

Title

Phase Shift Keying (PSK) modulation and demodulation.

Objective / Aim of the Experiment

To study the generation and detection of Phase Shift Keying (PSK).

Equipment Required

PSK Modulation and Demodulation Trainer Kit
Digital Storage Oscilloscope (100MHz, 1GSa/S)
Power supply
Probes
Patch cord
Connecting wires

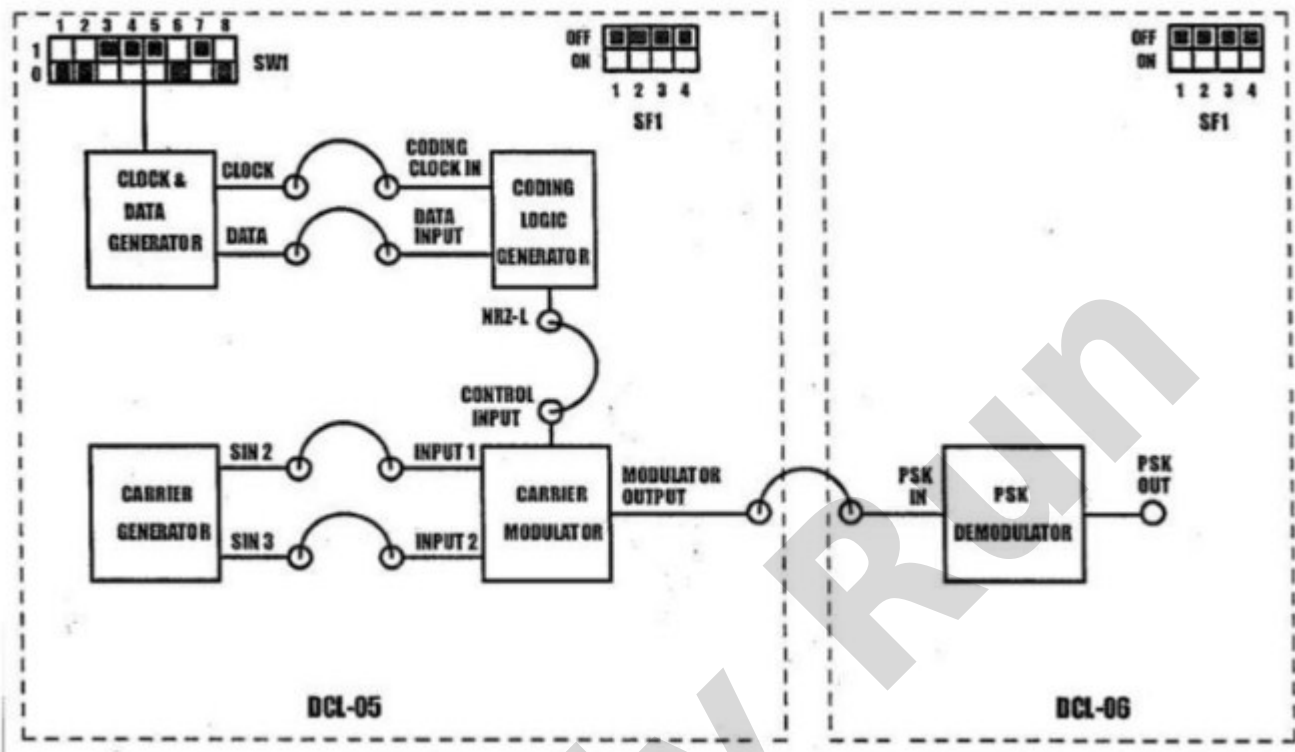
Theory

Phase shift keying is a modulation/data transmitting technique in which phase of the carrier signal is shifted between two distinct levels. In a simple PSK (i.e. binary PSK) un-shifted carrier $V\cos\omega t$ is transmitted to indicate a 1 condition, and the carrier shifted by 180° i.e. $-V\cos\omega t$ is transmitted to indicate as 0 condition.

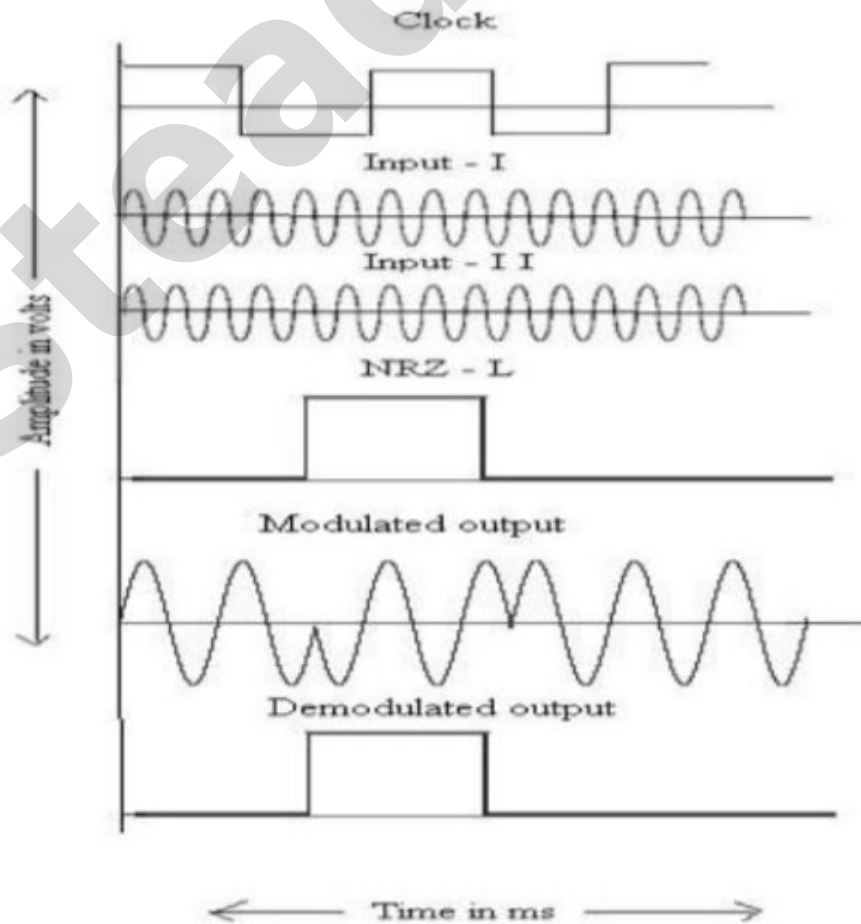
Procedure

1. The connections are given as per the block diagram.
2. Connect the power supply in proper polarity to the kit and & switch it on.
3. Set the amplitude of the sine wave as desired.
4. Set the message data bit.
5. Observe the waveforms at the
Clock
SIN 1 & SIN 2
PSK modulator output
PSK demodulator output
6. Plot it on graph paper.

Block Diagram / Circuit Diagram



Graph



Observation Table

Signal	Amplitude	Time period	Frequency
Clock Signal			
Input 1			
Input 2			
Modulator Output			
Demodulated Output			

Result

PSK Modulation and Demodulation are verified in the hardware kit and its waveforms are studied.

Conclusion

From the above experiment, the amplitude of demodulated signal is obtained as

Precautions

- 1) Do not use open ended wires to connect 230V, 50Hz power supply.
- 2) Check the connection before giving the power supply.
- 3) Observations should be done carefully.
- 4) Disconnect the circuit after switched off the power supply