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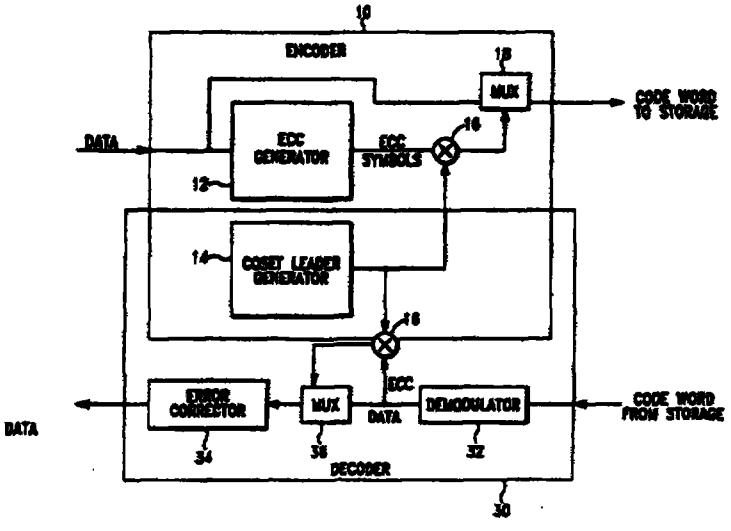
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(54) Title: A METHOD AND APPARATUS FOR PROTECTING DATA FROM MIS-SYNCHRONIZATION ERRORS



(57) Abstract

A GF(2) maximum length linear feedback shift register as a coset leader symbol generator (14) in an encoder (10) generates, from an initial m-bit coset leader symbol, a series of k m-bit coset leader symbols resembling a random sequence. The coset leader symbols are generated simultaneously with error correction encoder (12) symbols, XORed with them, and the XOR (16) result is concatenated (18) with data symbols, forming a recording codeword. A decoder (30) generates the same leader symbols and XORs them with the retrieved code word to remove the recorded leader symbols. If the retrieving was not in synchronism with the codeword, the coset leader symbols are XORed with a shifted version, introducing errors exceeding an error correction code decoder (34) correction capability. Preferably, the shift register is characterized by a polynomial $X^9+X^8+X^7+X^3+X^2+1$, and the initial symbol is 100001011.

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