ELECTRONIC PART DEMONSTRATION BOARD SUGGESTIONS

We made a simple board with exposed components, wires and open push to make momentary circuit through various components and a light bulb. This is used in the Electronic Parts and Symbols mini class to demonstrate show actually parts and their function. We also use a box of old parts and a couple of old boards with parts on them to show further parts.

A DC wall wart and an AC wall wart were mounted on the board to provide the power and connected to the circuit with a DPDT knife switch. The board can be used to demonstrate:

- An open circuit
- A closed circuit
- A short circuit (blows a fuse when current does not go through bulb, yet the same size fuse is not blown in the circuit which has the bulb)
- A resistor restricts the flow of electricity (bulb is dimmer)
- A rheostat is a variable resister.
- A capacitor will not pass DC (unfortunately, it won't pass AC either)
- A diode will pass DC in one direction
- A diode only passes part of the AC (bulb is dimmer)
- The difference between AC and DC (little graphs on the board help with this)

Also on the board is a TNC connection so an HT can be connected. This circuit contains a 50 ohm resistor as a dummy load and a wire running from the center connector to a capacitor then to a mini light bulb and then a foot or so of wire of wire. When the transmitter is turned on, the bulb lights: This indicates:

- There is current flowing in the antenna wire, i.e., RF have energy.
- RF waves pass through capacitors.
- You should stay away from antennas.
- The bulb lights even through the antenna is an open circuit. How come?
- The intensity of the light varies as the wire is moved about. Why?

While a much more sophisticated demo board could have been developed. We wanted it simple so the scouts could easily see what components were in the circuit.