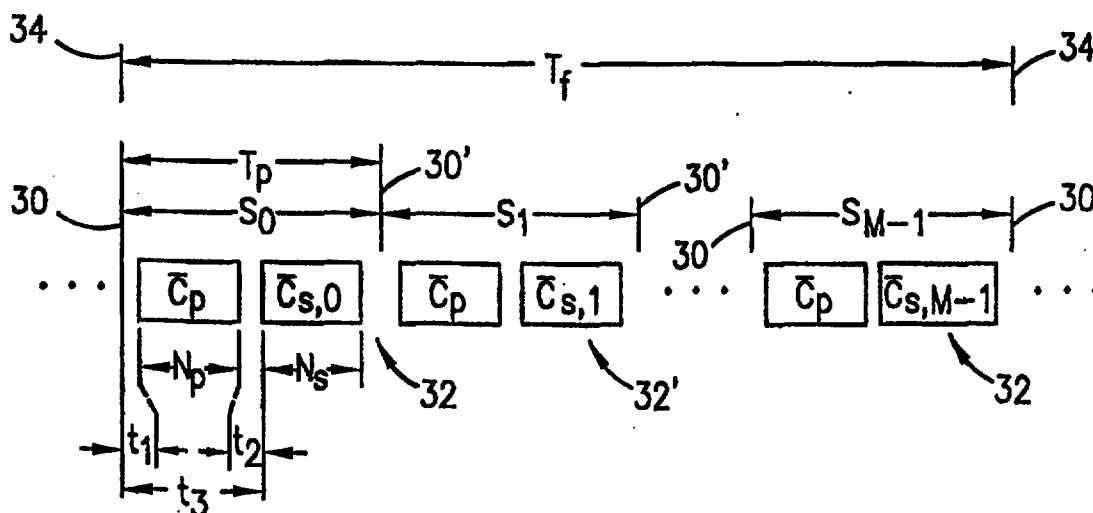




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H04B 1/707	A1	(11) International Publication Number: WO 99/00912 (43) International Publication Date: 7 January 1999 (07.01.99)
(21) International Application Number: PCT/SE98/01138 (22) International Filing Date: 12 June 1998 (12.06.98) (30) Priority Data: 08/884,002 27 June 1997 (27.06.97) US (71) Applicant: TELEFONAKTIEBOLAGET LM ERICSSON (publ) [SE/SE]; S-126 25 Stockholm (SE). (72) Inventors: DAHLMAN, Erik; Tackjämnsvägen 12, S-168 68 Bromma (SE). GUSTAFSSON, Maria; Medborgarplatsen 11, S-118 26 Stockholm (SE). ESMAILZADEH, Riaz; Century II #305, 286, Mijazaki, Miamae-ku, Kawasaki-shi, Kanagawa 216 (JP). (74) Agent: ERICSSON RADIO SYSTEMS AB; Common Patent Dept., S-164 80 Stockholm (SE).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published With international search report.

(54) Title: MOBILE STATION SYNCHRONIZATION WITHIN A SPREAD SPECTRUM COMMUNICATIONS SYSTEM



(57) Abstract

Each frame of a pilot channel transmission in a spread spectrum communications system is divided into a plurality of synchronization slots. Each of the synchronization slots includes a pilot code, and at least one of the synchronization slots further includes a framing synchronization code. To extract frame and slot synchronization information from the pilot channel transmission, pilot code timing is first identified by applying a matched filter or correlation to a received pilot signal, identifying peaks, and using the peaks to find a timing reference indicative of synchronization slot boundaries. Next, the set of known framing synchronization codes are correlated with the received signal over the included found synchronization slots. Given that the location within the frame of the known framing synchronization code(s) is known, once a correlation match is found at a certain slot location, the boundary of the frame (i.e., the frame synchronization) relative thereto is then also known.