

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
6 March 2003 (06.03.2003)

PCT

(10) International Publication Number  
WO 03/019784 A3

(51) International Patent Classification<sup>7</sup>: H04L 5/12, 27/12, H04K 1/10, H04B 1/69

(21) International Application Number: PCT/IB02/03461

(22) International Filing Date: 27 August 2002 (27.08.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
09/945,010 31 August 2001 (31.08.2001) US

(71) Applicant: NOKIA CORPORATION [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI).

(71) Applicant (for LC only): NOKIA INC. [US/US]; 6000 Connection Drive, Irving, TX 75039 (US).

(72) Inventor: IONESCU, Dumitru, Mihai; 2715 West 10th Street, Dallas, TX 75211 (US).

(74) Agents: KELLY, Robert, H. et al.; 900 Three Galleria Tower, 13155 Noel Road, Dallas, TX 75240 (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, VC, VN, YU, ZA, ZM, ZW.

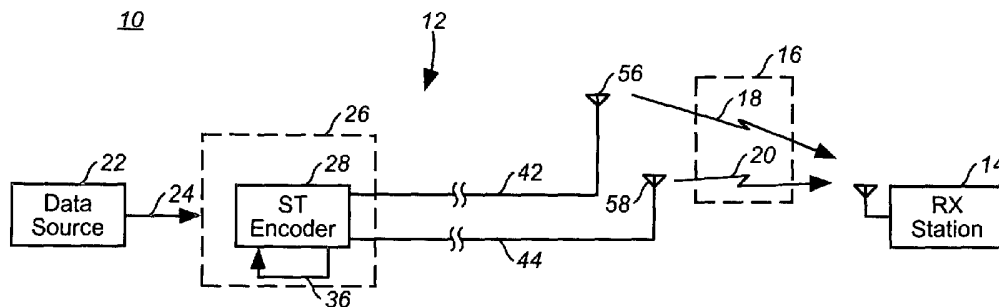
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:  
— with international search report

(88) Date of publication of the international search report:  
23 October 2003

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: APPARATUS, AND ASSOCIATED METHOD, FOR FORMING A SYSTEMATIC, RECURSIVE, SPACE-TIME CODE



(57) Abstract: Apparatus (26), and an associated method, for encoding digital data to be communicated by a sending station, such as a base transceiver station (12) of a cellular communication system (10). Space-time diversity is provided pursuant to the encoding, thereby to facilitate communication of data upon communication channels (18, 20) susceptible to fading conditions. A systematic, space-time, and recursive coder (28) includes a coset selecting coder for forming a coset of a multi-dimensional constellation. The coset is used by a signal point selector to select a multi-dimensional constellation point.



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**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/IB02/03461

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
IPC(7) : H04L 5/12, 27/12; H04K 1/10; H04B 1/69		
US CL : 375/130, 135, 140, 141, 146, 267, 285; 455/101		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
U.S. : 6,185,258 B1, 6,285,720 B1, 6,452,981 B1, 6,522,683 B1		
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)		
USPAT, EPO, DERWENT		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,185,258 B1 (ALAMOUTI et al.) 06 February 2001 (6.02.2001), column 2, lines 50-60.	1, 16
A, P	US 6,285,720 B1 (MARTONE) 04 September 2001 (4.09.2001), abstract.	1, 16
X, P	US 6,452,981 B1 (RALEIGH et al.) 17 September 2002 (17.09.2002), column 1, lines 66-67, column 5, lines 52-55, column 33, lines 2-20.	1, 16
A, E	US 6,522,683 B1 (SMEE et al.) 18 February 2003 (18.02.2003), entire document	1-18
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:		
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"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	Date of mailing of the international search report	
22 April 2003 (22.04.2003)	10 JUL 2003	
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer <i>Chi H Pham</i> Chi H Pham	
Facsimile No. (703)305-3230	Telephone No. (703) 305-3800	