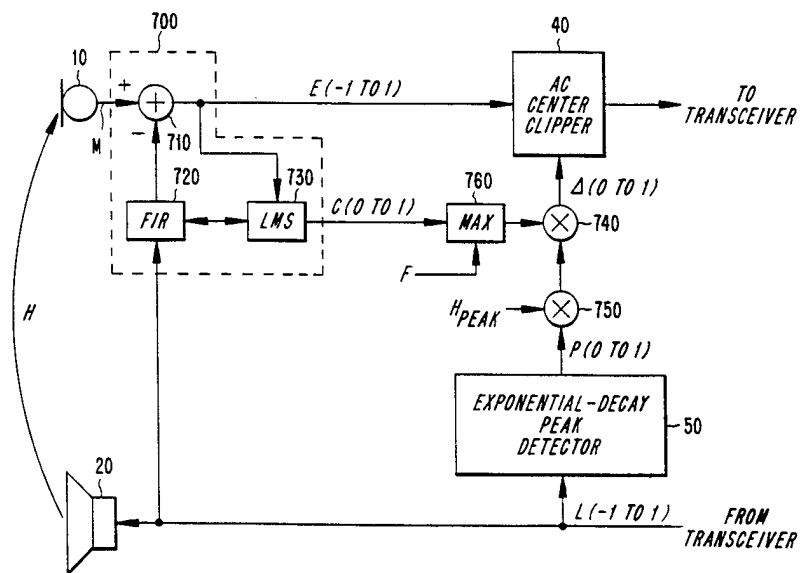




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<p>(21) International Application Number: PCT/US97/22055 (22) International Filing Date: 10 December 1997 (10.12.97) (30) Priority Data: 08/775,797 31 December 1996 (31.12.96) US (71) Applicant: ERICSSON INC. [US/US]; 7001 Development Drive, P.O. Box 13969, Research Triangle Park, NC 27709 (US). (72) Inventor: ROMESBURG, Eric, Douglas; 18 Rocky Knolls Road, Chapel Hill, NC 27516 (US). (74) Agents: GRUDZIECKI, Ronald, L. et al.; Burns, Doane, Swecker & Mathis, L.L.P., George Mason Building, P.O. Box 1404, Alexandria, VA 22313-1404 (US).</p>	<p>(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, 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, ARIPQ 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, 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).</p> <p>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></p> <p>(88) Date of publication of the international search report: 11 September 1998 (11.09.98)</p>	

(54) Title: AN AC-CENTER CLIPPER FOR NOISE AND ECHO SUPPRESSION IN A COMMUNICATIONS SYSTEM



(57) Abstract

An echo and noise suppression device for processing an information signal to suppress unwanted signal components. In an exemplary embodiment, the echo suppression device includes an AC-center clipper having a clipping window with an adjustable window center. A clipping threshold of the AC-center clipper is set to attenuate the unwanted signal components, and the center of the clipping window is varied in accordance with the value of the information signal so that the unwanted components are suppressed even when the information signal contains a significant noise component. In another exemplary embodiment, a mobile radio station is provided including a microphone for receiving a near-end audio input and for producing a near-end audio output which is to be transmitted to a far-end user. The exemplary mobile station also includes a loudspeaker for broadcasting, to a near-end user of the mobile station, a far-end audio signal which is generated by the far-end user and then received at the mobile station. An echo suppression circuit within the mobile station is used to attenuate an echo component of the near-end audio signal which results from the mobile station microphone receiving output from the mobile station loudspeaker. The echo suppression circuit includes an AC-center clipper having a clipping window with an adjustable clipping center.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 97/22055

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 H04M9/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 H04M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 475 731 A (RASMUSSEN JIM A J) 12 December 1995 cited in the application see abstract see column 4, line 18 - line 21 see column 4, line 39 - line 53 see column 7, line 59 - column 8, line 6 -----	1-41
A	US 5 274 705 A (YOUNCE RICHARD C ET AL) 28 December 1993 see abstract see column 2, line 61 - column 3, line 2 -----	1-41

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INTERNATIONAL SEARCH REPORT

information on patent family members

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