

Understanding Basic Concept of Electrical and Electronic Systems

Asadullah Shah



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UNDERSTANDING BASIC CONCEPT OF ELECTRICAL AND ELECTRONIC SYSTEMS

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Asadullah Shah



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8. MEASUREMENT TECHNIQUES

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8.0 Abstract:

The screen of the oscilloscope is divided into square boxes known as major divisions and these squares are further divided into small intervals known as smaller divisions, both combined are known as graticule and commonly known as grid of the measurements. The scale on the control panel allows equating these grids into time equivalent in seconds or milliseconds. By knowing the timing of any waveform frequencies can be calculated or knowing the volt or current per division the overall values of these quantities can be measured. It is important to know the right usage of these scales so that correct interpretation of the quantities under observations can be made. An important measure related to AC voltage and current waves is the phase shift and shift in angle. Two signals can be measured by their phase differences in angles.

8.1 Oscilloscopes display

Take a look at the oscilloscope display as given in Figure 18. Notice the grid markings on the screen - these markings create the *graticule*. Each vertical and horizontal line constitutes a *major division*. The graticule is usually laid out in an 8-by-10 division pattern. Labeling on the oscilloscope controls (such as volts/div and sec/div) always refers to major divisions. The tick marks on the center horizontal and vertical