

SCHOOL OF ENGINEERING

PHASE SHIFT KEYING DATA TRANSMISSION
PROJECT FINAL REPORT

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ABSTRACT

The aim of this project is to study the operating principle and to implement the modulator and demodulator for data transmission of the digital modulation scheme used these days in communication, which is Phase Shift Keying.

As with all modulation schemes, PSK conveys data by changing some aspect of a base signal, the carrier waves, (usually a sinusoid) in response to a data signal. In the case of PSK, the *phase* is changed (*modulated* or *keyed*) to represent the data signal.

Phase-shift keying refers to the simple case of phase modulation by a simple signal with a discrete number of states, such as in morse code or radioteletype applications. With only two states, the technique is Binary Phase Shift Keying (BPSK). With four states, it's known as Quadrature Phase Shift Keying (QPSK), with eight states, it's known as 8-PSK, 16 states is 16-PSK.

Phase Shift Keying used in both military and commercial communication system. Phase shift keying is considered an efficient form of data modulation because it provides the lowest probability of error for a given received signal level. Terrestrial microwave radio links and satellite communication systems also frequently employ phase shift keying as their modulation format.