United States Patent [19]

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[54] CORRELATED SIGNAL PROCESSOR

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[57] ABSTRACT

A cross-correlated baseband signal processor for providing in-phase and quadrature phase shifted NRZ signals from an input signal, apparatus for cross-correlating the in-phase and quadrature shifted signals, and apparatus for generating in-phase and quadrature shifted intersymbol-interference and jitter free (IJF) modulated output signals having amplitudes such that the vector sum of the output signals is approximately the same at virtually all phase angles of each bit period. The resultant cross-correlated bandlimited PSK signal (XPSK) has an almost constant envelope and thus it can be passed through a saturated amplifier without AM/PM and AM/AM degradation and without the need for post-amplification filtering, as there is no spectral restoration (regrowth).

14 Claims, 8 Drawing Figures