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Digital / Cathode Ray Oscilloscope Usage Manual

An oscilloscope, previously called an oscillograph, and informally known as a scope, CRO (for cathode-ray oscilloscope), or DSO (for the more modern digital storage oscilloscope), is a type of electronic test instrument that allows observation of constantly varying signal voltages, usually as a two-dimensional plot of one or more signals as a function of time. Other signals (such as sound or vibration) can be converted to voltages and displayed.

Oscilloscopes are used to observe the change of an electrical signal over time, such that voltage and time describe a shape which is continuously graphed against a calibrated scale. The observed waveform can be analyzed for such properties as amplitude, frequency, rise time, time interval, distortion and others. Modern digital instruments may calculate and display these properties directly. Originally, calculation of these values required manually measuring the waveform against the scales built into the screen of the instrument.

The oscilloscope can be adjusted so that repetitive signals can be observed as a continuous shape on the screen. A storage oscilloscope allows single events to be captured by the instrument and displayed for a relatively long time, allowing observation of events too fast to be directly perceptible.



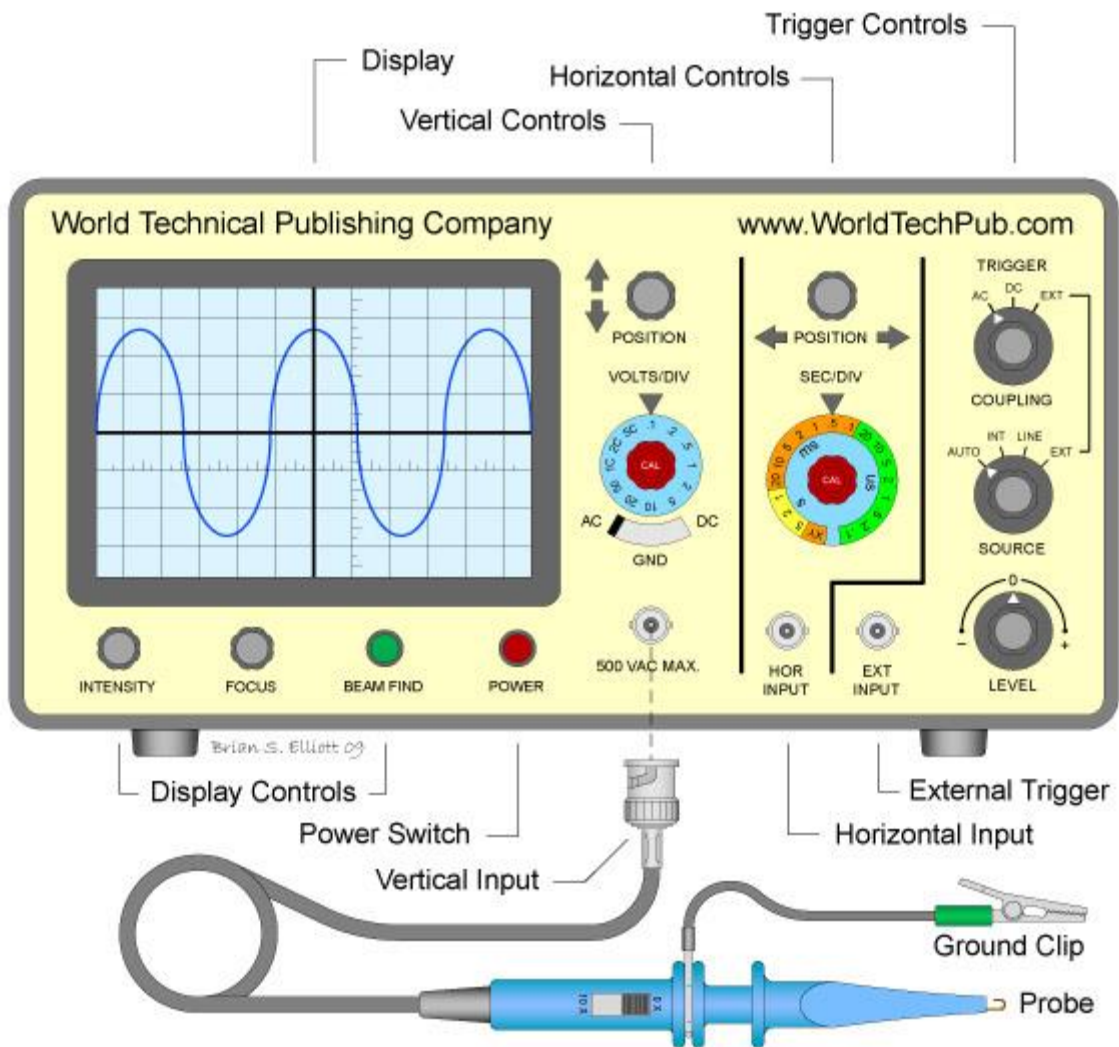
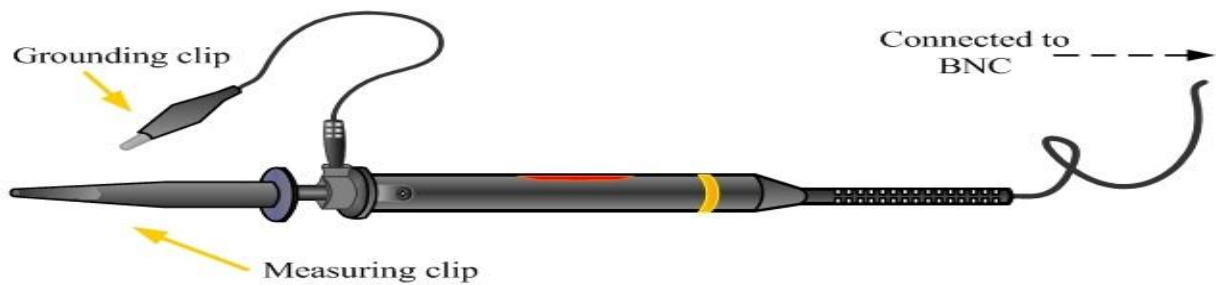


Fig.: Oscilloscope

Probe:



Procedure:

1. Switch ON the Oscilloscope (CRO) by pressing the Power Button.
2. Check the probe before it is used for its connectivity.
3. Connect the input of the specimen experiment to channel-I and output of the specimen experiment to channel-II of the oscilloscope by using a BNC cable or CRO probe.
4. The probes must be connected with proper polarity (please see probe diagram).
5. Press Auto Button, it will adjust the volt/div and time/div automatically suitable to the signals available at ch1 & ch2.
6. The input and output will be displayed on the oscilloscope display.
7. Press Measure button, automatically it will measure the parameters like voltage $V_{\text{peak-peak}}$, RMS voltage , $V_{\text{-max}}$, Frequency, etc., on selecting ch1 or ch2 with a press button provided in CRO .
8. Remove the probes carefully, Switch off the supply and handle them properly.
9. Do not Twist the Probe while connecting and disconnecting.