

ABSTRACT

DIGITAL MODULATION AND DEMODULATION TECHNIQUE FOR RELIABLE WIRELESS (BOTH RF AND IR) AND WIRED HIGH BANDWIDTH DATA TRANSMISSION

[0066] A communication system compensates pulse positioned modulated data signals for channel induced intersymbol interference and extracts pulse positioned encoded data from a received signal corrupted with the channel induced intersymbol interference. The communication system has a transmitter and a receiver. The transmitter includes a modulation apparatus that has a symbol mapping circuit, which receives data symbols to be transmitted and maps the data symbols to a transmission code. The receiver has a demodulation apparatus to recover data symbols in the presence of the channel induced intersymbol interference. The demodulation apparatus has a sampling circuit in communication with a signal receiving circuit within the receiver to sample at a regular period received data symbols acquired by the receiving circuit. The samples of the data samples are retained by a sample retaining circuit in communication with the sampling circuit. The sample retaining circuit transfers the retained samples to a symbol mapping circuit. The symbol mapping circuit then recovers the data symbols.

(Figure 9 is suitable for publication.)