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[54] APPARATUS AND METHOD FOR INCREASING DATA TRANSMISSION RATE OVER WIRELESS COMMUNICATION SYSTEMS USING SPECTRAL SHAPING

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[58] Field of Search ..... 455/33.1, 43, 72, 93, 455/95; 375/5, 11, 51, 57, 60, 9; 379/98; 370/7

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[57] ABSTRACT

A system and method for reducing amplitude distortion in a data signal transmitted through a cellular analog communication system is embodied in several forms. Each specific embodiment of the invention eliminates distortion caused by clipping or sluggish recovery time induced by a limiter circuit which exists in conventional cellular communication systems. In one embodiment, pre-emphasis and de-emphasis functions of the cellular system are offset by complementary de-emphasis and post-emphasis circuits so that the high frequency components of the data signal are not clipped by the limiter. In another embodiment, the limiter circuit is bypassed selectively when a data signal is transmitted. In an alternative embodiment, a pilot tone is combined with the incoming data signal. The characteristics of the pilot tone are such that amplitude of the pilot tone is constant and always sets the gain of the limiter, thereby keeping the gain of the limiter circuit constant.

2 Claims, 9 Drawing Sheets

