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CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD,
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DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,
LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
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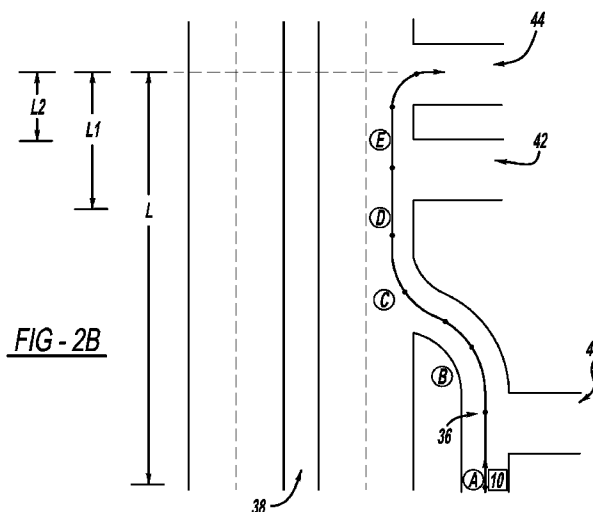
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(54) Title: NAVIGATION SYSTEM CONTROLLED TURN SIGNALS



(57) **Abstract:** A turn signal control system for use with a right turn signal and a left turn signal of a motor vehicle and a vehicle navigation system is provided. The turn signal system includes a processor configured to be operably coupled to the vehicle navigation system. The processor is configured to receive map data and route data from the vehicle navigation system. The processor is configured to determine a turn zone of the vehicle based on a set of criteria. A turn signal controller is operably coupled to the processor and configured to activate one of the right and left turn signals when the vehicle is in the turn zone. A method of controlling a right and left turn signal is also provided.



INTERNATIONAL SEARCH REPORT

International application No

PCT/US2012/029741

A. CLASSIFICATION OF SUBJECT MATTER

INV. G01C21/26 B60Q1/34 G01C21/36 B60Q1/52
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G01C B60Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 895 274 A1 (AGERE SYSTEMS INC [US]) 5 March 2008 (2008-03-05)	1-23
Y	paragraphs [0014], [0016], [0020] - [0022], [0028] -----	4
X	DE 103 55 807 A1 (BOSCH GMBH ROBERT [DE]) 22 July 2004 (2004-07-22)	1,7-9, 11-23
Y	paragraphs [0025], [0026]; figure 1 -----	4
X	DE 102 51 357 A1 (DAIMLER CHRYSLER AG [DE]) 13 May 2004 (2004-05-13)	1,5,6, 10,18,23
	paragraphs [0012], [0013], [0033], [0039], [0040], [0046] -----	
X	JP 2007 283933 A (NISSAN MOTOR) 1 November 2007 (2007-11-01)	1,3,18, 23
	paragraphs [0018] - [0025], [0069], [0087]; figures 5-7 -----	
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Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 347 268 A1 (AUDI NSU AUTO UNION AG [DE]) 24 September 2003 (2003-09-24) paragraphs [0006] - [0009] -----	24-26
X	KR 2007 0099932 A (HYUNDAI AUTONET CO LTD [KR]) 10 October 2007 (2007-10-10) paragraphs [0020] - [0027] -----	24

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/029741

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-23

turn signal control system, operates right or left turn signal when a turn is expected or an obstacle comes into view

2. claims: 24-26

emergency signal control system, operates emergency (i.e. both left and right turn) signal when vehicle is in emergency zone adjacent to a road

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/029741

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1895274	A1	05-03-2008	EP 1895274 A1 05-03-2008
			JP 2008056232 A 13-03-2008
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			US 2008082259 A1 03-04-2008
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