EXPERIMENT : FSK MODULATION and DEMODULATION

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Aim:

To design the modulation and demodulation of FSK.

Theory:

Frequency Shift Keying (FSK) is a digital modulation scheme where the digital data is transmitted using a high frequency carrier signal. For logic '0' and '1' the carrier signal switches between two preset frequencies, hence the name FSK.
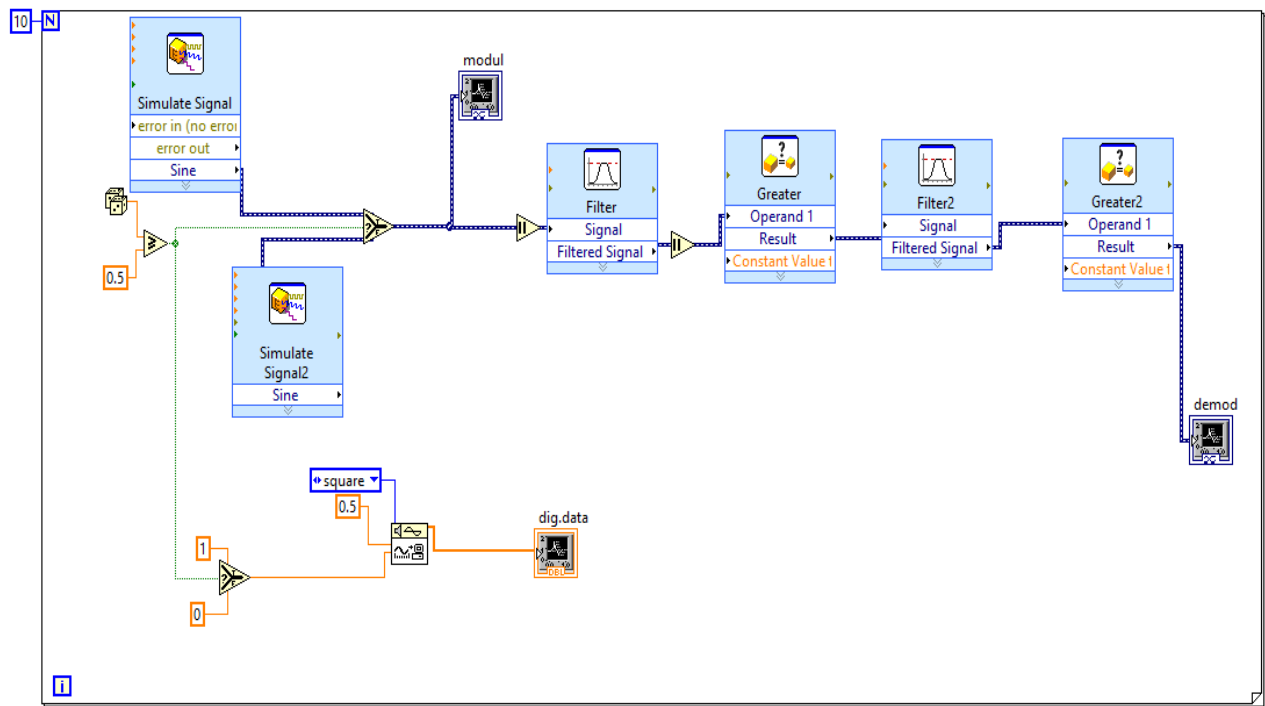
Modulation:

The two signal generators, producing a higher and a lower frequency signals, are connected to a switch along with an internal clock. To avoid the abrupt phase discontinuities of the output waveform during the transmission of the message, a clock is applied to both the oscillators, internally. The binary input sequence is applied to the transmitter so as to choose the frequencies according to the binary input.
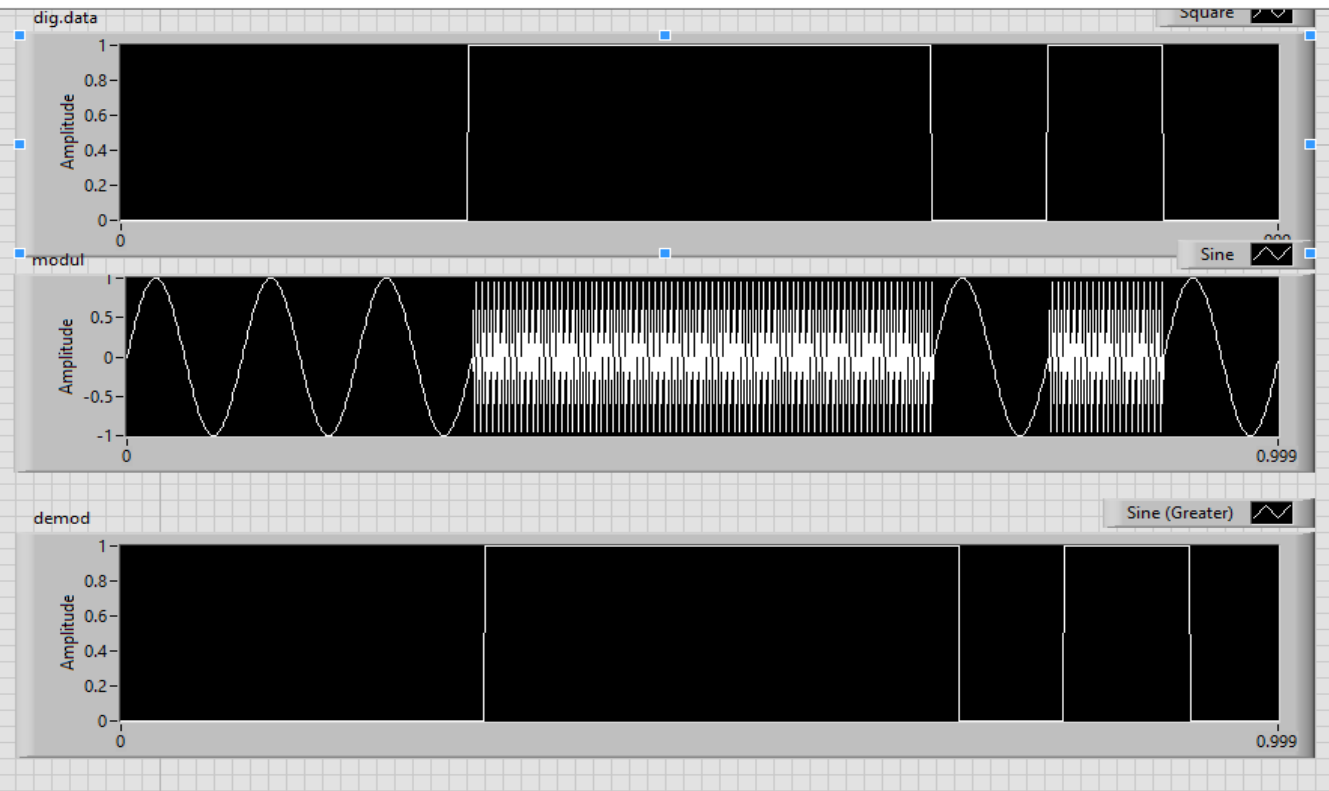
Demodulator:

The output of fsk is fed into a high pass filter and an encoder circuit. This produces a capacitor charge and discharge type waveform which is fed into a differentiator. The output is fed into a comparator to attain two distinct value of output.

Circuit:

Waveform:

STIMULATION:

1. Open LabVIEW Software.
2. Click=> New =>Design
3. Click save as in and rename the .vi to your circuit name.
4. Specify the value of amplitude and frequency for the same value below mentioned.
5. Design the fsk modulator circuit.
6. Implement the demodulator circuit below.
7. Click simulate button or press F5 key =>RUN
8. Record the waveforms.

RESULT: The FSK modulator and demodulator circuits was set up and the waveforms were plotted.