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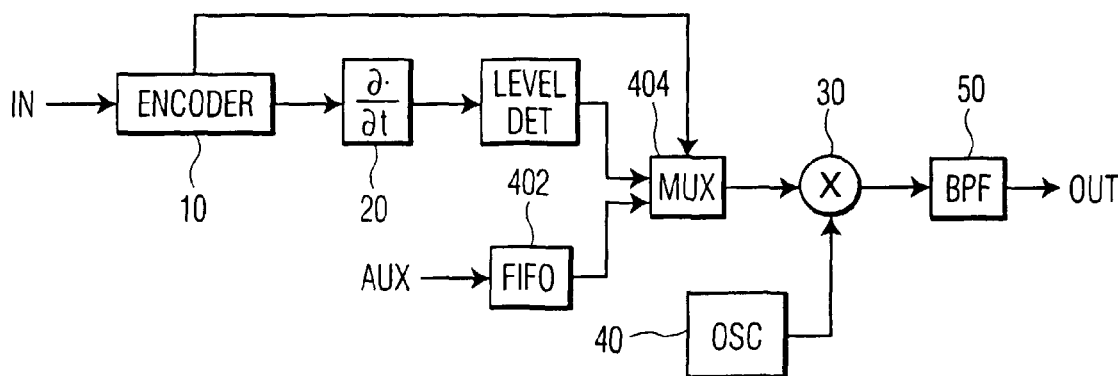
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(54) Title: A MODULATION TECHNIQUE FOR TRANSMITTING A HIGH DATA RATE SIGNAL, AND AN AUXILIARY DATA SIGNAL, THROUGH A BAND LIMITED CHANNEL



(57) Abstract: A digital data modulator (Fig. 8) is coupled to a source of a digital data signal having a data bit period, and a source of an auxiliary data signal. An encoder encodes the digital data using a variable pulse width code having edges occurring in an interval within the data bit period. A pulse signal generator, generates respective pulses representing the edges of the encoded digital data signal. A carrier signal generator generates a carrier signal having carrier pulses corresponding to the respective pulses during the interval, and modulated by the auxiliary data signal otherwise. A digital data demodulator (Fig. 9) is coupled to a source of a modulated signal including successive bit periods, each having a first interval containing a carrier pulse, spaced relative to other carrier pulses, to represent a variable pulse width encoded digital data signal, and a second interval during which the carrier is modulated with an auxiliary data signal. A detector demodulates the modulated signal to generate a variable pulse width encoded signal in response to received carrier pulses during the first interval, and an auxiliary data signal during the second interval. A decoder decodes the variable pulse width encoded signal to generate the digital data signal.



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