

PH 320 Notes from Lab February 4, 2021

Went over how to use the following instruments:
Digital Multi-meter (DMM)



How to set DMM up to measure current, voltage and resistance.

Quad Power Supply



The four outputs on the left provide fixed +5 V (Red), +12 V (Green) and -12 V (Yellow) relative to ground (Black). The part on the right provide variable power from about 2.5 V to about 20 V. Note: both commons are common to Earth ground and therefore can create shorts if trying to use multiple power supplies that are not common to Earth Ground.

Dual Power Supply Style 1



This actually provides three power the far left is fixed +5 V. Then you have power supplies A and B which are variable. The negative plugs are not common here. The black jack on the right is connected to Earth Ground, so you can use these as separate power supplies in a circuit without inadvertently shorting things out.

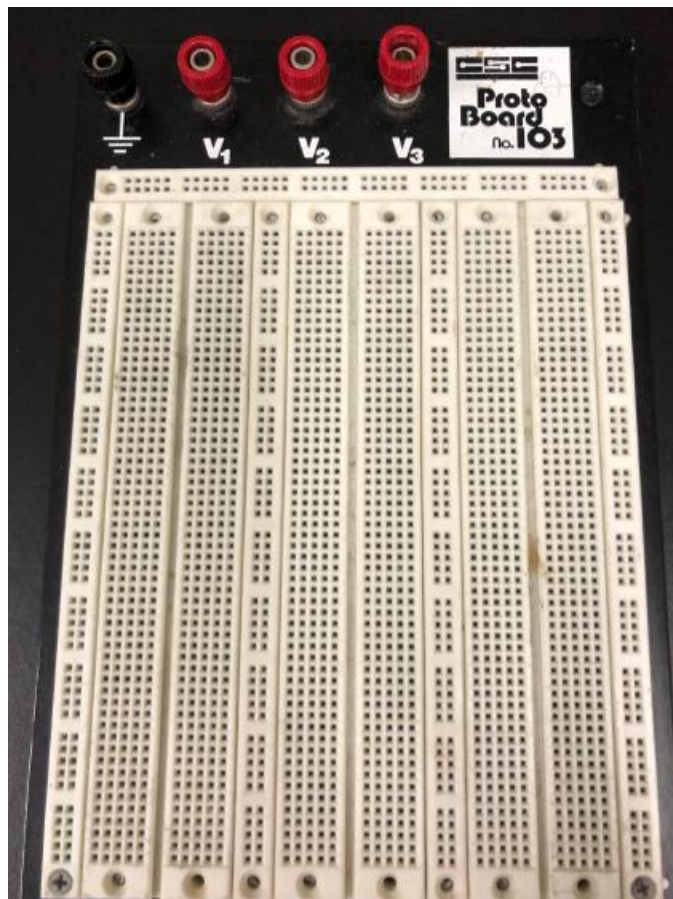
Dual Power Supply Style 2



This also provides two power supplies not tied to Earth ground. The white outputs are tied to Earth Ground.

With all of these power supplies use an external Voltmeter to verify voltage outputs, do not trust the built in meters.

Protoboard



The two holes run the length of the board are buses. All holes in one column are connected, but not to the second hole next to them. There are 4 pairs of busses running vertically and 1 pair running horizontally across the top. The 3 sections of the board that are 5 horizontal holes separated by a trench then 5 more horizontal holes. The 5 horizontal holes are connected but not to the ones above or below them and not across the trench. The trench allows integrated circuits (IC) chips to be able to sit without shorting any of them.

The four banana plug receptacles above are not electrically tied, but you can unscrew them and a hole appears. You can insert a wire and make sure you make good electric contact and then put the other end of the wire into one of the buses. Then you can put wires from power supplies and you can tap off the bus for power in your circuits.

The rest of time students worked on Introduction to DC Circuits and Analysis Lab.