

Sciencetech 2001E Oscilloscope Demonstrator / Trainer is specially designed to study the live working of an Oscilloscope. The entire circuit is placed on a single PCB, with color marking for different sections. All the controls are placed actually at the place as they are in the PCB layout. Thus a trainee can easily locate any section & components for the study.

The function controls and the adjustment controls are fully accessible to the trainee to verify their effect on the working of the scope. Creation of Faults and rectification of faults are important exercise covered in the experiments. An illustrated block and circuit schematic and the adjustment plan pasted right in front of the trainee's eyes helps him to correlate each operation during the demonstration.

Features

- ▶ **Oscilloscope in open form on single PCB**
- ▶ **Separate sections with color identification**
- ▶ **Test points in each section.**
- ▶ **Legend Printing on PCB for easy identification of components**
- ▶ **Fault creation & Rectification provided**
- ▶ **Can be used as a standard 20 MHz Dual Trace Oscilloscope**
- ▶ **3 Year Warranty**

Technical Specifications

Operating Modes : CH I, CH II, CH I & II alternate or chopped (approximately 350 KHz). X-Y operation (Ratio 1:1 Input via CH II). All controls provided on PCB.

Vertical deflection (Y) Identical channels

Bandwidth : DC -20 MHz (-3 dB)
 Risetime : 17.5 ns approximately
 Deflection coefficients : 12 calibrated steps 5 mV/ cm - 20 V / cm (1-2-5 sequence).
 Accuracy : $\pm 3\%$

Input Impedance : 1 M Ω || 25 pF approximately

Input coupling : DC-AC-GND

Maximum Input voltage : 350 V (DC + Peak AC)

Timebase

Time coefficients : 18 calibrated steps, 0.5 μ s/cm-0.2 s/cm (1-2-5 sequence) with magnifier X5 to 100 ns / cm, with variable control to 40 ns / cm

Accuracy : $\pm 3\%$ (in Cal position)

Sweep Output : 5 V approximately

Trigger System

Modes	: Auto / Level
Source	: CHI, CH II, Ext.
Slope	: Positive or Negative
Coupling	: AC, TV
Sensitivity	: Int 0.5 div., Ext 0.8 V approximately
Trigger Bandwidth	: 25 MHz

Horizontal Deflection (X) Input via CHII

Bandwidth	: DC -3 MHz (-3 dB)
X-Y mode	: Phase Shift <math>< 5^\circ</math> at 50 KHz
Deflection coefficients	: 12 calibrated steps 5 mV/cm - 20 V/cm (1-2-5 sequence)
Input Impedance	: 1 M Ω 25 pF approximately

Component Tester (Built - in single touch)

Test Voltage	: Max 8.6 V (Open)
Test Current	: Max 8 mA (Shorted)
Test Frequency	: 50 Hz, Test circuit grounded to chassis

General Information

Cathode Ray Tube	: 140 mm Rectangular tube with internal graticule. P31 Phosphor
Accelerating potential	: 2 KV approximately
Display	: 8 \times 10 cm

Calibrator	: Square Wave generator 1 KHz approximately, 0.2 V \pm 1 % for probe compensation.
Z Modulation	: TTL level
Trace rotation	: Adjustable on front panel
Test Points	: 72 Nos
Fault Creation	: 15 Faults can be created
Stabilized Power Supply	: All operating voltages including EHT
Power Supply	: 230 V \pm 10 %, 50/60 Hz
Power consumption	: 40 VA approximately
Weight	: 7.3 Kg approximately
Dimensions (mm.)	: W 450 \times D 420 \times H 145
Operating Temp.	: 0-40 $^\circ$ C, 80 % RH
Product Tutorial	: Online (Operating procedure, Front panel control, Theory, Control software optional).
Included Accessories	: BNC-BNC cable -1 no. BNC to Test Prod cable -1 no. Test prods -1 pair Jumpers -10 nos. Mains cord -1 no.

Test Patterns (Component Tester)



Short Circuit



Junction B-C



Junction B-E



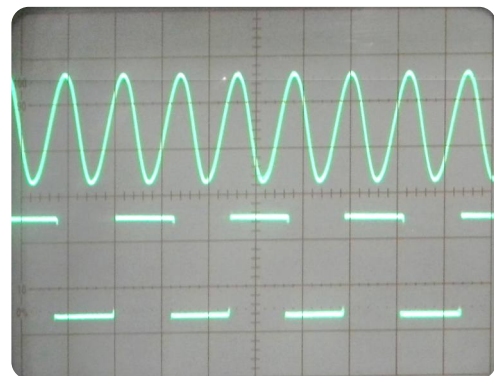
2 Diodes anti parallel



Z-Diode under 8V



Diode in series with 51 Ω



Alternate Triggering Display



ISO 9001:2008
Certified

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