

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
30 January 2003 (30.01.2003)

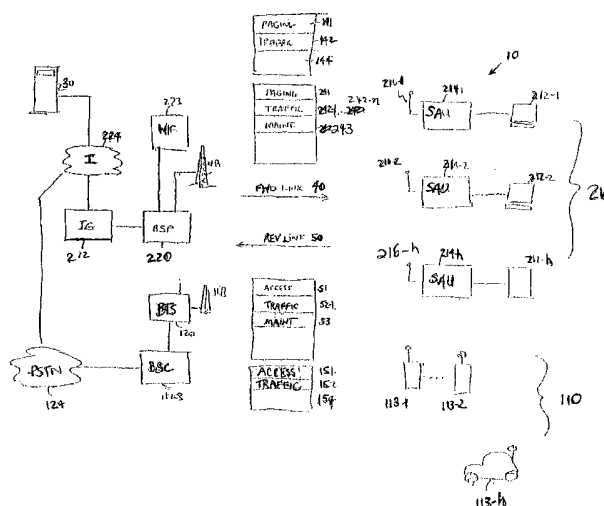
PCT

(10) International Publication Number
WO 03/009099 A3

- (51) International Patent Classification⁷: **H04B 7/216**, H04J 1/16, 11/00
- (21) International Application Number: PCT/US02/22664
- (22) International Filing Date: 16 July 2002 (16.07.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/306,062 17 July 2001 (17.07.2001) US
- (71) Applicant: **TANTIVY COMMUNICATIONS, INC.**
[US/US]; 1450 South Babcock Street, Melbourne, FL 32901 (US).
- (72) Inventors: **PROCTOR, James, A., Jr.**; 258 Sea View Street, Melbourne Beach, FL 32951 (US). **ALAPURANEN, Pertti, O.**; 147 Dotted Dove Lane, Indialantic, FL 32903 (US).
- (74) Agents: **THIBODEAU, David, J., Jr.** et al.; Hamilton, Brook, Smith & Reynolds, P.C., 530 Virginia Road, P.O. Box 9133, Concord, MA 01742-9133 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (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:
24 April 2003

[Continued on next page]

(54) Title: USE OF ORTHOGONAL OR NEAR ORTHOGONAL CODES IN REVERSE LINK



(57) **Abstract:** A technique for allowing a first and second group of users to share access to a communication channel such as a wireless radio channel is disclosed. The first group of users (110) can be a group of legacy users such as those that use digital CDMA cellular telephone equipment based on the IS-95 standard. The second group of users (210) can be a group of web surfers that code their transmissions using one of multiple formats. The first group of users (110) can share one modulation structure such as, on a reverse link, using unique phase offsets of a common pseudorandom noise (PN) code. The second group of users (210) can share another modulation structure, but in a manner that is consistent and compatible with the users of the first group (110). Specifically, the users of the second group (210) may all use the same PN code and code phase offset. Each channel used by the second group of users (210) can be uniquely identified by a corresponding unique orthogonal code.



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.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/22664

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04B 7/216; H04J 1/16; H04J 11/00

US CL : 370/204, 208, 209, 335, 342, 441

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)

U.S. : 370/204, 208, 209, 335, 342, 441

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)
EAST Database

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,249,517B1 A (ROH et al) 19 June 2001 (19.06.2001), see the entire document.	1-36
Y	US 6,044,074 A (ZEHAVI et al) 28 March 2000 (28.03.2000), see the entire document.	1-36
Y	US 5,414,728 A (ZEHAVI) 09 May 1995 (09.05.1995), see the entire document.	1-36

☐ 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 application or patent 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

29 January 2003 (29.01.2003)

Date of mailing of the international search report

07 MAR 2003

Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

Joan Nguyen

Telephone No. 703-305-9600