Experiment name:

Study of a clamper circuit.

Theory:

A Clamper Circuit is a circuit that adds a DC level to an AC signal. Clamper circuits consist of energy storage elements like capacitors. A simple clamper circuit comprises of a capacitor, a diode, a resistor and a dc battery if required. A Positive Clamper circuit is one that consists of a diode, a resistor and a capacitor and that shifts the output signal to the positive portion of the input signal. During the positive half cycle, the capacitor is charged to negative Vm while the diode gets forward biased and gets short circuited. A Negative Clamper circuit is one that consists of a diode, a resistor and a capacitor and that shifts the output signal to the negative portion of the input signal During the negative half cycle, the diode gets reverse biased and gets open circuited.

Implements:

1. Resistor.
2. Diodes.
3. Connecting ware.
4. Oscilloscope.
5. Capacitor.

Diagram:

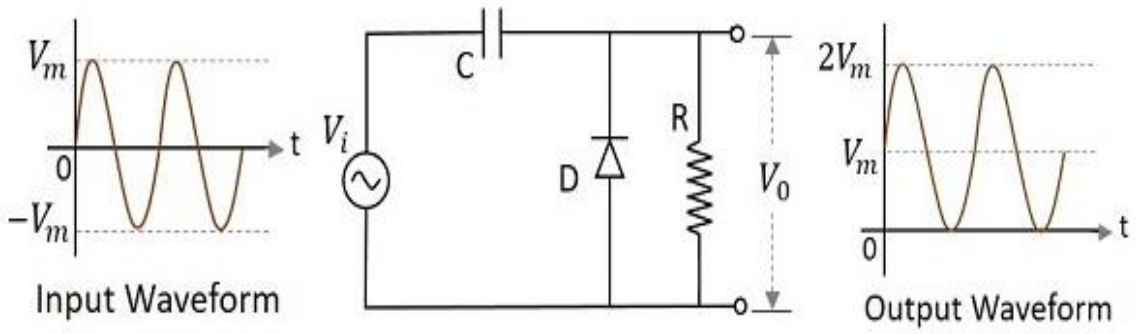


Figure: Positive clamper circuit

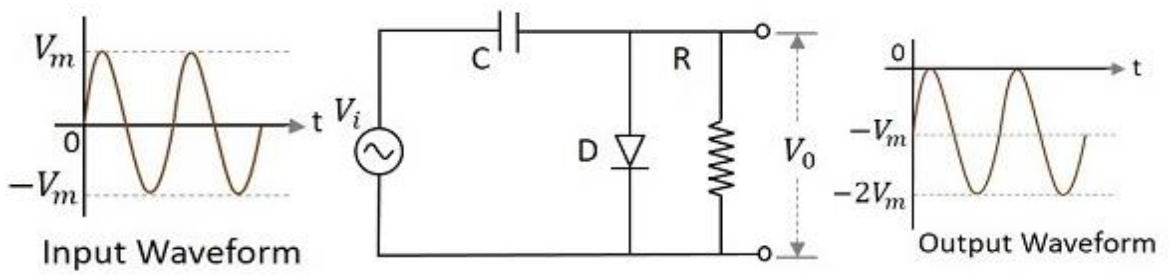
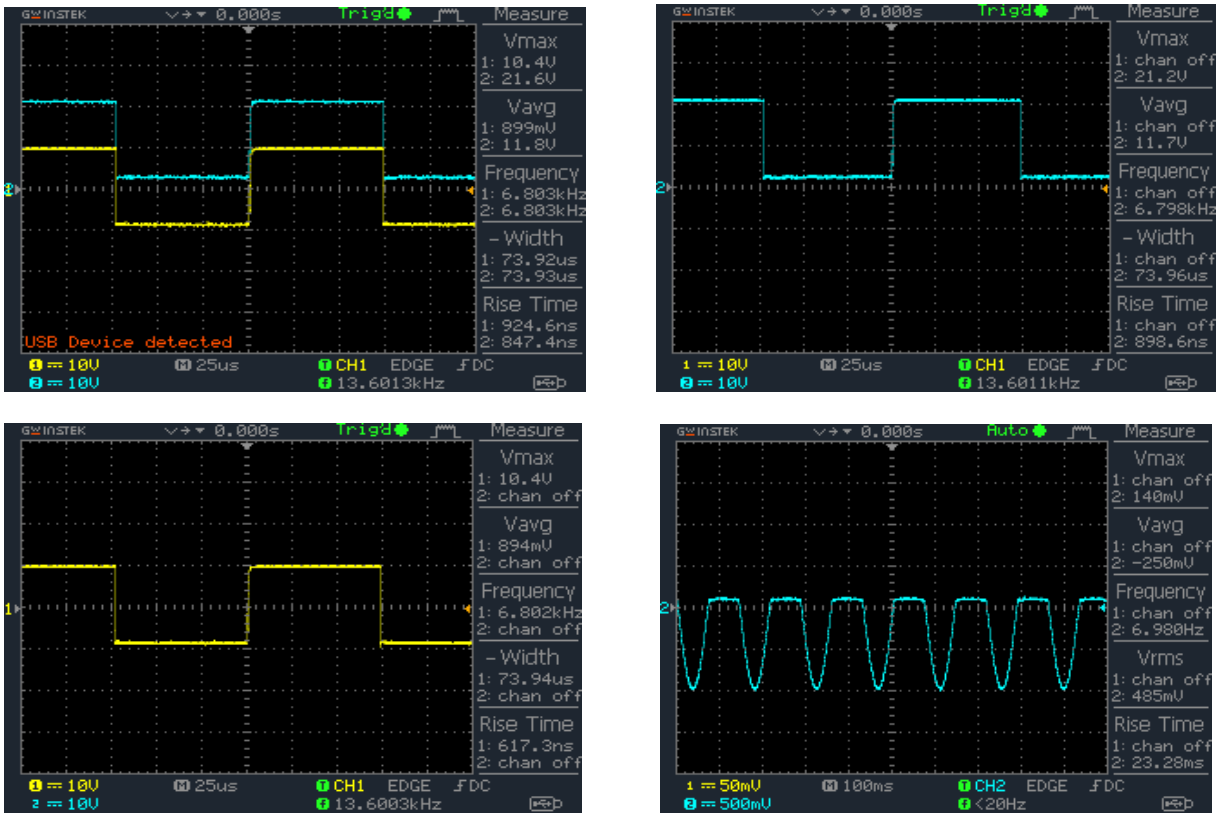


Figure: Negative clamper circuit

Figure:



Conclusion:

Clipping is very widely used diode applications. In this experiment, we have constructed some clipper circuits, gave some input voltage and seen the output of the waveform in the oscilloscope.