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Klymyshyn et al.

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[54] **GMSK MODULATOR FORMED OF PLL TO WHICH CONTINUOUS PHASE MODULATED SIGNAL IS APPLIED**

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[52] **U.S. Cl.** 332/100; 332/127; 375/274; 375/305

[58] **Field of Search** 332/100, 101, 332/102, 127; 375/274, 305

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[57] **ABSTRACT**

A Gaussian Minimum Shift Keying modulator that provides direct modulation of a carrier signal, produced by a single microwave high power voltage controlled oscillator. A continuous phase frequency shift keyed modulated signal with a modulation index of 0.5 is produced at the desired output frequency using a full 360 degree linear continuous phase modulator, controlled by a linear baseband signal that is the integral of the binary baseband information signal. This modulated signal is used as the reference signal for a phase locked high power voltage controlled oscillator. The phase locked loop provides frequency tracking and Gaussian spectral shaping to the modulated output signal.

22 Claims, 8 Drawing Sheets

