

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
31 January 2002 (31.01.2002)

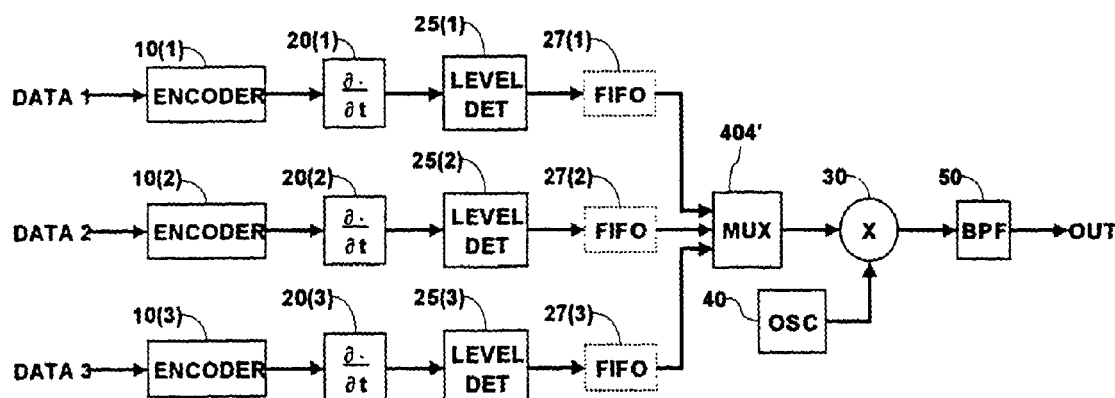
PCT

(10) International Publication Number
WO 02/09381 A2

- (51) International Patent Classification⁷: **H04L 27/00** (74) Agents: **TRIPOLI, Joseph, S.** et al.; Thomson Multimedia Licensing Inc., P.O. Box 5312, Princeton, NJ 08540 (US).
- (21) International Application Number: PCT/US01/22958
- (22) International Filing Date: 20 July 2001 (20.07.2001) (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, 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, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/625,253 25 July 2000 (25.07.2000) US (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): **THOMSON LICENSING S.A.** [FR/FR]; 46, quai Alphonse Le Gallo, F-92648 Boulogne Cedex (FR).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **MOHAN, Chandra** [IN/US]; 12970 Fleetwood Drive North, Carmel, IN 46032 (US). **MAJUMDAR, Jayanta** [IN/US]; 326 Arbor Drive, Carmel, IN 46032 (US).
- Published:**
— *without international search report and to be republished upon receipt of that report*

[Continued on next page]

(54) Title: A MODULATION TECHNIQUE FOR TRANSMITTING MULTIPLE HIGH DATA RATE SIGNALS THROUGH A BAND LIMITED CHANNEL



(57) Abstract: A digital data modulator (Fig. 11) includes a source of a plurality of digital data signals having a common data bit period. A plurality of encoders each encode a corresponding one of the plurality of digital data signals using a variable pulse width code having edges occurring in respective non-overlapping intervals with the data bit period. A plurality of pulse signal generators each generate respective pulses representing the edges of the corresponding one of the encoded plurality of digital data signals. A carrier signal generator generates a carrier signal having carrier pulses corresponding to the respective pulses. A digital data demodulator (Fig. 12) includes a source of a modulated signal including successive bit periods, each bit period having a plurality of non-overlapping intervals respectively associated with corresponding intervals in successive bit periods, each interval containing a carrier pulse, spaced relative to carrier pulses in other associated intervals, representing a corresponding variable pulse width encoded digital data signal. A detector demodulates the modulated signal to generate pulses corresponding to received carrier pulses. A plurality of decoders each decode pulses received in a respective one of the plurality of associated intervals in the bit period to generate the corresponding digital data signal.



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