overcoming the objections. The board sees no reason to deviate from its preliminary opinion, which therefore becomes final.

3. It follows that the subject-matter of claim 1 according to the main request does not involve an inventive step (Article 56 EPC). Moreover, claim 1 of each of the first and the second auxiliary request lacks clarity (Article 84 EPC) and the third and fourth auxiliary requests are not admitted into the proceedings (Article 12(4) RPBA 2020).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



H. Jenney

R. Bekkering

Decision electronically authenticated