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1 GHz oscilloscope is the choice of engineers by [Bncscientific](#)

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In the field of electric engineering, building an electronic circuit is major activity. 1GHz oscilloscope is an instrument that helps in the task of testing this electronic circuit with the help of display waveforms giving an idea about how the circuit is working.

Based upon the techniques they employ, oscilloscopes are categorized as:

Analog Scope is based on the use of analog techniques to create a waveform display. A characteristic device of this type uses a cathode ray tube. The voltage on X & Y plates produces a dot on the screen. The deflection of the signal, in horizontal direction depends upon time controlled and on signal output in vertical direction.

In a cathode ray tube, an electronic gun generates beam of electrons that runs throughout the tube. Dots are produced on a phosphor screen, due to deflection of electrons by the deflection plate present within the assembly. The force and intensity of the beam are two factors that make sure the trace is clear. Force ensures sharpness of the imprint and intensity makes sure the clarity of the scan as the intensity of dot varies as per the speed of the scan. Faster scan intensity makes the scan appear as a line and signal waveform rather than single dot. However if intensity is increased beyond a certain limit, the traces become dim. So typically an analog scope works in the frequency range of around 1GHz.

A digital scope on the other hand utilizes a different idea. It uses digital signals that are converted from analog signals with the help of a converter and then processes them digitally. Nevertheless it again converts them back to analog signals that display on the screen.

The working range of frequency in case of a digital oscilloscope depends upon two major factors, analog band width of the front end screen and sample rate. Samples are taken at regular time intervals, the frequencies that can be seen are directly proportional to sampling rate. These can further be subcategorized as Storage, Phosphor and Sampling oscilloscopes based upon their utility.

These days the use of a computer along with the instrument is becoming popular just to increase the processing power.

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