

Title (en)
METHOD AND APPARATUS FOR CODING DIGITAL SIGNALS

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Abstract (en)
[origin: EP0149724A1] In a method and apparatus for coding of digital signals, especially so-called "waveform" coding of voice frequency signals to reduce bit rates for reduced transmission or storage requirements, in which, for each block, an excitation signal is derived which, when applied to be a synthesis filter having suitable LPC coefficients, will generate an approximation to the input signal, low signal delay is achieved by deriving such excitation signal using the LPC coefficients corresponding to the last sample period of the corresponding block. Thus the excitation signal calculations in the encoder need only be delayed by the duration of the block. The LPC coefficients can be derived on a continuous or sample-by-sample basis using an adaptive lattice. Simplified computation of the excitation signal, which comprises a set of pulses fewer in number than the number of samples in the original block, may be achieved by cross-correlating the impulse response of the modified synthesis filter with the output of the filter and using the result, together with the covariance of the impulse response, to derive the parameters of the excitation pulses. Further computation simplifications may be achieved by using an auto-correlation as the covariance signal.

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