

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
26 June 2008 (26.06.2008)

PCT

(10) International Publication Number
WO 2008/077102 A1

(51) International Patent Classification:
H01Q 3/00 (2006.01)

(21) International Application Number:
PCT/US2007/088134

(22) International Filing Date:
19 December 2007 (19.12.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/612,818 19 December 2006 (19.12.2006) US

(71) Applicant (for all designated States except US): **INTER-DIGITAL TECHNOLOGY CORPORATION** [US/US];
3411 Silverside Road, Concord Plaza, Suite 105, Hagley Building, Wilmington, Delaware 19810 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **GOLDBERG, Steven, J.** [US/US]; 1017 Chiswell Drive, Downingtown, Pennsylvania 19335 (US).

(74) Agents: **TAYLOR, Michael, W.** et al.; Allen Dyer, Doppelt, Milbrath & Gilchrist, P.A., 255 S. Orange Avenue, Suite 1401, Orlando, Florida 32802-3791 (US).

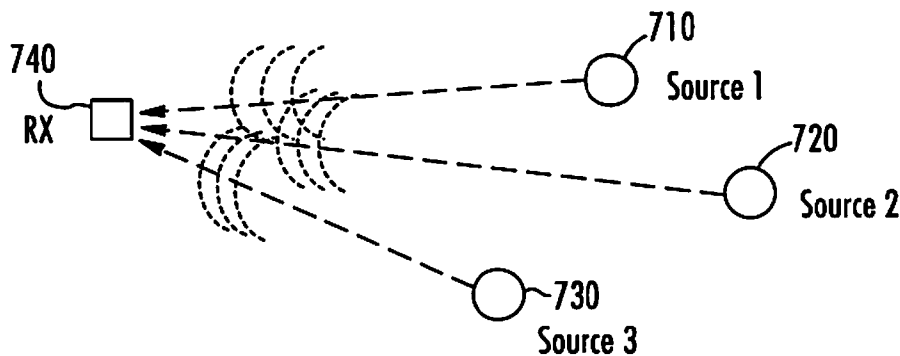
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, 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.

(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).

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

(54) Title: UNDULATING TRANSMIT PATTERNS FOR MULTIPLE SIMULTANEOUS TRANSMITTERS TO SUPPORT SIGNAL SEPARATION AT A RECEIVER



(57) Abstract: A communications system includes multiple mobile wireless communications devices transmitting at a same time to a fixed receiver assembly. Each mobile wireless communications device transmits a source signal defined by a respective character set comprising a plurality of symbols. At least one of the symbols in the respective character sets is transmitted at a different power level so that the transmitted source signal from each mobile wireless communications device appears with linearly independent power level time periods. The linearly independent power level time periods are used by the fixed receiver assembly to populate a mixing matrix for signal separation processing.



WO 2008/077102 A1