



An ISO 9001:2015 Co.

Astable and Monostable Multivibrator using Transistor

Model : SE-120

SINC OM SE-120 Astable and Monostable Multivibrator using Transistor is a remarkable **Two-in-One combined** trainer of BJT NPN Transistors wired in CE mode with RC positive feedback to provide Astable Multivibrator Output and Monostable Multivibrator Output for the applied trigger input, with facility to vary the Switching Time and Frequency of Oscillations in a simple experimental way.

Features

- ❖ Separate modules of Astable and Monostable Multivibrator
- ❖ Silicon NPN BJT of TO-92 package on board
- ❖ Astable using 2 NPN Transistor as CE switching Amplifier & resistive capacitive feedback elements.
- ❖ Monostable using 2 NPN Transistor as CE switching Amplifier & resistive capacitive feedback elements
- ❖ Resistive Identical collector load
- ❖ Capacitor Bank to vary output switching time
- ❖ Wide range of oscillation frequency
- ❖ Facility to vary output frequency
- ❖ External Trigger Input for Monostable multivibrator
- ❖ In-Built Fixed regulated DC Power Supply
- ❖ User friendly Design
- ❖ Very Easy for Operation
- ❖ Multi color Circuit Diagram is printed on the front panel of the white acrylic board
- ❖ Enclosed in an attractive, light weight, High Quality, Poly Coated Imported Pine Wooden cabinet
- ❖ Facility to connect external Oscilloscope and Digital Meters.
- ❖ Interconnections by 2mm high quality banana sockets and pins
- ❖ Maximum Test points to explore all the corners of experiment
- ❖ 1 Year Warranty

Technical Specifications

▪ AC Mains Power Supply	: 230V \pm 10%, 50Hz
▪ DC Power Supply	: IC Regulated Fixed +12V/300mA
▪ Multivibrator type	: Astable (Free Running) and Monostable (One shot)
▪ Transistor Type and Package	: Four BJT Silicon NPN BC548, TO-92 Package
▪ Amplifier Type	: Base Biased CE Switching Amplifier
▪ Feedback Elements	: Two Resistors and Two Capacitors
▪ Collector load	: Identical Resistive load of 10K Ω
▪ External Trigger Input	: Monostable - Square Pulse @ 100Hz-1KHz, 5Vpp
▪ Output waveform	: Astable - Square/Rectangular, Monostable- Pulse one shot
▪ Oscillation Frequency	: Astable- Variable from @ 100 Hz to 100KHz Monostable - Variable from @ 100 Hz to 10KHz



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- Astable Output Frequency Control by : Two Resistors, one Dual Potentiometer and four Capacitors
- Monostable Switching Time Control by : One Resistor and two Capacitors
- Max. Collector Emitter Voltage : 12 VDC
- Weight : 2.0 kg (approx)
- Dimensions (mm) : L 245 x W 320 x H 115
- Interconnections : 2mm Banana sockets
- Operating Temperature : 0-50⁰C, 80% RH

Learning Scope

- To Study operation of Astable (Free-running) Multivibrator using transistor. To Observe & Note the switching waveforms at the base & collector of two transistors.
- To Study operation of Monostable (One shot or Univibrator) Multivibrator using transistor. To Observe & Note the waveforms at the base & collector of two transistors w.r.t. applied trigger I/P.
- To Observe & Note Change in Switching Time & Frequency of Oscillation w.r.t. change in RC feedback Components.
- Compare the Theoretical & Practical values.

Other Instruments Required : Oscilloscope

Accessories Included : Set of Patch Cord and Details Instruction Manual.