



**OMEGA TYPE ETB-105** Experimental Training Board has been designed specifically to study different biasing techniques for transistor amplifier circuits. Also the effect of transistor replacement (change in  $\beta$ ) and temperature changes can be studied on all biasing circuits.

Practical experience on this board carries great educative value for R & D labs, Science and Engineering Students.

#### OBJECT

- 01 Study of Q-point variation due to transistor replacement (Changes in  $\beta$ ) in:
  - 1.1 Fixed-bias circuit.
  - 1.2 Collector to base bias circuit.
  - 1.3 Self bias (Emitter bias) circuit.
  - 1.4 Self bias (Emitter bias) in addition to voltage divider bias circuit.
- 02 A qualitative comparison of the effect of temperature on bias stability of the above four biasing circuits.

#### FEATURES

The board consists of the following built-in parts:

- 01 Two germanium NPN transistors one having low  $\beta$  and the other having high  $\beta$ .
- 02 +12V DC at 100mA, IC regulated Power Supply.
- 03 1 KHz Sine Wave signal generators having 0-1 volt variable output level.

- 04 Digital Current meter DC 3½ Digit range of 200mA
- 05 Digital Current meter DC 3½ Digit range of 20mA
- 06 Digital Voltmeter DC 3½ Digit range of 20V.
- 07 Electric oven for heating up the transistor.
- 08 Thermometer clamp for holding a thermometer. A Thermometer of 0-100°C provided along with the unit.
- 09 Adequate no. of other electronic components.
- 10 Mains ON/OFF switch, Fuse and Jewel light.
- 11 The unit is operative on 230VAC  $\pm 10\%$  at 50Hz.
- 12 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections & observation of waveforms.
- 13 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.

- 14 Weight : 5.200 Kg. (Approx.)
- 15 Dimension : W 340 x H 125 x D 210

#### LIST OF ACCESSORIES:

- 01 Patch cords 4mm length 50cm Red.....04.
- 02 Patch cords 4mm length 50cm Black.....03.

#### OTHER APPARATUS REQUIRED :

- 01 Dual trace CRO 20MHz OMEGA TYPE CRO-20.

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

## OMEGA ELECTRONICS