



Basic Electronics and Telephony

Lesson Two

1. Comparison of Voltage verses Current
 - a. Voltage compared to pressure
 - b. Current compared to flow
 - c. Conventional flow vs. Electron flow
2. Direct Current – one direction, flows negative to positive only
 - a. Demonstrate flow from negative terminal of battery, through circuit, and returning to the positive terminal of the battery
 - b. Explain how a diode is constructed and how it works
 - c. Insert diode into DC circuit and demonstrate how current passes in one direction, and is blocked when the diode is reversed
 - d. Explain line losses over long distances
3. Alternating Current – flows in two directions, alternatively
 - a. Using a step-down transformer, demonstrate how AC can light a low voltage bulb
 - b. Attach an oscilloscope to the circuit and show the waveform
 - c. Attach a microphone to the oscilloscope and demonstrate what the human voice looks like in terms of a waveform
 - d. Relate to telephones by discussing the transmitting part of the phone, how it is built, and how it works
 - e. Discuss how AC signals can pass through wires for long distances without as much line loss as DC signals