36382 Operational Amplifier Lab is a unique product covering the important concepts, theory, and applications of Operational Amplifier circuits. An Operational Amplifier is a direct-coupled high gain amplifier usually consisting of one or more differential amplifiers followed by a level translator, and an output stage.

Operational Amplifier can be used to amplify DC as well as AC input signals. It was originally designed for computing mathematical functions such as Addition, Subtraction, Multiplication and Integration. Using 36382 students can perform experiments of OP-AMP circuits like Inverting Amplifier, Non Inverting Amplifier, Adder, Subtractor, Differentiator, Integrator, Comparator, etc. 36382 has on-board Resistors, Capacitors, and Potentiometers of different values. Breadboard allows construction of circuits using external components and onboard resources.

Features

1. Comprehensive portable platform to perform over 15 experiments
2. In-built Power Supply
3. Breadboard for expanded study
4. In-built Function Generator
5. Compact design
6. Rich Online Product Tutorial

Object

Study of Operational Amplifier as:

1. Inverting Amplifier
2. Non - inverting Amplifier
3. Buffer
4. Comparator
5. Adder
6. Subtractor
7. Square Wave Generator
8. Differentiator and its working as High Pass Filter
9. Integrator and its working as Low Pass Filter
10. Logarithmic Amplifier
11. Voltage Controlled Current Source
12. Current Controlled Voltage Source

Note: Specifications are subject to change.

09.02.2024
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Technical Specifications

Mains Power Supply	:	90 - 270V ±10%, 50Hz (SMPS)
Fixed DC Power Supply	:	+12V, Regulated
		-12V, Regulated
		+5V, Regulated
		-5V, Regulated
Variable DC Power Supply	:	+1.5V to +10V Regulated
	:	-1.5V to -10V Regulated

Function Generator

Sine Wave

Frequency	:	1KHz to 100KHz
Frequency Control	:	100KV, 10 turn Potentiometer
Amplitude	:	0V to 5Vpp
Amplitude Control	:	100KV, Single turn Potentiometer

Triangular Wave

Frequency	:	1KHz to 100KHz
Frequency Control	:	100KV, 10 turn Potentiometer
Amplitude	:	0V to 5Vpp
Amplitude Control	:	100KV, Single turn Potentiometer

Square Wave

Frequency	:	1KHz to 100KHz
Frequency Control	:	100KV, 10 turn Potentiometer
Amplitude	:	5Vpp, fixed

Bread Board

Dimension(mm)	:	175 x 61 x 10
Distribution strips	:	2
Distribution holes	:	200
Terminal holes	:	640
Op-Amp	:	IC uA741 (2 nos.)
	:	All pins terminated on 2 mm Banana Sockets
Supply Voltage	:	±22V max.
Differential Input Voltage	:	±30V max.
Input Voltage	:	±15V max.
Slew Rate	:	0.5 V/µs (VCC = ±15V)

Resistor Bank

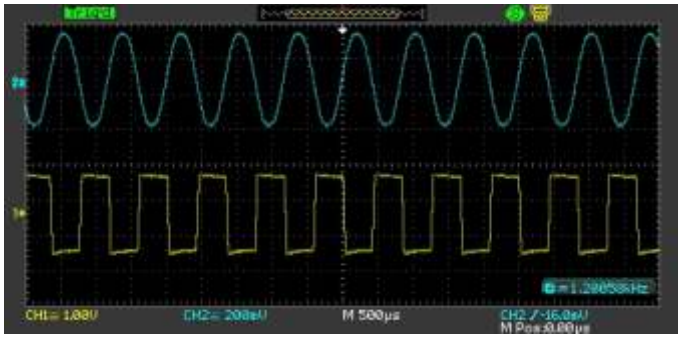
SMD Resistance 1KV 1% 1/4W (5 nos.)
SMD Resistance 10KV 1% 1/4W (5 nos.)
SMD Resistance 100KV 1% 1/4W (5 nos.)

Diode	:	Diode 1N 4007
Capacitor Bank	:	Electrolyte 1mf/63V
		Disc 1nf/63V
		Disc 10nf/63V
		Disc 100nf/63V

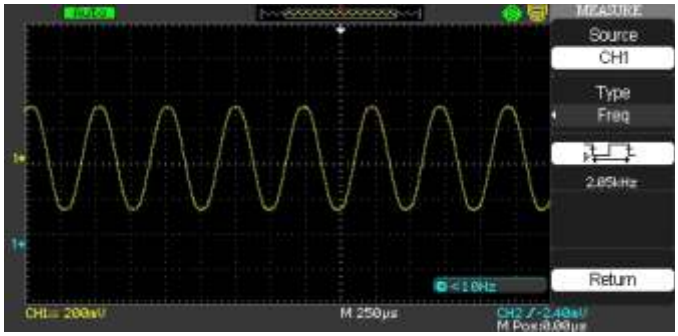
Variable Resistance Bank

1KV Single turn Potentiometer (2 nos.)
10KV Single turn Potentiometer (2 nos.)
100KV Single turn Potentiometer (2 nos.)
1MV Single turn Potentiometer (2 nos.)

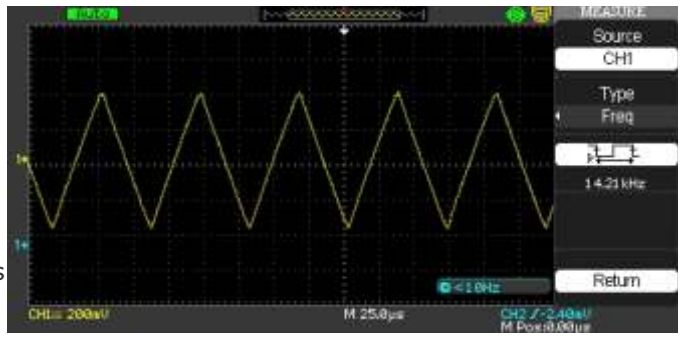
Fuse	:	500mA, slow blow
Dimensions (mm)	:	W 350 x D 280 x H 55



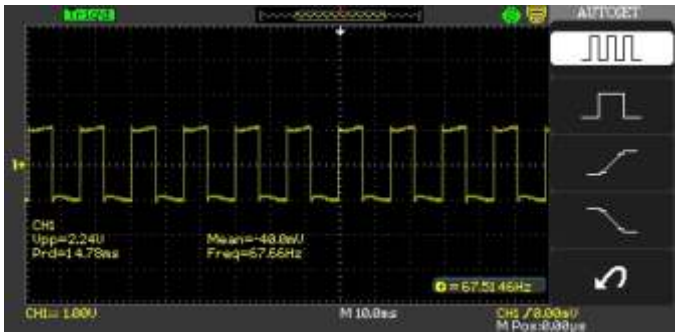
Comparator output



Sine Wave



Triangular Wave



Square Wave

Note: Specifications are subject to change.

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