

Title

Frequency Shift Keying (FSK) modulation and demodulation.

Objective / Aim of the Experiment

To study the generation and detection of Frequency Shift Keying (FSK).

Equipment Required

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

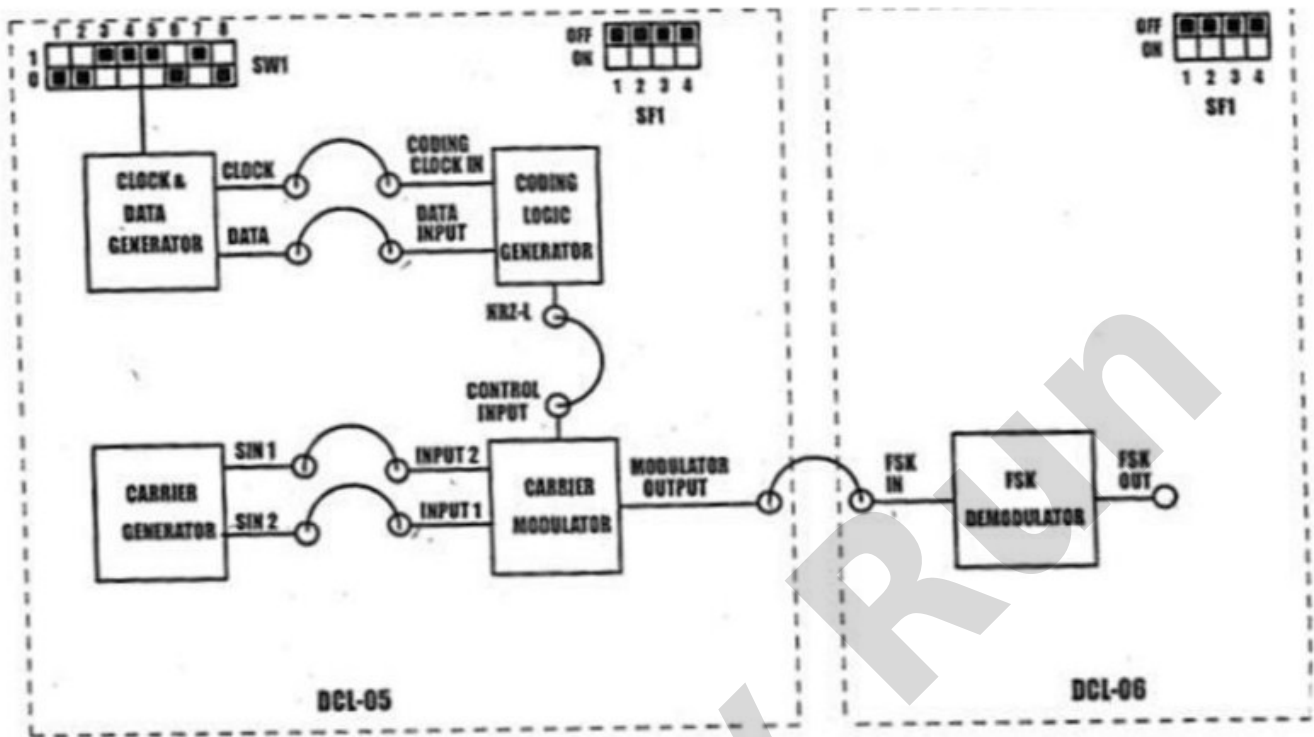
Theory

FSK signaling schemes find a wide range of applications in low-speed digital data transmission system. FSK schemes are not as efficient as PSK in terms of power and bandwidth utilization. In binary FSK signaling the waveforms are used to convey binary digits 0 and 1 respectively. The binary FSK waveform is a continuous, phase constant envelope FM waveform. The FSK signal bandwidth in this case is of order of 2MHz, which is same as the order of the bandwidth of PSK signal.

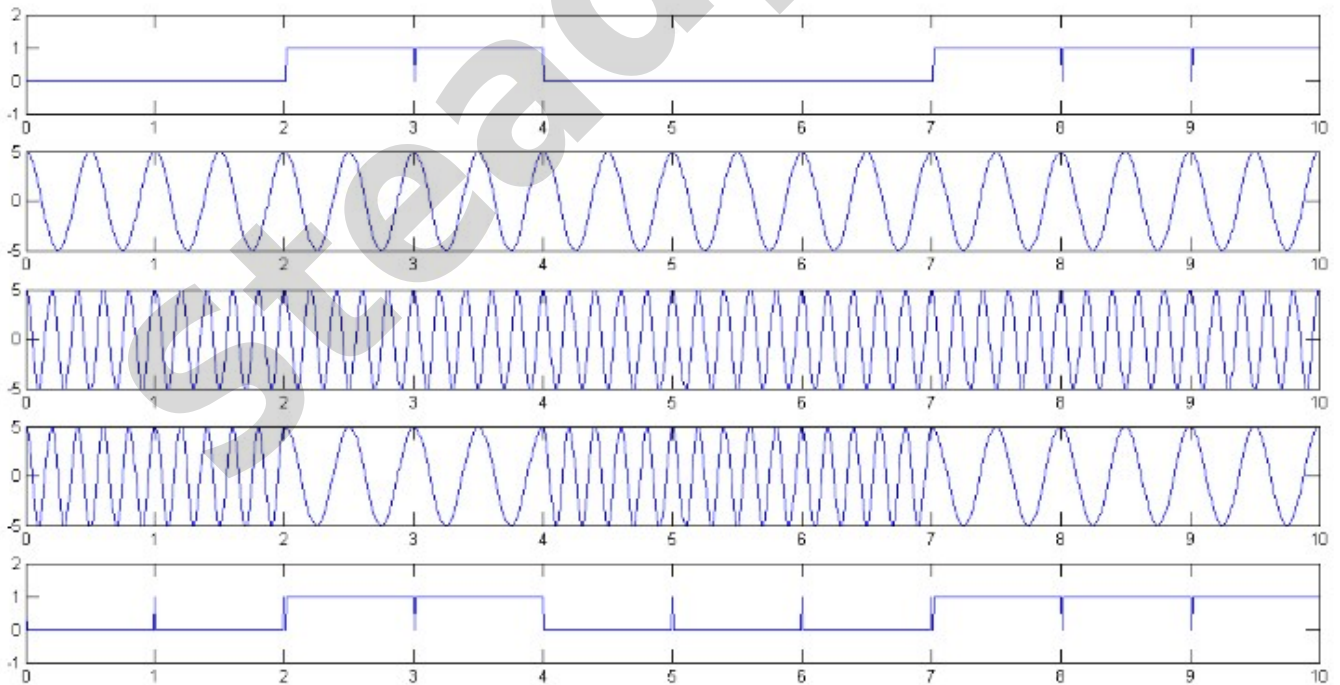
Procedure

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
FSK modulator output
FSK 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

FSK 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

Steady Run