

Phase Compensation Method and Apparatus

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Abstract of the Disclosure

The present disclosure includes a discussion of a method of compensating for distortion of a received signal's phase. The distortion is caused by the asymmetrical characteristics of a voltage limiter (301). This compensation allows the received signal (115) to be sampled at the positive and negative zero-crossings reducing the requirements of a local oscillator in a radiotelephone system. First, the phase of the received signal is sampled at the positive and negative zero-crossings, forming a corresponding positive-crossing (401) and a negative-crossing (407) phase value for the received signal. Second, the negative-crossing and positive-crossing phase values are combined, forming a first difference signal (409). Third, an estimated error signal (417) is formed using the first difference signal. Fourth, the estimated error signal is combined (419) with the positive or negative zero-crossing phase signals, substantially eliminating the asymmetrical distortion.

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Fig. 2 accompanies this abstract.