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(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, 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.

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Published:
— *with international search report*

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR POSITIONING IN CONFIGURED ENVIRONMENTS

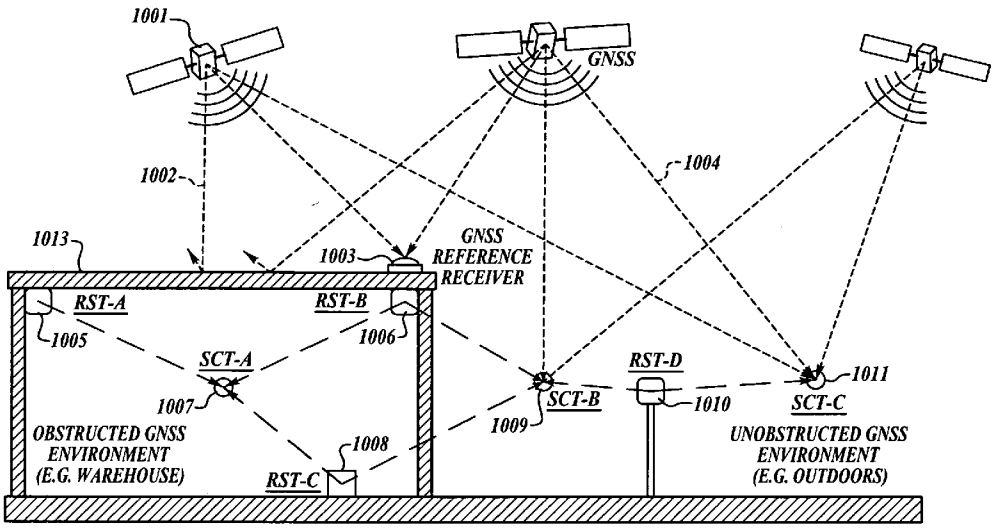

FIG.10

(57) Abstract: The present invention relates to a system and method for providing location determination in a configured environment in which Global Navigation Satellite System Signals are not available. In this regard, local beacon systems generate spread spectrum CDMA signals that are received by spectral compression units that derive physically meaningful observations without a requirement for correlation of the intercepted energy by means of the known spreading codes. The invention can coexist with communication assets already in place, and the design allows for self calibration, which simplifies installation and usage. The invention has utility in applications in which GNSS signals are unavailable or limited, for example, in warehouse inventory management, in search and rescue operations and in asset tracking in indoor environments.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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6 November 2008

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/066639

A. CLASSIFICATION OF SUBJECT MATTER
INV. G01S5/02

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)
G01S

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 practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/63358 A (COMMUNICATIONS PTY LTD Q [AU]; SMALL DAVID [AU]) 9 December 1999 (1999-12-09) figures 3,5 page 10, line 14 - line 34 page 13, line 18 - page 15, line 8 page 15, line 31 - line 34 page 19, line 2 - page 20, line 15 page 21, line 18 - page 22, line 3	1-25, 29-35
X	WO 99/13352 A (HONEYWELL INC [US]) 18 March 1999 (1999-03-18) figure 1 page 2, line 29 - page 4, line 13	1-4, 14-25,29

-/--

[X] Further documents are listed in the continuation of Box C.

[X] 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 document 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	Date of mailing of the international search report
11 June 2008	29/08/2008

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Hekmat, Taymoor

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/066639

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 056 106 A (WANG JAMES J [US] ET AL) 8 October 1991 (1991-10-08) figures 1-5 column 2, line 22 - column 3, line 26 column 7, line 20 - line 52	1-4, 14-25,29
X	US 2005/215269 A1 (CHEOK KA C [US] ET AL) 29 September 2005 (2005-09-29) the whole document	1-4

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/066639

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 allsearchable 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 reportcovers 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.:

1-25 and 29-35

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: 19 and 26-28

   Interferometric approach for positionig of devices in a system providing physical state information in which spectral compression of a received emission is used to determine a relative physical state between the emitter and the interceptor.

1.1. claims: 1-25 and 29-35

   Signal emission, signal processing in an interceptor and differential positionnig of devices in a system providing physical state information in which spectral compression of a received emission is used to determine a relative physical state between the emitter and the interceptor.

1.2. claims: 1-21 and 29

   Signal emission in a system providing physical state information in which spectral compression of a received emission is used to determine a relative physical state between the emitter and the interceptor.

1.3. claims: 19 and 22-25

   Signal processing in an interceptor used in a system providing physical state information in which spectral compression of a received emission is used to determine a relative physical state between the emitter and the interceptor.

1.4. claims: 19 and 30-35

   Differential positionig of devices in a system providing physical state information in which spectral compression of a received emission is used to determine a relative physical state between the emitter and the interceptor.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/066639

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