

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 November 2002 (07.11.2002)

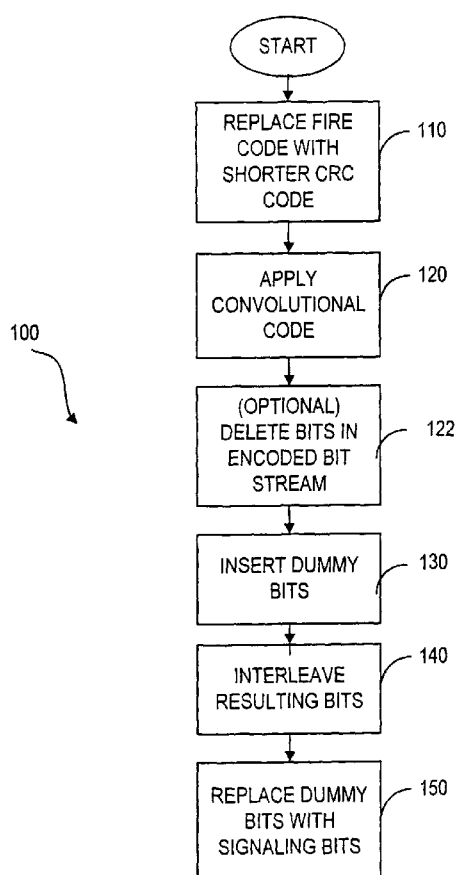
PCT

(10) International Publication Number
WO 02/089376 A1

- (51) International Patent Classification⁷: **H04J 3/12**, H04Q 7/20, G06F 11/00
- (21) International Application Number: PCT/IB02/01443
- (22) International Filing Date: 30 April 2002 (30.04.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/845,823 30 April 2001 (30.04.2001) US
- (71) Applicant: **NOKIA CORPORATION** [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI).
- (72) Inventors: **BELLIER, Thierry**; Lönnrotinkatu 45B 38, FIN-00180 Helsinki (FI). **JOKINEN, Harri**; Vähähiidentie 450, FIN-00530 Hiisi (FI). **SÉBIRE, Benoist**; Hakaniemenkatu 11A21, FIN-00530 Helsinki (FI).
- (74) Agents: **MAGUIRE, Francis, J.** et al.; Ware, Fressola, Van Der Sluys & Adolphson LLP, 755 Main Street, P.O. Box 224, Monroe, CT 06468 (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),
- (71) Applicant (*for LC only*): **NOKIA INC.** [US/US]; 6000 Connection Drive, Irving, TX 75039 (US).

[Continued on next page]

(54) Title: METHOD OF TRANSMITTING SIGNALING MESSAGES IN A MOBILE TELECOMMUNICATIONS NETWORK



(57) Abstract: A method of transmitting inband signaling messages in a mobile telecommunications network using SACCH burst. In order to avoid puncturing a fixed amount of bits out of every SACCH burst for inband signaling, the 40-bit FIRE code of the SACCH is replaced with a shorter CRC code, thereby creating unused bits for carrying the messages. After the SACCH block is shortened, a plurality of dummy bits are inserted into the shortened block prior to applying a 1/2 convolutional code to obtain the coded block. The coded block is further interleaved, reordered and mapped into 4 SACCH bursts. The dummy bits in each SACCH block are then replaced by the inband signaling for transmission.

WO 02/089376 A1



European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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

Published:

— *with international search report*

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.