

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

1905 copy

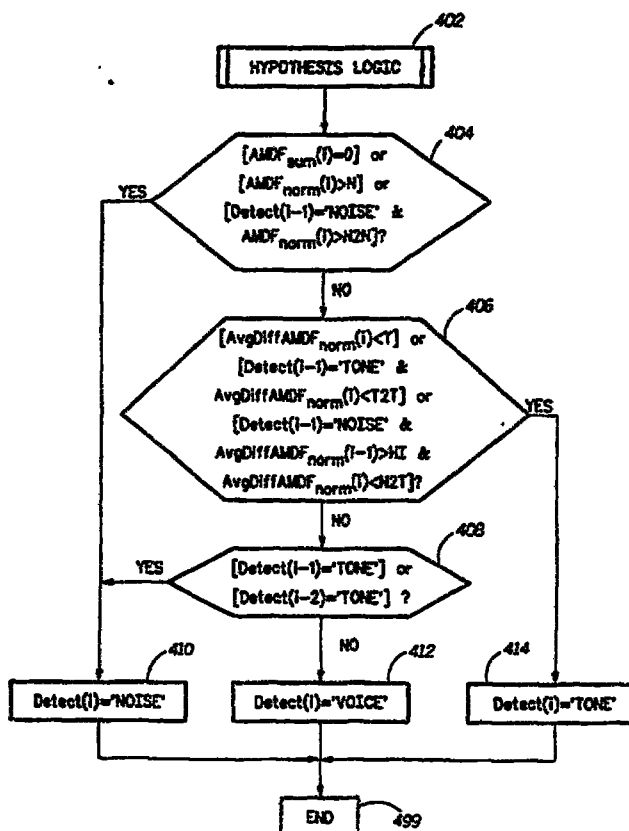
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G10L 9/18	A1	(11) International Publication Number: WO 99/31655 (43) International Publication Date: 24 June 1999 (24.06.99)
(21) International Application Number: PCT/US98/24366 (22) International Filing Date: 13 November 1998 (13.11.98) (30) Priority Data: 08/990,130 12 December 1997 (12.12.97) US (71) Applicant: MOTOROLA INC. [US/US]; 1303 East Algonquin Road, Schaumburg, IL 60196 (US). (72) Inventors: ANANTHAIR, Satish; 3115 Francis Avenue, Mansfield, MA 02048 (US). ELIAS, Eric, David; Apartment 735, 71 Messenger Street, Plainville, MA 02762 (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.	

(54) Title: APPARATUS AND METHOD FOR DETECTING AND CHARACTERIZING SIGNALS IN A COMMUNICATION SYSTEM

(57) Abstract

An apparatus and method for detecting and characterizing signals in a communication system provides efficient voice, tone, and noise detection which reduces the amount of processing resources consumed and also distributes the processing demand over time. The present invention provides for such efficient voice (412), tone (414), and noise (410) detection by applying the Average Magnitude Difference Function (404) over discrete time intervals to evaluate variations in pitch over time, allowing a hypothesis (402) to be made as to whether a signal is a voice, tone, or noise signal. Two novel metrics are computed which characterize the signal as to pitch and variation in pitch. Rule-based logic is applied to detect transitions between the types of signals.



9903611-3

30 JUL 1999