



## Voltage Controlled Oscillator

### Model : SE-111

**SINCOM SE-111 Voltage Controlled Oscillator (VCO)** is a useful trainer to study the concept and operation of Voltage controlled Oscillator using transistor with RC feedback to generate Output Frequency controlled by D Input voltage in a simple experimental way.

### Features

- ❖ BJT Transistor circuit of a self bias CE Amplifier mode with RC Feedback elements.
- ❖ DC Input voltage controlled frequency of oscillations
- ❖ Variable DC Input source for controlling output frequencies
- ❖ 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 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

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|----------------------------------|---|
| ▪ AC Mains Power Supply          | : 230V $\pm$ 10%, 50Hz                              |
| ▪ DC Power Supply                | : IC Regulated Fixed +12V/300mA                     |
| ▪ Transistor Type and Package    | : BJT Silicon-NPN BC548, TO-92 Package              |
| ▪ Amplifier Type                 | : BJT Single Stage CE Amplifier in a Self Bias mode |
| ▪ Feedback Type                  | : Positive  |
| ▪ Feedback Elements              | : RC circuit  |
| ▪ Controlled Voltage             | : DC 0-12V variable                                 |
| ▪ Output Frequency Control       | : By DC input voltage                               |
| ▪ Max. Collector Emitter Voltage | : 12 VDC  |
| ▪ Weight                         | : 2.0 kg (approx)                                   |
| ▪ Dimensions (mm)                | : L 220 x W 270 x H 110                             |
| ▪ Interconnections               | : 2mm Banana sockets                                |
| ▪ Operating Temperature          | : 0-50°C, 80% RH                                    |

### Learning Scope

- To Study operation of Voltage Controlled Oscillator Circuit.
- To Determine the Quiescent Operating Point of Transistor.
- To Observe & Note Change in Frequency of Oscillation w.r.t. change in feedback elements.
- Compare the Theoretical & Practical values.

**Other Instruments Required :** Digital Multimeter and Oscilloscope

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