



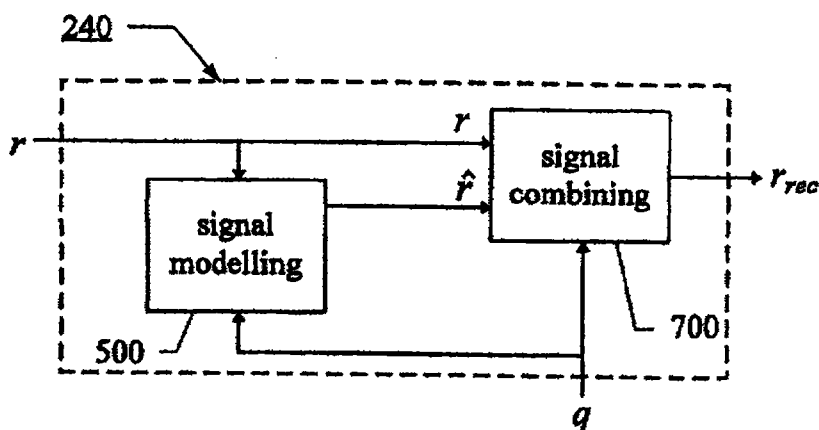
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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| (51) International Patent Classification <sup>6</sup> :<br>G10L 3/02, 9/14                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | A1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (11) International Publication Number: WO 97/38416<br>(43) International Publication Date: 16 October 1997 (16.10.97) |
| (21) International Application Number: PCT/SE97/00569<br>(22) International Filing Date: 3 April 1997 (03.04.97)<br>(30) Priority Data: 9601351-1 10 April 1996 (10.04.96) SE<br>(71) Applicant: TELEFONAKTIEBOLAGET LM ERICSSON (publ) [SE/SE]; S-126 25 Stockholm (SE).<br>(72) Inventors: EKUDDEN, Erik; Fjärilsvägen 23, S-164 80 Stockholm (SE). BRIGHENTI, Daniel; Ringstedsgatan 26, S-164 43 Kista (SE).<br>(74) Agents: BANDELIN, Hans et al.; Telefonaktiebolaget LM Ericsson, Patent and Trademark Dept., S-126 25 Stockholm (SE). | (51) 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, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), 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).<br><br>Published<br>With international search report.<br>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments. |                                                                                                                       |

(54) Title: METHOD AND ARRANGEMENT FOR RECONSTRUCTION OF A RECEIVED SPEECH SIGNAL



## (57) Abstract

The present invention relates to a method and an arrangement for reconstruction of a received speech signal ( $r$ ), which has been transmitted over a radio channel that has been subjected to disturbances, such as e.g. noise, interference or fading. A speech signal ( $r_{rec}$ ), where the effects from these disturbances are minimised, is generated by an estimated speech signal ( $\hat{r}$ ), corresponding to expected future values of the received speech signal ( $r$ ), being produced according to a linear predictive reconstruction model in a signal modelling circuit (500). The received speech signal ( $r$ ) and the estimated speech signal ( $\hat{r}$ ) are combined in a signal combination circuit (600) according to a variable ratio, which is determined by a quality parameter ( $q$ ). The quality parameter ( $q$ ) may be based on measured power level of a received radio signal, an estimate of a received power level of the desired radio signal in proportion to an interfering radio signal or a bit error rate signal or bad frame indicator alternatively, which has been calculated from a data signal that has been transmitted via a certain radio channel and which represents the received speech signal.