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6.3.1.2 Pseudo-SRT division6.3.2 Multiplicative division; 6.4 Summary; References; 7. Reverse conversion; 7.1 Chinese Remainder Theorem; 7.1.1 Pseudo-SRT implementation; 7.1.2 Base-extension implementation; 7.2 Mixed-radix number systems and conversion; 7.3 The Core Function; 7.4 Reverse converters for f_{2n-1} ; $2n$; $2n + 1$ g moduli-sets; 7.5 High-radix conversion; 7.6 Summary; References; 8. Applications; 8.1 Digital signal processing; 8.1.1 Digital filters; 8.1.1.1 Finite Impulse Response Iters; 8.1.1.2 Infinite Impulse Response Filters; 8.1.2 Sum-of-products evaluation
8.1.3 Discrete Fourier Transform

Sommario/riassunto

Residue number systems (RNSs) and arithmetic are useful for several reasons. First, a great deal of computing now takes place in embedded processors, such as those found in mobile devices, for which high speed and low-power consumption are critical; the absence of carry propagation facilitates the realization of high-speed, low-power arithmetic. Second, computer chips are now getting to be so dense that full testing will no longer be possible; so fault tolerance and the general area of computational integrity have become more important. RNSs are extremely good for applications such as digital
