

Oscilloscopes

An oscilloscope is an instrument which allows you to see the waves produced by sounds. There are two types of oscilloscopes

1. Cathode ray oscilloscope (CRO)
2. Digital Oscilloscope

A cathode ray oscilloscope contains a cathode ray tube. At one end of the tube is a screen. The cathode rays make a spot on the screen which can be made to move from left to right. When a microphone is attached to the CRO, sound waves can be displayed on the screen. Sound waves striking the microphone set up electrical signals in it which pass to the CRO. When the CRO receives them, the spot moves up and down as it travels across the screen and makes a waveform that can be easily seen.

A newer type of oscilloscope is the digital oscilloscope. This instrument also produces a visual display of sound waves but, unlike the CRO, it does not use cathode rays but processes electrical signals from microphones in electric circuits to make the display. It has an advantage over the CRO in that displays produced on the screen can be stored. This means that a data bank of sound waves can be built up for studying at a later time after the practical part of an investigation.

Oscilloscopes are used in the field of medicine to monitor the heart beat rate. Oscilloscopes are also used in labs to find voltage, time, frequency, time period and wavelength.