Title (en)

Method and device for wide band speech coding

Title (de)

Verfahren und Vorrichtung für breitbandige Sprachkodierung

Title (fr)

Procédé et dispositif d'encodage de la parole à bande élargie

Publication

EP 1383109 A1 20040121 (FR)

Application

EP 02015918 A 20020717

Priority

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Abstract (en)

The product of the word extracted by long term excitation with the associated long term gain (Ga) is added (SM) to the product of the word extracted by short term excitation with the associated short term gain (Gc). The dataword is filtered using a low-pass filter having a cut-off frequency which is greater than 25 % of the sampling frequency, but less than 50 % of the latter. The filtered code is then combined with the adaptive coded index. Speech is sampled in order to obtain a succession of speech frames, each one comprising a pre-determined number of samples. The parameters for a code excitation-based linear prediction model are determined for each speech frame and these parameters comprise a long term excitation dataword (vi) extracted from an associated coded index (DLT) and an associated short term gain, as well as a short term excitation dataword (cj) extracted from an algebraic coded index (DCT) and an associated short term gain, providing an adaptive coded index obtained from the long term excitation extracted word and the short term excitation extracted word. Independent claims are also included for the following: (1) Speech coding device (CD) for carrying out this method; and (2) Wireless communication terminal provided with the coding device.

Abstract (fr)

On échantillonne la parole de façon à obtenir des trames vocales successives comportant chacune un nombre prédéterminé d'échantillons. A chaque trame vocale on détermine des paramètres d'un modèle de prédiction linéaire à excitation par code, ces paramètres comportant un mot numérique d'excitation à long terme vi extrait d'un répertoire codé adaptatif DLT et un gain à long terme associé Ga, ainsi qu'un mot d'excitation à court terme cj extrait d'un répertoire codé algébrique DCT et un gain à court terme associé Gc. On somme SM le produit du mot extrait d'excitation à long terme par le gain à long terme associé, avec le produit du mot extrait d'excitation à court terme par le gain à court terme associé, on filtre le mot numérique sommé dans un filtre passe-bas FLCT ayant une fréquence de coupure supérieure au quart de la fréquence d'échantillonnage et inférieure à la moitié de celle-ci, et on met à jour le répertoire codé adaptatif avec le mot filtré. <IMAGE>

IPC 1-7

G10L 19/12

IPC 8 full level

G10L 19/12 (2006.01)

CPC (source: EP US)

G10L 19/12 (2013.01 - EP US)

Citation (search report)

- [A] EP 0751494 A1 19970102 - SONY CORP [JP]
- [DA] TANIGUCHI T ET AL: "Pitch sharpening for perceptually improved CELP, and the sparse-delta codebook for reduced computation", SPEECH PROCESSING 2, VLSI, UNDERWATER SIGNAL PROCESSING. TORONTO, MAY 14 - 17, 1991, INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH & SIGNAL PROCESSING. ICASSP, NEW YORK, IEEE, US, vol. 2 CONF. 16, 14 April 1991 (1991-04-14), pages 241 - 244, XP010043867, ISBN: 0-7803-0003-3
- [DA] KROON P ET AL: "Strategies for improving the performance of CELP coders at low bit rates (speech analysis)", ICASSP 88: 1988 INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING (CAT. NO.88CH2561-9), NEW YORK, NY, USA, 11-14 APRIL 1988, 1988, New York, NY, USA, IEEE, USA, pages 151 - 154 vol.1, XP010073075

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