Title (en)
DIGITAL SOUND SYNTHESIZER AND METHOD

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EP 0209336 B1 19910313 (EN)

Application
EP 86305358 A 19860711

Priority
US 75622085 A 19850718

Abstract (en)
[origin: EP0209336A2] To synthesize transient sounds a time-varying recursive filter (20) is used in which the multipliers (57) following successive delay elements (59) of the filter have sets of normalized covariance matrix coefficients (b) which are stored (54) and which have been obtained from the normalized autocorrelation coefficients (a) for each of a plurality of time frames (11) of a sampled transient sound signal which is to be synthesized from the stored coefficients. The normalization constant (A) during a frame is also applied as a scale factor (A) to the recursive filter. A pseudo-random noise generator (51) supplies the input signal to the recursive filter (20) at the sample rate, which is the rate of a clock pulse generator (52) triggering the noise generator (51). A plurality of successive time frames determined by cascaded delays (59) in the recursive filter and a set of coefficients for each time frame provides the entire synthesized transient signal. The respective sets of coeffi-cients (A. b1 to bm are supplied from a store (54) synchronised from the clock pulse generator (52) through a modulo F counter (53) where (F) is the number of samples in a time frame.

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CPC (source: EP)
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Citation (examination)
Makhoul, John, Proc IEEE vol 63, no 4, April 75, pages 561-580; Schmid, Charles, Int Conf on Acoustic Speech, Signal Process IEEE Boston 1983; Chapter 7 and 10 of "Principles of Underwater Sound for Engineers" 2nd Edition MacGraw Hill, New York, 1975

Cited by
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