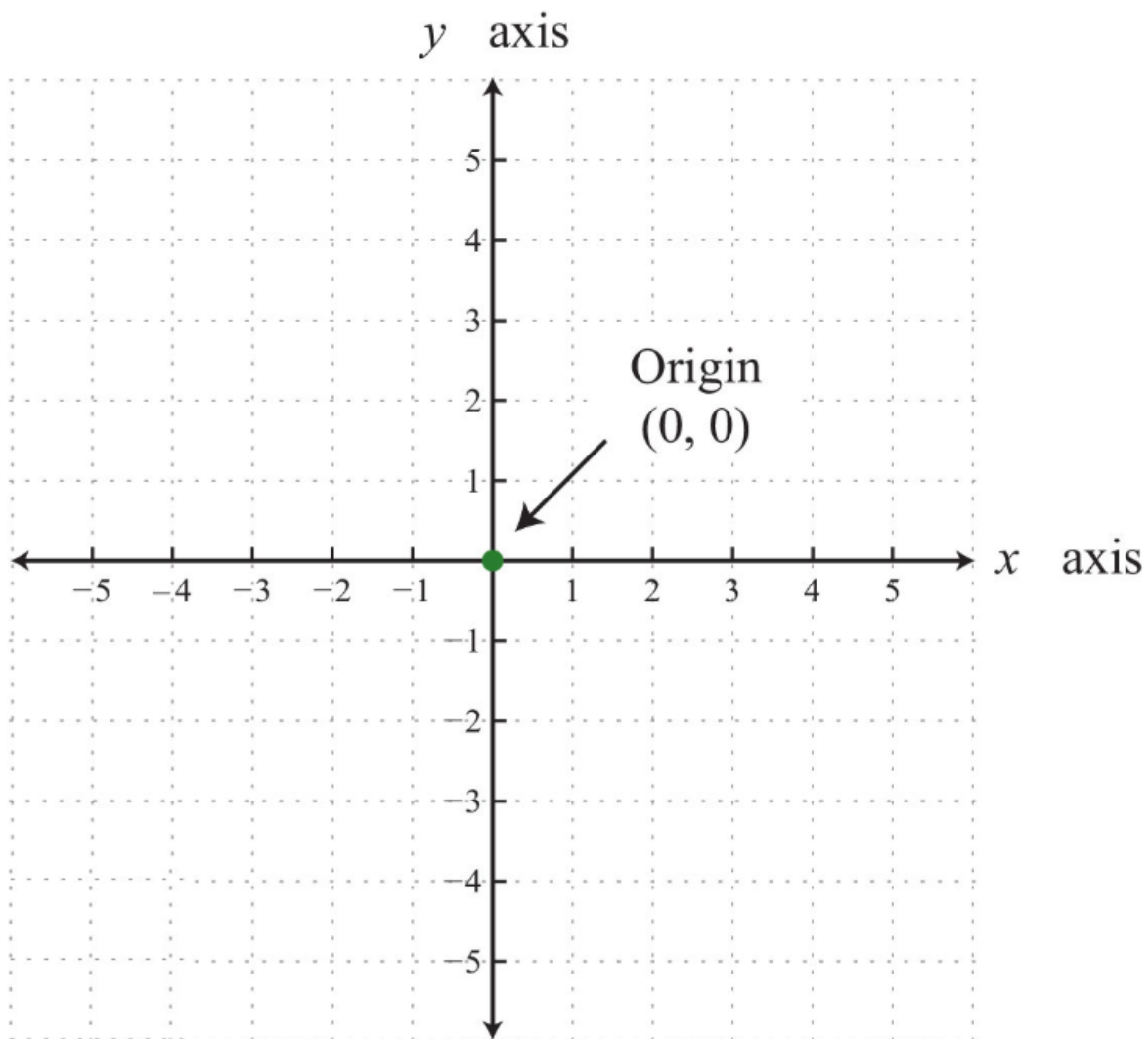


## What is a Graph?

- **Graphs have two Axis:**
  - **Horizontal axis** also known as the **X-axis**
  - **Vertical axis** also known as the **Y-axis**
  - The Center of the Graph where the axis' intercept is known as the **Origin**

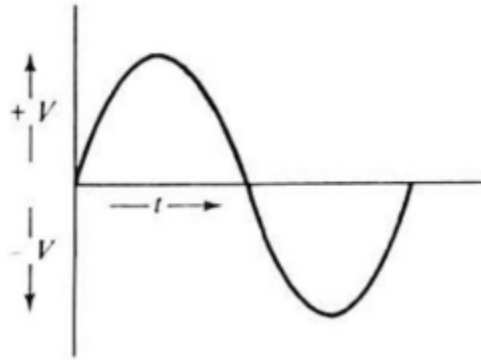


## What is a Waveform?

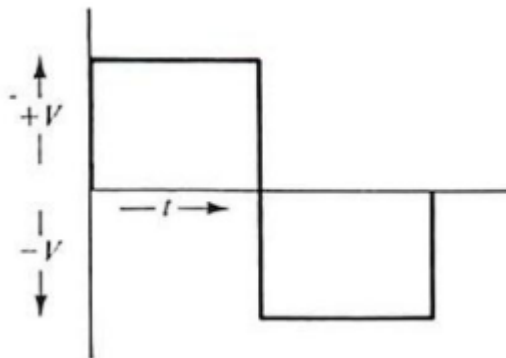
- **Two types** of waveforms:
  - **Repetitive** or **Periodic** waveforms are composed of identical repeating cycles
  - **Aperiodic** waveforms are waveforms that are not identical for successive cycles
    - (A = “without”, “not”, or “no”)
    - Aperiodic = (No)periodic
    - Arrhythmia = No rhythm or irregular heartbeat
    - Apathy = No interest or concern
    - Astable Multivibrator = No stable state
- Any single point on the waveform represents an **Instantaneous Value** on the graph

### Miscellaneous Periodic/Repetitive Waveforms:

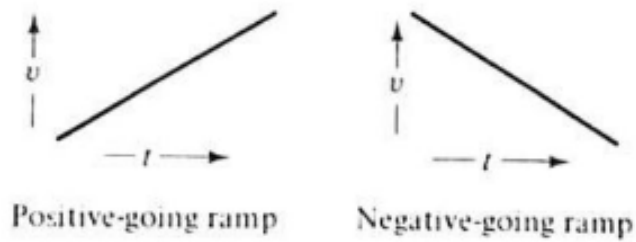
- **Sinusoidal.** The most common electrical waveform is the sine wave.



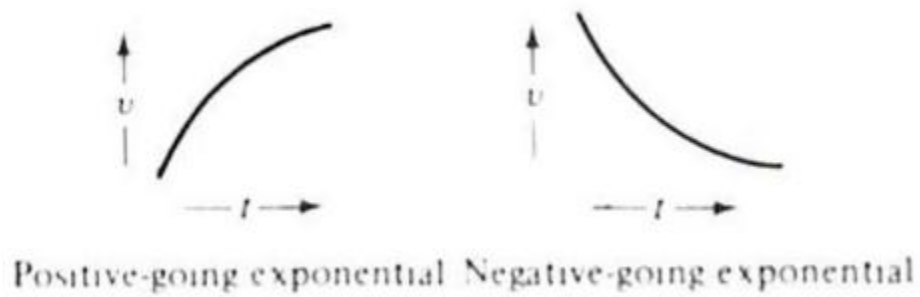
- **Square or Rectangular.**



- **Ramp**



- **Exponential**



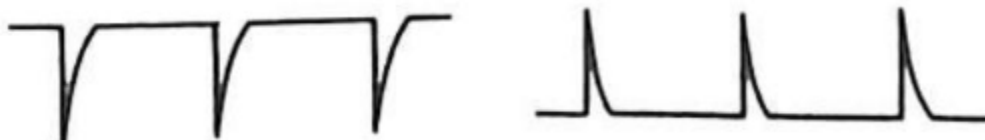
- **Triangle**



- **Sawtooth.**

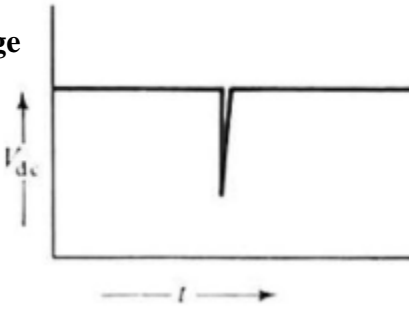


- **Spike Waveforms**

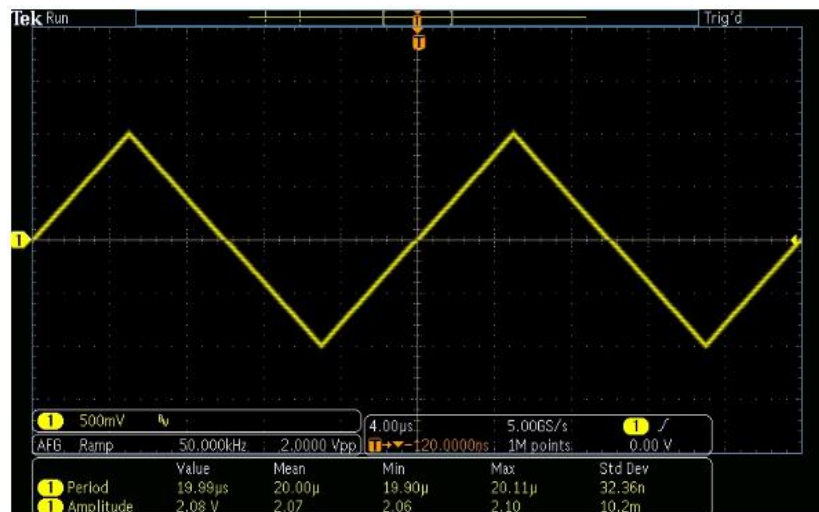


**Aperiodic Waveform:**

- Transient on a dc voltage

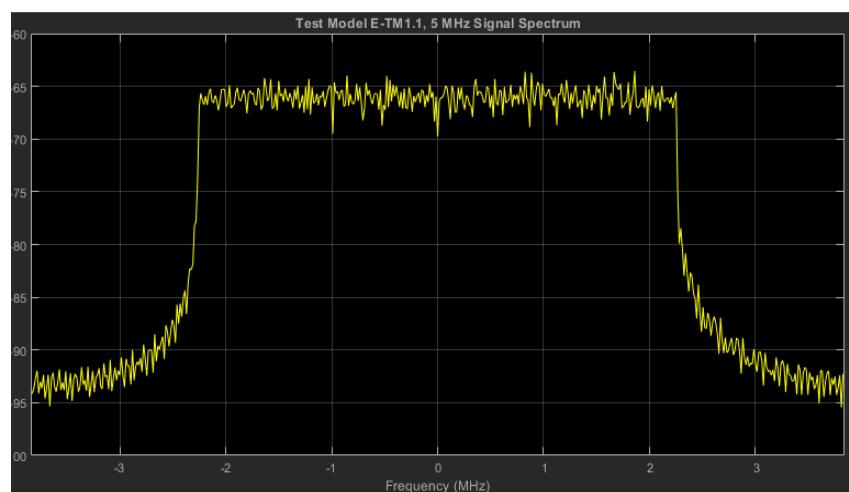
**Display Methods**

- Graphs/Waveforms in Electronics:
  - Oscilloscope (waveform):
    - Y axis = Amplitude (Volts)
    - X axis = Time



- Spectrum Analyzer (bode plot):

- Y axis = Gain (dB)
- X axis = Frequency



**References:**

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