

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 March 2010 (11.03.2010)

(10) International Publication Number
WO 2010/027731 A3

(51) International Patent Classification:
B60W 40/12 (2006.01) *B60W 30/02* (2006.01)
B60W 40/00 (2006.01)

(71) Applicant (for all designated States except US):
KELSEY-HAYES COMPANY [US/US]; 12025 Tech
Center Drive, Livonia, MI 48150 (US).

(21) International Application Number:
PCT/US2009/054753

(72) Inventors; and
(75) Inventors/Applicants (for US only): **HALLER, Mark**
[GB/US]; 50777 Hanford Road, Canton, MI 48187 (US).
HARTMAN, Pat [US/US]; 2319 Cabot Street, Canton,
MI 48188 (US). **KEMPEN, Gary, M.** [US/US]; 22596
Sandra Street, South Lyon, MI 48178 (US).

(22) International Filing Date:
24 August 2009 (24.08.2009)

(25) Filing Language: English

(26) Publication Language: English

(74) Agent: **MOLNAR, John, B.**; MacMillan, Sobanski &
Todd, LLC, One Maritime Plaza; 5th Floor, 720 Water
Street, Toledo, OH 43604 (US).

(30) Priority Data:
61/091,532 25 August 2008 (25.08.2008) US

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

[Continued on next page]

(54) Title: METHOD FOR CORRECTION OF DYNAMIC OUTPUT SIGNALS OF INERTIAL SENSORS HAVING MOUNTING OFFSETS

(57) Abstract: A method for compensating inertial sensor measurement outputs for mounting locations that are not coincident, nor orthogonal, with the vehicle center of gravity. The method further utilizes vehicle angular rate measurements, data, or estimates to determine the discrete acceleration components of the composite inertial sensor measurement output.

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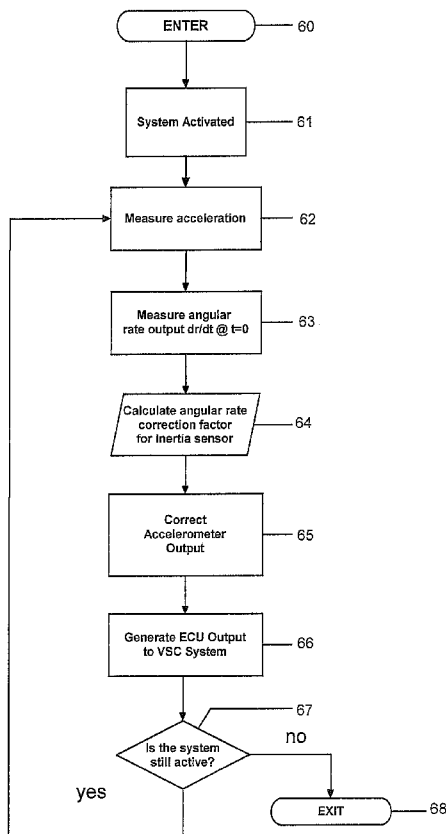


Fig. 5



AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, 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, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

3 June 2010

A. CLASSIFICATION OF SUBJECT MATTER***B60W 40/12(2006.01)i, B60W 40/00(2006.01)i, B60W 30/02(2006.01)i***

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)

B60W 40/12; G06F 15/00; G06F 15/50; G06F 17/00

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

(Chinese Patents and application for patent)

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

eKOMPASS(KIPO internal) & Keywords: accelerometer, angular rate sensor, center of gravity

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003-0088349 A1 (PETER J. SCHUBERT et al.) 08 May 2003 See abstract	1-14, 16-24
A	US 6853947 B1 (HORTON MICHAEL A.) 08 February 2005 See abstract	1-14, 16-24
A	US 2003-0158633 A1 (PETER J. SCHUBERT) 21 August 2003 See abstract	1-14, 16-24
A	US 4675820 A1 (SMITH; JEFFREY T. et al.) 23 June 1987 See abstract	1-14, 16-24

 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 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

02 APRIL 2010 (02.04.2010)

Date of mailing of the international search report

05 APRIL 2010 (05.04.2010)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

HA, Jeong Kyun

Telephone No. 82-42-481-8361



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.: 15
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:

The relative term "Is this claiming to estimate a rotational rate from non-gyro sensors?" have no well-recognized meaning and leave the reader in doubt as to the meaning of the technical feature to which it refer, thereby rendering the definition of the subject matter of the said claim unclear.

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:

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 fee, this Authority did not invite payment of any additional fee.

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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2009/054753

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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