



An Operational Amplifier, usually referred to as an 'Op-Amp' for brevity, Op-Amps are among the most widely used electronic devices today, being utilized in a vast array of consumer, industrial and scientific devices. In present days electronics system a basic building block is the Operational Amplifier. The Operational Amplifier is a versatile device that can be used to amplify DC input signal as well as AC input signal and used for computing mathematical function such as addition, subtraction, multiplication, integration and differentiation, and due to the ability to perform these operations the name Operational amplifier stems.

With Sciencetech 2323, Op-Amp Applications student can study the basic applications and will be able to perform the various application of operational amplifier. The Op-Amps were used to model the basic mathematical operations addition, subtraction, integration, differentiation, rectification, oscillation, filtering, peak detection, comparison and so on. However, an ideal operational amplifier is an extremely versatile circuit element, with a great many applications beyond mathematical operations and to understand and perform those application it is necessary to achieve better understanding of its basic application. Thus Sciencetech 2323 has been divided into different independent blocks for the ease of user to understand the various application of operational amplifier. A function generator, generating Sine wave, Square wave and triangular wave, and two variable DC supplies are provided on board.

Features

- Self contained easy to operate platform
- On board Function Generator
- On board test variable power supply
- Functional blocks indicated on board mimic
- Built in power supply
- Operating manual provided
- Compact size
- Ready experiments

Scope of Learning

To study and observe :

- Op-Amp as Voltage Comparator
- Op-Amp as Zero Crossing Detector
- Op-Amp working as Logarithmic Amplifier
- Op-Amp working as antilogarithmic Amplifier
- Op-Amp as a Peak Detector
- Op-Amp as a Wien Bridge Oscillator and its gain factor for a smooth sine wave
- Op-Amp as a Phase Shift Oscillator and its phase shift at every RC combination
- Observe Op-Amp as a Function generator, generating Square and Triangle wave
- Observe Op-Amp as a Half Wave Precision Rectifier
- Observe Op-Amp as active second order High Pass Filter
- Observe Op-Amp working as active second order Low Pass Filter
- Op-Amp working as active second order Band Pass Filter
- Op-Amp working as active Notch Filter

Technical Specifications

Function Generators :

Sine Wave	: 10Hz - 100 KHz (10VPP)
Square Wave	: 10Hz - 100 KHz (10 VPP)
Triangle Wave	: 10Hz - 100 KHz (8 VPP)
Test Power Supplies	: 0-5V (variable)
Test Points	: 28
Power Supply	: 230 V \pm 10%, 50/60 Hz
Power Consumption	: 4 VA approximately
Operating Conditions	: 0-40 ^o C, 85% RH
Weight	: 4 Kg approximately
Dimensions (mm)	: W 360 x D 260 x H 110
Product Tutorial	: Online

Included Accessories :

Patch cord 16"	: 4 nos. (Red 2mm)
Patch cord 16"	: 2 nos. (Black 2mm)
Mains cord	: 1 no.