

Electronic Circuits Laboratory
EE462G
Lab #3

Logic Circuits Using Diodes

Instrumentation

This lab requires the use of:

- **DC offset on function generator**
- **Triggering functions on the oscilloscope**
- **Coupling features on vertical and trigger signal**
- **RMS measurements with the oscilloscope and voltmeter**
- **Rise, fall, and delay time measurements**

DC Offset in Function Generator

Function generator sinusoidal output is of the form:

$$S(t) = A_0 + A_1 \cos(2\pi ft + \theta)$$

- **A_1 denotes the AC component and is controlled by the *amplitude knob***
- **A_0 denotes the DC component and is controlled by the *DC offset knob*, which must be pulled out for it to take effect**
- **Note the output range is still between ± 20 volts, so saturation of the waveform will occur for some A_1 and A_0 combinations**

This general operation holds for all function generator waveforms