(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 12 June 2008 (12.06.2008)

(10) International Publication Number WO 2008/070226 A3

(51) International Patent Classification: *G01C 21/34* (2006.01) *G08G 1/0968* (2006.01)

(21) International Application Number:

PCT/US2007/076733

(22) International Filing Date: 24 August 2007 (24.08.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/840,035 25 August 2006 (25.08.2006) US 11/844,321 23 August 2007 (23.08.2007) US

(71) Applicant (for all designated States except US): MAG-ELLAN NAVIGATION, INC. [US/US]; 471 El Camino Real. Santa Clara. CA 95050 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): LOKSHIN, Anatole, M. [US/US]; 214 7th Street, Huntington Beach, CA 92648 (US).

(74) Agent: WARD, John, P.; Greenberg Traurig LLP, 2450 Colorado Avenue, Suite 400 East, Santa Monica, CA 90404 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

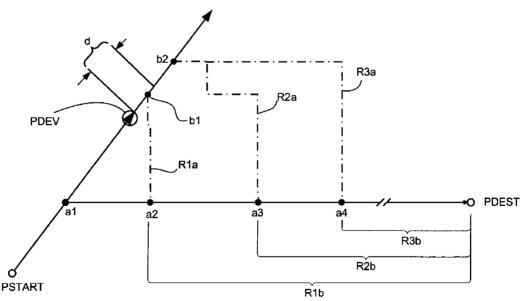
AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 28 August 2008

(54) Title: REROUTING IN VEHICLE NAVIGATION SYSTEMS



(57) Abstract: A navigation device includes a processor, a map information storage medium storing map information, a position determining module configured to determine a current location, a velocity and direction of travel of a vehicle, and determine whether the current position indicates a deviation from an original route to a final destination. Further included is a routing module configured to determine an original route from a starting position to a destination, and at least one reroute from the current location to the destination, wherein the reroute includes a restoration route from the current location to at least one intermediate point on the original route and then continuing to the destination. Based upon an estimated cost of the restoration route plus a predetermined actual cost of the route from the intermediate point to the final destination, the routing module is further configured to estimate a reroute cost, and select a reroute based upon the estimated reroute cost.



INTERNATIONAL SEARCH REPORT

International application No PCT/US2007/076733

A. CLASSIFICATION OF SUBJECT MATTER INV. G01C21/34 G08G1/0968						
According to	o International Patent Classification (IPC) or to both national classifi	ication and IPC	e e e e e e e e e e e e e e e e e e e			
	SEARCHED					
	ocumentation searched (classification system followed by classification	ation symbols)				
	G08G					
		·	· <u></u>			
Documental	tion searched other than minimum documentation to the extent that	such documents are included in the fields s	earched			
Electronic d	ata base consulted during the international search (name of data b	pase and, where practical, search terms used	d)			
EPO-In	ternal, WPI Data					
· 						
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where appropriate, of the re	elevant passages	Relevant to claim No.			
	TO COOL (COOPED AT AVAILABLE ACTA		· .			
X 	US 2004/039520 A1 (KHAVAKH ASTA AL) 26 February 2004 (2004-02-26					
Y	paragraph [0186] - paragraph [01		2-14			
	paragraph [0204]					
χ .	EP 1 471 330 A (SAMSUNG ELECTRON	וזרכ בט ו דט	1			
^	[KR]) 27 October 2004 (2004–10–2					
	paragraph [0016]; claim 1	,				
	paragraph [0036]	. · ·	. •			
·	paragraph [0042]					
Υ	US 6 278 942 B1 (MCDONOUGH WILLI	(F2117 MA	2-14			
' l	21 August 2001 (2001-08-21)	WI [00])	£ 17			
	column 1, line 21 - line 41					
	column 8, line 1 - column 9, lin					
	column 9, line 37 - column 10, l	ine 4				
		-/				
		,				
		· · · · · · · · · · · · · · · · · · ·				
X Furth	ner documents are listed in the continuation of Box C.	X See patent family annex.				
Special ca	ategories of cited documents:	**** leter desurgent published after the jote				
	ent defining the general state of the art which is not	"T" later document published after the inte or priority date and not in conflict with cited to understand the principle or the	the application but			
considered to be of particular relevance invention						
filing date "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						
which i	is cited to establish the publication date of another or other special reason (as specified)	"Y" document of particular relevance; the o	claimed invention			
"O" docume	*O* document referring to an oral disclosure, use, exhibition or document is combined with one or more other such docu-					
other means ments, such combination being obvious to a person skilled in the art.						
later than the priority date claimed "&" document member of the same patent family						
Date of the actual completion of the international search Date of mailing of the international search report						
12	2 June 2008	20/06/2008				
Name and m	nailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer				
4	NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl,	Rabenstein, Winfr	ind			
	Fax: (+31-70) 340-3016	Nabeliatetii, militi	jieu j			

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/076733

	ion). DOCUMENTS CONSIDERED TO BE RELEVANT	· · · · · · · · · · · · · · · · · · ·	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
Y	JAGADEESH G R ET AL: "Heuristic Techniques for Accelerating Hierarchical Routing on Road Networks" IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 3, no. 4,	11	
	1 December 2002 (2002-12-01), XP011074894 ISSN: 1524-9050 page 307		
		•.	
		•	
•			
•			
		_	
		•	
		•	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2007/076733

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 2004039520	A1	26-02-2004	NONE		
EP 1471330	Α	27-10-2004	NONE		·
US 6278942	B1	21-08-2001	NONE		<u> </u>