IMPROVED SUBBAND BLOCK BASED HARMONIC TRANSPOSITION

ABSTRACT

The present document relates to audio source coding systems which make use of a harmonic transposition method for high frequency reconstruction (HFR), as well as to digital effect processors, e.g. exciters, where generation of harmonic distortion add brightness to the processed signal, and to time stretchers where a signal duration is prolonged with maintained spectral content. A system and method configured to generate a time stretched and/or frequency transposed signal from an input signal is described. The system comprises an analysis filterbank (101) configured to provide an analysis subband signal from the input signal; wherein the analysis subband signal comprises a plurality of complex valued analysis samples, each having a phase and a magnitude. Furthermore, the system comprises a subband processing unit (102) configured to determine a synthesis subband signal from the analysis subband signal using a subband transposition factor Q and a subband stretch factor 5". The subband processing unit (102) performs a block based nonlinear processing wherein the magnitude of samples of the synthesis subband signal are determined from the magnitude of corresponding samples of the analysis subband signal and a predetermined sample of the analysis subband signal. In addition, the system comprises a synthesis filterbank (103) configured to generate the time stretched and/or frequency transposed signal from the synthesis subband signal.

Fig. 1