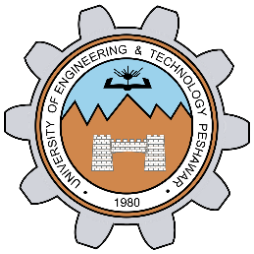
LAB REPORT # 04



Spring 2021

Electronics Circuits (EC) Lab

Submitted by: Hassan Zaib

Registration No: 22PWCSE2144

Class Section: A

Submitted to:

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Department of Computer Systems Engineering

University of Engineering and Technology, Peshawar

Objectives:

To become familiar with Full wave and Half wave rectification.

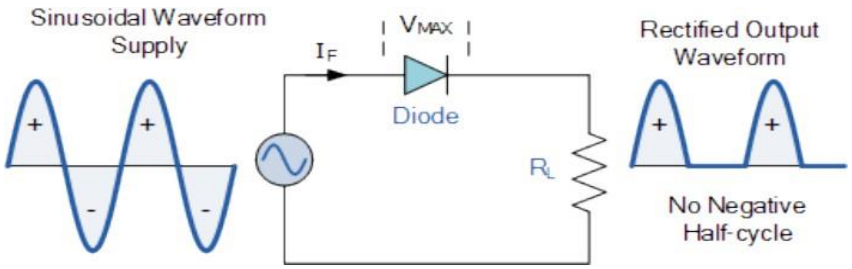
Equipment:

- Oscilloscope Function Generator
- Digital Multimeter (DMM)

Components Diodes:

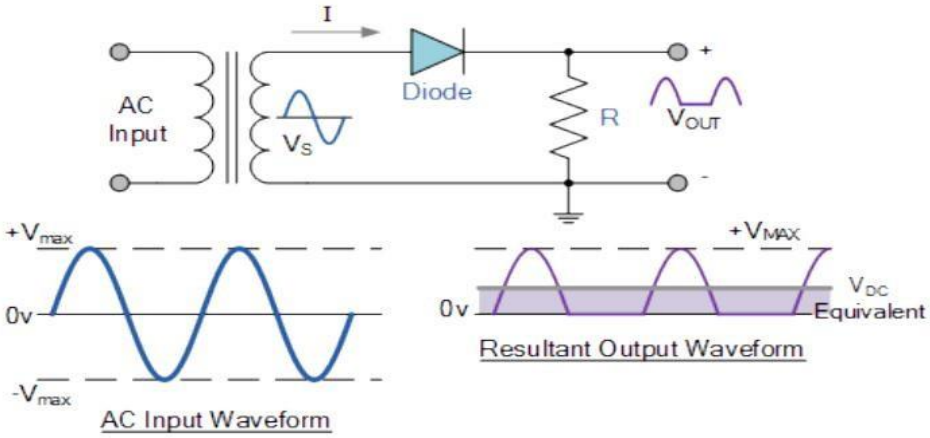
1. Silicon (D1N4002)
2. Resistor: 2.2 kΩ

Half Wave Rectification



INTRODUCTION:

A half-wave rectifier is a device that converts alternating current (AC) into direct current (DC) by allowing the flow of current in only one direction. It uses a single diode to block either the positive or negative half of the AC waveform, resulting in pulsating DC output. While simple and inexpensive, it produces a less smooth output compared to full-wave rectification.



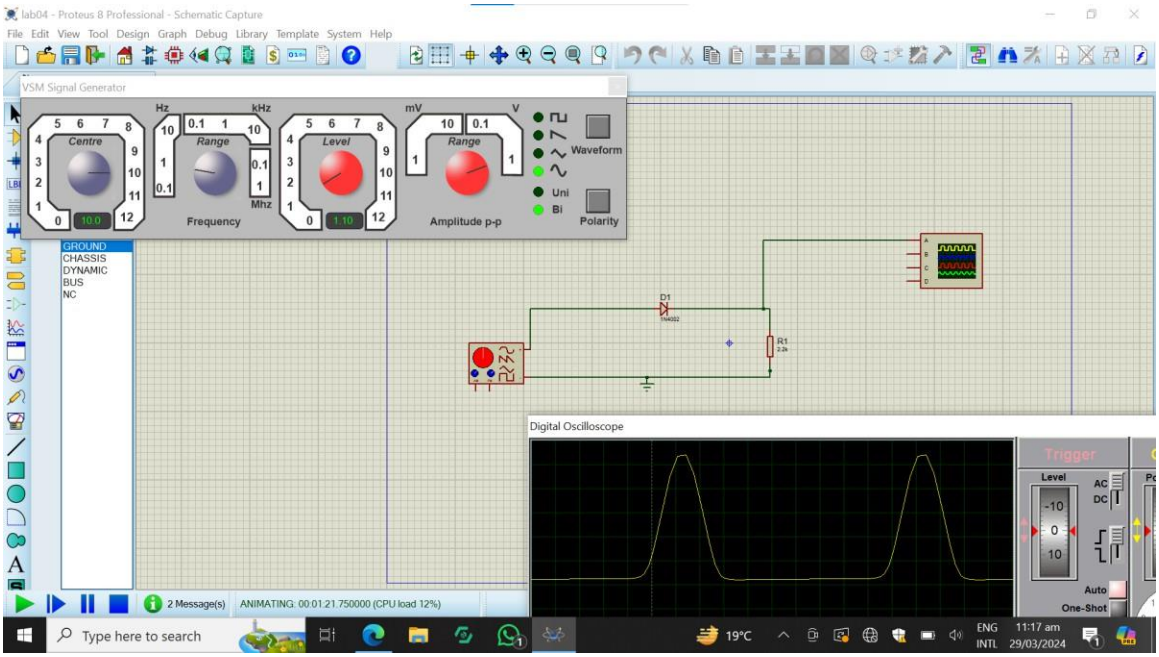


Figure 1:Half wave rectifier

Full Wave Rectifier Circuit

A full-wave rectifier is an electrical device that converts alternating current (AC) into direct current (DC). It utilizes diodes to allow the flow of current in one direction, ensuring that both the positive and negative halves of the AC waveform are utilized, resulting in a smoother output compared to half-wave rectification. This enables more efficient power conversion in various electronic circuits and Devices.

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Figure 2: full wave rectifier

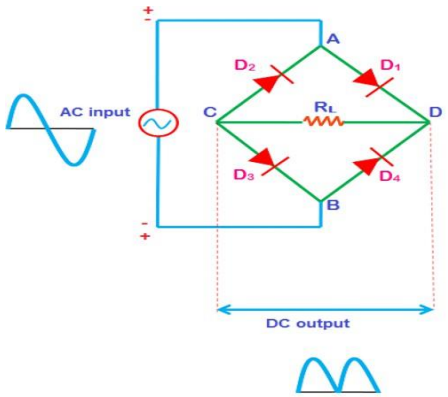
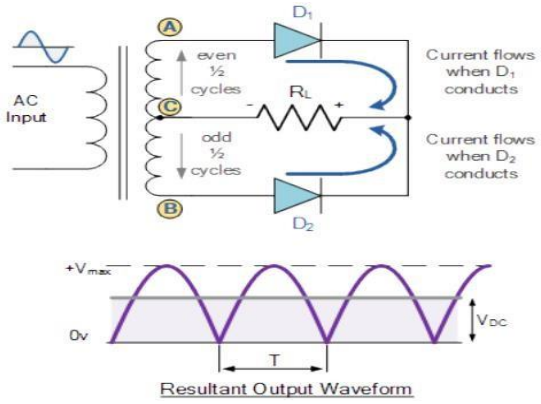


Figure 1: Full Wave Rectifier Circuit



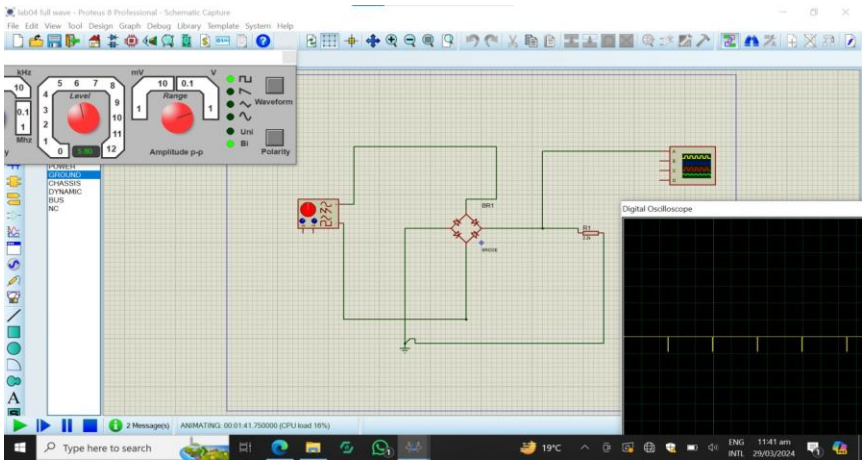


Figure 2: Practical Demonstration

Comparison:

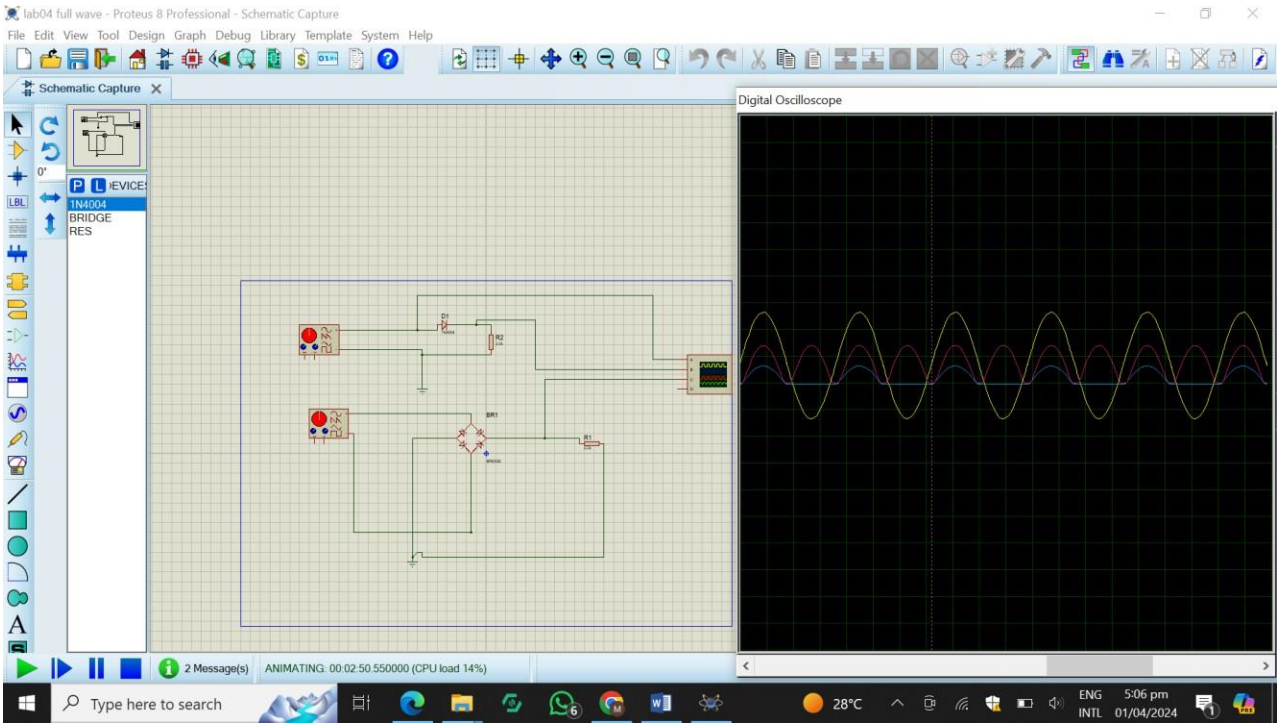


Figure 3:Comparison of Half wave and full wave