

9806177-3
Fpos copy



PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H04N 7/025, 7/64	A1	(11) International Publication Number: WO 97/50247 (43) International Publication Date: 31 December 1997 (31.12.97)		
<table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> (21) International Application Number: PCT/GB97/01660 (22) International Filing Date: 19 June 1997 (19.06.97) (30) Priority Data: 96304675.0 25 June 1996 (25.06.96) EP (34) Countries for which the regional or international application was filed: GB et al. (71) Applicant: BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY [GB/GB]; 81 Newgate Street, London EC1A 7AJ (GB). (72) Inventor: HERON, Andrew, Peter; 13 Burton Drive, Needham Market, Ipswich, Suffolk IP6 8XD (GB). (74) Agent: HIBBERT, Juliet, Jane, Grace; BT Group Legal Services, Intellectual Property Dept., 8th floor, 120 Holborn, London EC1N 2TE (GB). </td> <td style="width: 50%; vertical-align: top;"> (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, HU, 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, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, 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 <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> </td> </tr> </table>			(21) International Application Number: PCT/GB97/01660 (22) International Filing Date: 19 June 1997 (19.06.97) (30) Priority Data: 96304675.0 25 June 1996 (25.06.96) EP (34) Countries for which the regional or international application was filed: GB et al. (71) Applicant: BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY [GB/GB]; 81 Newgate Street, London EC1A 7AJ (GB). (72) Inventor: HERON, Andrew, Peter; 13 Burton Drive, Needham Market, Ipswich, Suffolk IP6 8XD (GB). (74) Agent: HIBBERT, Juliet, Jane, Grace; BT Group Legal Services, Intellectual Property Dept., 8th floor, 120 Holborn, London EC1N 2TE (GB).	(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, HU, 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, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, 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 <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(21) International Application Number: PCT/GB97/01660 (22) International Filing Date: 19 June 1997 (19.06.97) (30) Priority Data: 96304675.0 25 June 1996 (25.06.96) EP (34) Countries for which the regional or international application was filed: GB et al. (71) Applicant: BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY [GB/GB]; 81 Newgate Street, London EC1A 7AJ (GB). (72) Inventor: HERON, Andrew, Peter; 13 Burton Drive, Needham Market, Ipswich, Suffolk IP6 8XD (GB). (74) Agent: HIBBERT, Juliet, Jane, Grace; BT Group Legal Services, Intellectual Property Dept., 8th floor, 120 Holborn, London EC1N 2TE (GB).	(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, HU, 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, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, 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 <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>			

(54) Title: DATA TRANSMISSION

Level of			Current symbol level's	Level of current symbol ⁿ (LUT output)
succeeding symbol n+1	preceding symbol n-2	preceding symbol n-1		
0	0	0	s ≤ thr 1	0
			thr 1 < s ≤ thr 2	1
			thr 2 < s ≤ thr 3	2
			thr 3 < s ≤ thr 4	3
			thr 4 < s ≤ thr 5	4
			thr 5 < s ≤ thr 6	5
			thr 6 < s ≤ thr 7	6
			s > thr 7	7
0	0	1	s > thr 1'	0

(57) Abstract

A transmitter (20) having means (206, 207) to encode an input signal to form coded data, each element of said coded data having one of at least two discrete signal magnitude levels, the encoding means including in the coded data a periodic training sequence of data (T); and a receiver (30) to receive the coded data and, on the basis of the received training sequence, to adapt a threshold or thresholds to allow the discrete levels to be distinguishable from each other. The training sequence T may comprise a plurality of elements at least one of which, in turn, represents each one of the discrete signal levels. The receiver generates a look-up-table to store the adapted thresholds.