AN INTRODUCTION TO LINEAR AC-DC POWER SUPPLIES

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WHAT IS AN AC-DC POWER SUPPLY ?

- An AC-DC power supply converts AC electricity from a wall outlet into DC electricity that a sensitive electronic device can use
- Alternating current : AC stands for alternating current Which means the current constantly changes direction, Main electricity is an AC supply , and Tunisia mains supply is about 230V. It has a frequency of 50Hz (50 hertz) , which means it changes direction and back again 50 times a second. It's better for transporting current over long distances , which is why we use it for mains electricity..
- Direct current : DC stands for direct current which means the current only flows in one direction.Batteries and electronic devices like TVs, computers and DVD players use DC electricity -once an AC current enters a device,it's converted to DC A typical battery supplies around 1.5 volts of DC .

EXAMPLES OF AC-DC POWER SUPPLIES

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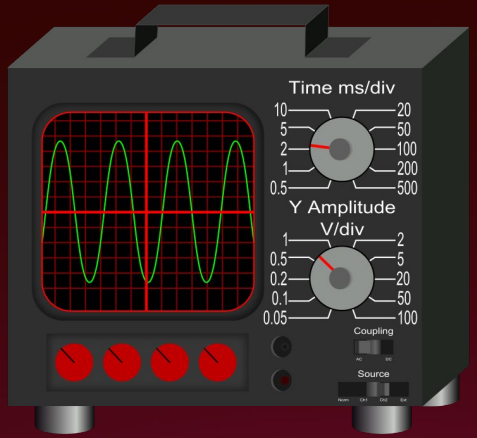
LAPTOP POWER ADAPTER

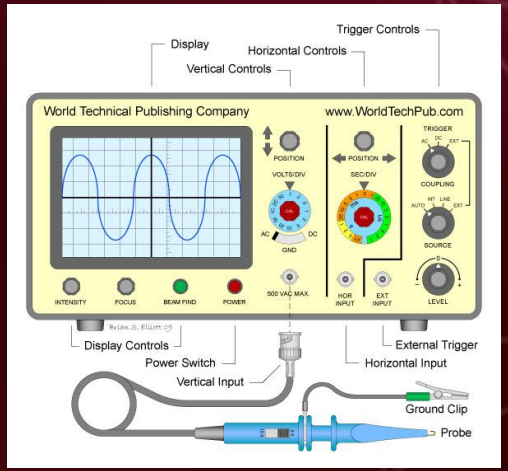
PHONE CHARGER

DESKTOP PC POWER SUPPLY

USING AN OSCILLOSCOPE

An oscilloscope is an instrument which allows us to view changes in voltage over time





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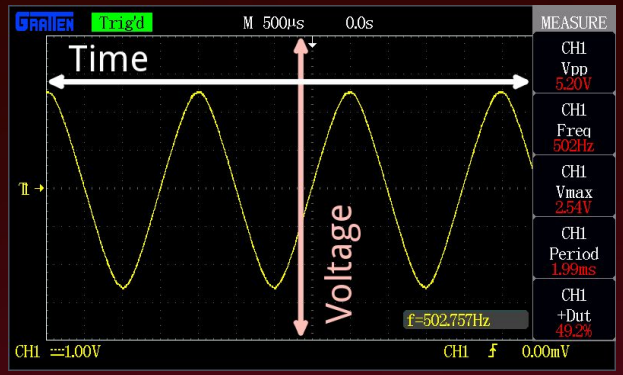
ISIS

USING AN OSCILLOSCOPE



- Time is on the x-axis
- Voltage is on the y-axis
- Each horizontal or vertical line is an increment of either unit.

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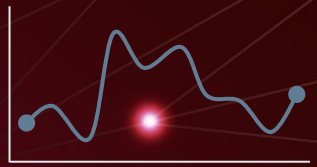

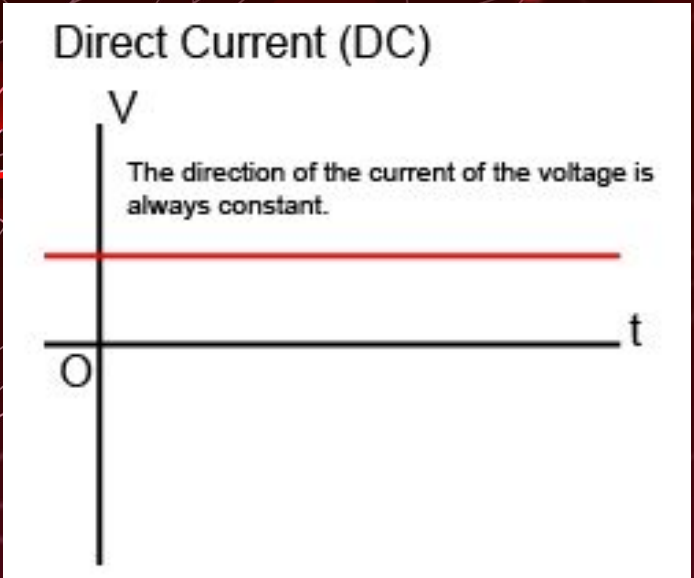

DIRECT CURRENT (DC)

The direction of current is always the same because the voltage always remains greater than 0

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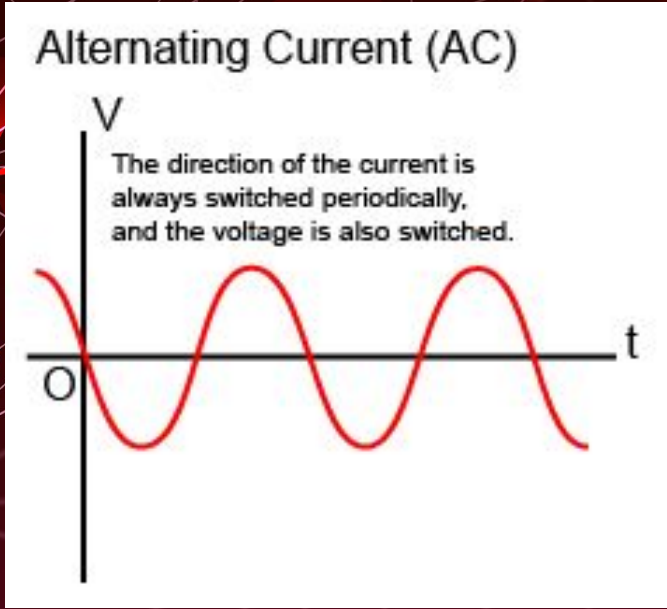

ALTERNATING CURRENT (AC)

The direction of current is constantly changing because the voltage is constantly passing through 0V

Remember V & I are proportional

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