



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G10L 3/02	A1	(11) International Publication Number: WO 99/01863
(21) International Application Number: PCT/GB98/01936 (22) International Filing Date: 1 July 1998 (01.07.98) (30) Priority Data: 9714001.6 2 July 1997 (02.07.97) GB (71) Applicant: SIMOCO INTERNATIONAL LIMITED [GB/GB]; St. Andrews Road, P.O. Box 24, Cambridge CB4 1DP (GB). (72) Inventors: CHANCE, Robert, James; 65 Wentworth Road, Harborne, Birmingham B17 9SS (GB). McLOUGHLIN, Ian, Vince; 167 Cartland Road, Stirchley, Birmingham B30 2RE (GB). (74) Agent: FRANK B. DEHN & CO.; 179 Queen Victoria Street, London EC4V 4EL (GB).		(43) International Publication Date: 14 January 1999 (14.01.99) (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, GM, GW, 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, ML, MR, NE, SN, TD, TG). Published With international search report.

(54) Title: METHOD AND APPARATUS FOR SPEECH ENHANCEMENT IN A SPEECH COMMUNICATION SYSTEM

(57) Abstract

A speech communication system comprises a receiving unit (14) which receives speech data and uses that data to output speech (15). The characteristics of the speech received by the decoding unit are altered by a processing unit (10) based upon an analysis of the listener's current background noise before the speech is output to enhance its intelligibility to a listener. An analysis unit (12) determines the type and level of the background noise by use of a microphone (13). A decision unit (11) then determines whether the speech currently being received and replayed would be intelligible to an average listener in the current background noise. If the decision unit (11) determines that the speech is readily intelligible then no processing is necessary and the processing unit (10) does not alter the speech which has been passed to it. However, if the decision unit (11) determines that the speech would be unintelligible, then processing is necessary and the processing unit (10) alters the speech before passing it to the output to make the speech more intelligible. A method of operating the apparatus is also described. In a particularly preferred embodiment, the speech characteristics are altered by altering line spectral pair data representing the speech.

