



PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H03D 1/04, H04B 1/38, 14/04, H04L 7/00, H04J 3/12		A1	(11) International Publication Number: WO 99/34504
		(43) International Publication Date: 8 July 1999 (08.07.99)	
(21) International Application Number: PCT/US98/24734 (22) International Filing Date: 19 November 1998 (19.11.98) (30) Priority Data: 08/999,416 ✓ 29 December 1997 (29.12.97) ✓ US ✓ 09/092,786 ✓ 5 June 1998 (05.06.98) ✓ US ✓ (71) Applicant: MOTOROLA INC. [US/US]; 1303 East Algonquin Road, Schaumburg, IL 60196 (US). (72) Inventor: KIM, Dae-young; 6231 Lexington Ridge Drive, Lexington, MA 02173 (US). (74) Agents: WOOD, J., Ray et al.; Motorola Inc., Intellectual Property Dept., 1303 East Algonquin Road, Schaumburg, IL 60196 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, 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, GW, ML, MR, NE, SN, TD, TG). Published With international search report. 1 appl 1 inv	
(54) Title: DEVICE AND METHOD FOR DETECTING PCM UPSTREAM DIGITAL IMPAIRMENTS IN A COMMUNICATION NETWORK 			
(57) Abstract A device and method for detecting digital impairments affecting an upstream pulse code modulation (PCM) channel in a digital communication network (36), involves: receiving, by a digital PCM modem (38) interconnected to the digital communication network (36), a random sequence of digital values selected from a constellation of digital values transmitted over the upstream PCM channel of the digital communication network (36); establishing distributions of the received digital values, each distribution corresponding to one of a plurality of time intervals; and deriving from the distributions the types of robbed bit signaling and digital loss affecting the upstream PCM channel of the digital communication network (36) for each time interval.			