

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
20 September 2007 (20.09.2007)

PCT

(10) International Publication Number
WO 2007/106861 A3

(51) International Patent Classification:
G01S 5/00 (2006.01) *G01S 5/14* (2006.01)

(74) Agent: EVERETT, Christopher, E.; Proskauer Rose
LLP, One International Place, Boston, MA 02110 (US).

(21) International Application Number:
PCT/US2007/063986

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, 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, 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.

(22) International Filing Date: 14 March 2007 (14.03.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/782,151 14 March 2006 (14.03.2006) US
60/816,819 27 June 2006 (27.06.2006) US

(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).

(71) Applicant (for all designated States except US):
COMTECH MOBILE DATACOM CORPORATION [US/US]; 20430 Century Boulevard, Germantown,
MD 02874 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HANDERMANN, Greg** [US/US]; 12479 Sycamore Vista, Lovettsville,
VA 20180 (US). **SNIVELY, Leslie** [US/US]; 290 West
Pretswick Way, Castle Rock, CO 80104 (US). **EBERT, Paul** [US/US]; 9116 Wooden Bridge Road, Potomac,
MD 20854 (US). **MASTROPOLE, James** [US/US]; 965
Leigh Mill Road, Great Falls, VA 22066 (US). **THORNE, Christopher** [US/US]; 9526 Angelina Circle, Columbia,
MD 21045 (US). **RAMPERSAD, David** [US/US]; 582
Eisenhower Drive, Frederick, MD 21703 (US). **VER-
AHRAMI, Farhad** [US/US]; 10832 Tuckahoe Way,
North Potomac, MD 20878 (US).

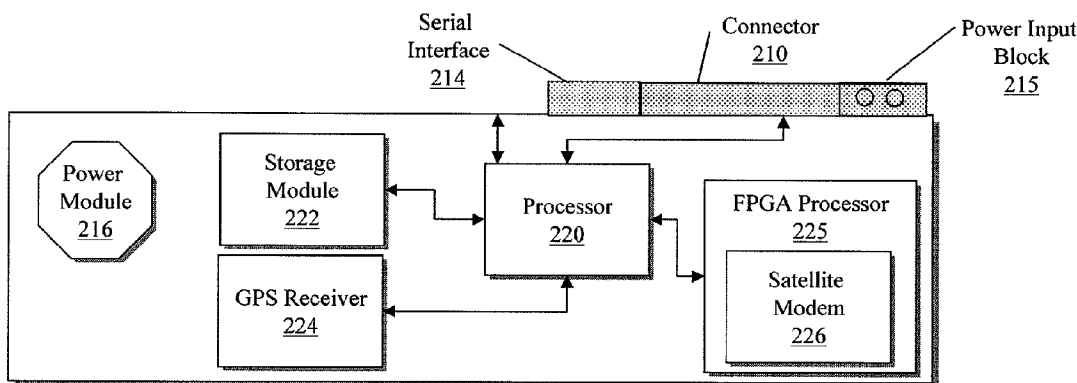
Published:

- 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:
21 December 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MINIATURIZED SATELLITE TRANSCIVER



(57) Abstract: Described is a miniaturized satellite transceiver for communicating with a Global Positioning System (GPS) satellite and a communications satellite. The miniaturized satellite transceiver includes an integrated GPS receiver configured to receive communications from the GPS satellite, a satellite modem configured to transmit and receive communications from the communications satellite, and an operating system. The miniaturized satellite transceiver is installable in a hand-held device, a mobile satellite transceiver system, or an in-flight transceiver and locator system.

WO 2007/106861 A3

INTERNATIONAL SEARCH REPORT

International application No PCT/US2007/063986

A. CLASSIFICATION OF SUBJECT MATTER
 INV. G01S5/00 G01S5/14

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)
 EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 121 922 A (MOHAN PAUL L [US]) 19 September 2000 (2000-09-19) column 1, line 66 - column 2, line 12 column 2, line 66 - column 3, line 15 figures 1,4	1,3-5, 7-13,35, 36
X	US 2004/183673 A1 (NAGELI HANS PETER [CH]) 23 September 2004 (2004-09-23) paragraphs [0031], [0033], [0034] paragraph [0040] - paragraph [0042] paragraph [0047] - paragraph [0048] paragraphs [0054], [0057] figures 2,4,5	1,3-5, 7-13,35, 36

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	*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
E earlier document but published on or after the international 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
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)	*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.
O document referring to an oral disclosure, use, exhibition or other means	*&* document member of the same patent family
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 6 August 2007	Date of mailing of the international search report 26/10/2007
--	--

Name and mailing address of the ISA/ 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	Authorized officer Dollinger, Franz
---	--

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/063986

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 2002/177476 A1 (CHOU Y HONG [US]) 28 November 2002 (2002-11-28)</p> <p>paragraphs [0010], [0011], [0017] paragraph [0021] - paragraph [0024] paragraphs [0029], [0030], [0052] paragraphs [0060], [0076], [0091], [0097]</p> <p style="text-align: center;">-----</p>	<p>1,3-5, 7-13,35, 36</p>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/063986

Box 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 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 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.:
1, 3-5, 7-13, 35, 36

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- 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: 1,3-5,7-13,35,36

satellite transceiver with GPS receiver and satellite modem:
details regarding communication

2. claims: 2,14-20

satellite transceiver with GPS receiver and satellite modem:
installation in a system with a second operating system

3. claim: 6

satellite transceiver with GPS receiver and satellite modem:
details regarding the antenna structure

4. claims: 21-34

satellite transceiver with GPS receiver and satellite modem:
structural details for an in-flight transceiver system
containing the satellite transceiver

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/063986

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6121922	A	19-09-2000	US 6657587 B1	02-12-2003
US 2004183673	A1	23-09-2004	NONE	
US 2002177476	A1	28-11-2002	NONE	