

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 November 2001 (01.11.2001)

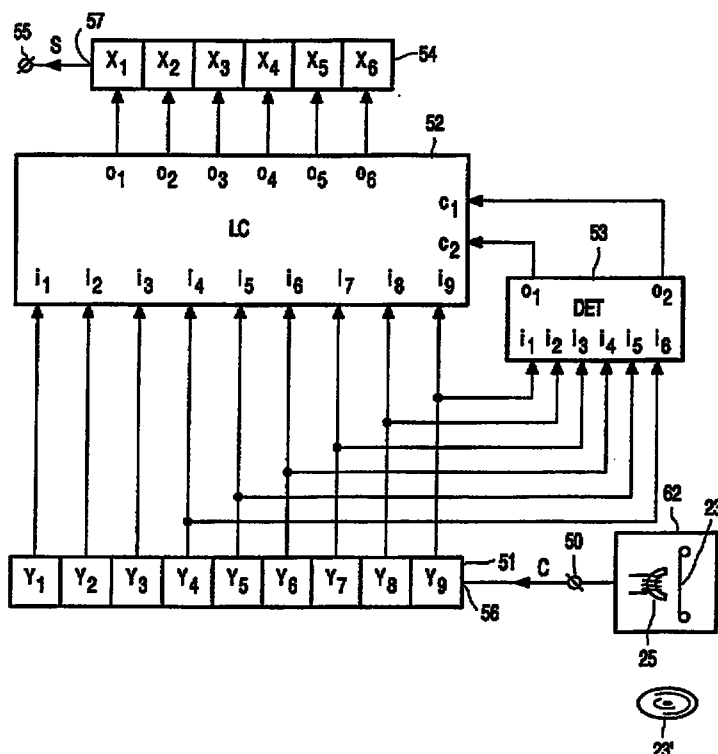
PCT

(10) International Publication Number
WO 01/82540 A1

- (51) International Patent Classification⁷: H04L 25/49, H03M 5/14, G11B 20/14
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- (21) International Application Number: PCT/EP01/03678
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- (22) International Filing Date: 2 April 2001 (02.04.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 00201479.3 25 April 2000 (25.04.2000) EP
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, 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, UZ, VN, YU, ZA, ZW.
- (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,

[Continued on next page]

(54) Title: A DEVICE FOR ENCODING/DECODING N-BIT SOURCE WORDS INTO CORRESPONDING M-BIT CHANNEL WORDS, AND VICE VERSA



(57) Abstract: A device is disclosed for encoding a stream of data bits of a binary source signal (S) into a stream of data bits of a binary channel signal (C1), wherein the bit stream of the source signal is divided into n-bit source words (x1, x2), which device comprises converting means (LC) adapted to convert said source words into corresponding m-bit channel words (y1, y2, y3). Each n-bit source word together with another n-bit source word forms a pair of source words. The values of the n-bit source words differ only in the value of the bit in the qth bit position, q being a constant. The pairs of source words is divided into a first part of pairs and a remaining part of pairs. The converting means (LC) are further adapted to convert n-bit source words belonging to the first part of pairs into corresponding m-bit channel words, in such a manner that the conversion for each of said n-bit source words is parity preserving, and to convert n-bit source words belonging to the

remaining part of pairs into corresponding m-bit channel words, in such a manner that the conversion for each of said n-bit source words is parity inverting (Table I) (Fig. 1). Furthermore, a decoding device is disclosed for decoding the channel signal obtained by means of the encoding device.



IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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Published:

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