

Re-purposed Computer Power Supply

Steve Brumagin, KI4VGA

Blank Canvas

Basic power source from an old computer about to become your next project.

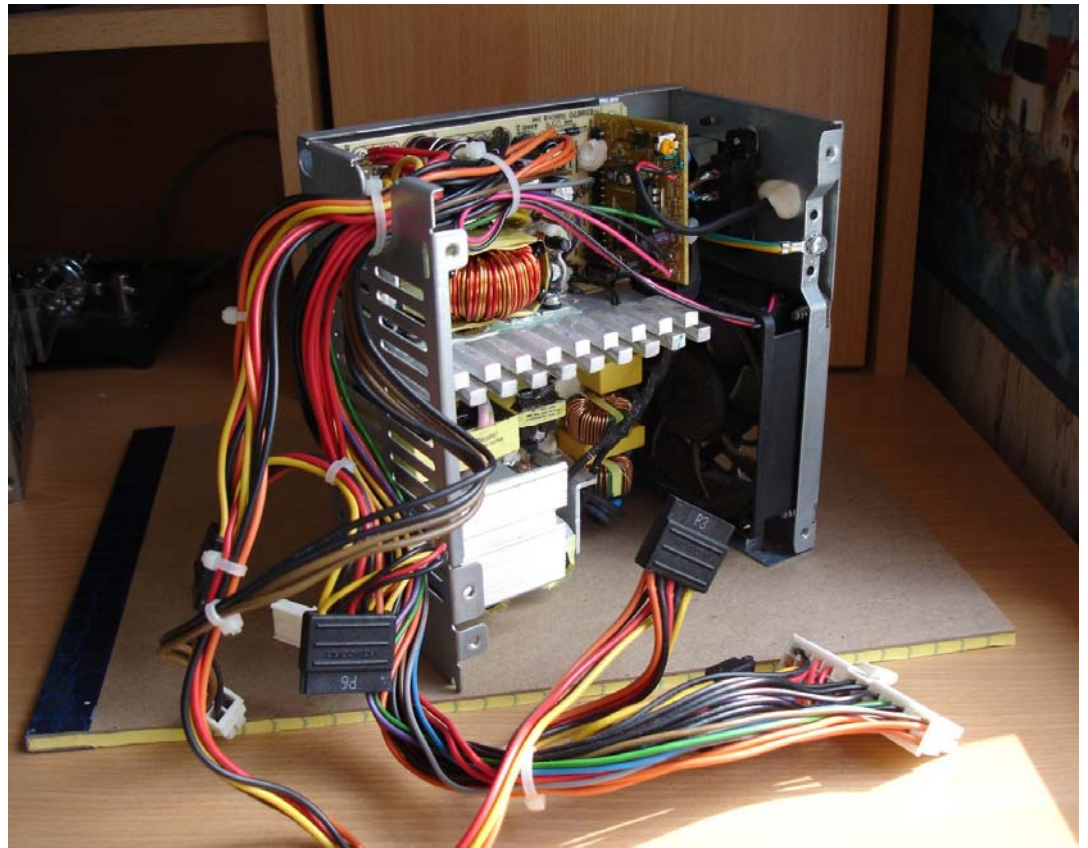
- Check PS label for 12 V maximum amps
- Verify on indicator light
- Determine if PS has on/off switch
- Test before going any further by plugging in PS, ground Green wire to black wire and gray wire to orange wire. Fan & light should come on & yellow wire should be 11.7 volts.



Getting Under the Hood

Power source with the cover off and all warranties now voided.

- Time to remove fan and remove dust
- If you need an on/off switch and/or indicator light, determine where you can mount it
- Determine where you can mount power output terminals or route for Power Poles



Next steps and what the colors mean

- Remove all wire connectors and bundle like colored wires
- Remove, clean, and re-install cooling fan

Black Wire=Ground

Red Wire= +5 volts

Brown Wire= +3 volts

Orange Wire= +3 volts

Yellow Wire= +12 volts

Green Wire=when grounded tells PS to
turn on from Standby mode

Gray Wire= Power good/Power OK wire
when senses voltage (3-5 volts)

Blue Wire= -12 volts

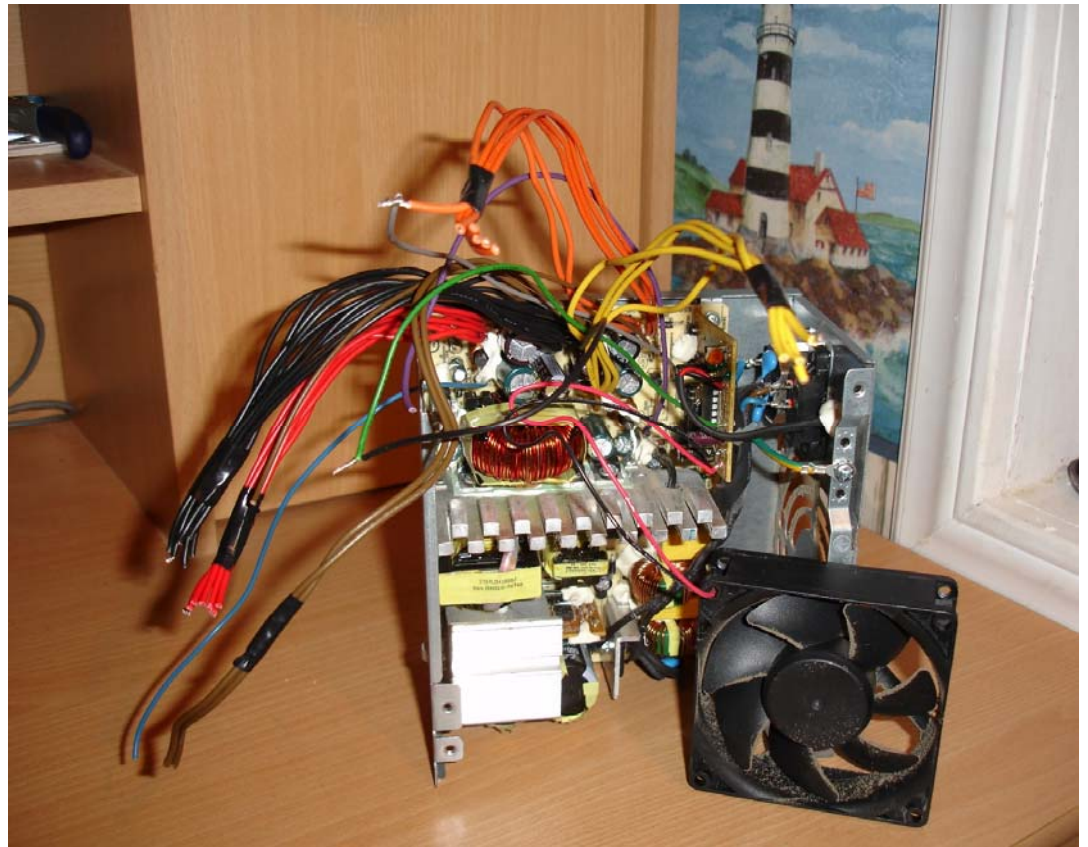
White Wire= - 5 volts

Making connections

- Connect green wire to black via on/off switch or direct (on all time)
- Connect gray wire to orange wire
- Connect red wire to black wire via 10 Ohm/10 watt resistor (load)
- If needed for on/off LED: connect yellow wire to positive end of pre-wired resistor/ LED and black wire to negative end
- Connect all yellow wires to positive terminal post or + Power Pole connector
- Connect equivalent number of black wires (as yellow) to negative terminal post or – Power Pole connector
- All unused wires are cut short at board or short lengths of wire with all terminal ends taped/shrink wrapped to prevent grounding

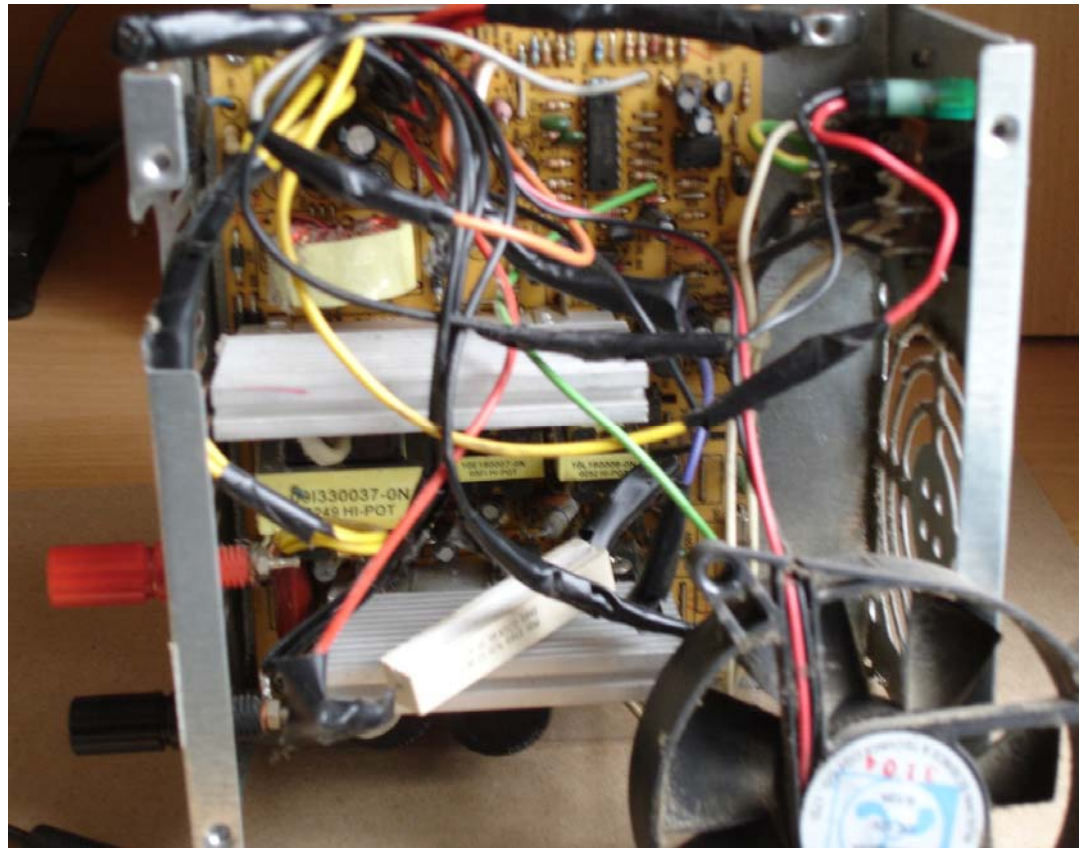
Making Progress

- All wires separated by color and fan removed for cleaning, then re-install.
- Gray wire attached to orange wire and green wire attached to black to verify that unit will come on (LED and fan come on) and yellow wire should have 11.7-12 volts DC.
- If all that works, then connections can be made (as on previous slide), soldered, and shrink wrapped or taped.
- Attach 10 Ohm/10 Watt resistor between red and black wires, solder, and shrink wrap or tape.
- Unused wires should be cut at board or short (2 inches) and ends insulated shrink wrapped or taped.
- Drill and install terminal poles or route wires for Power Poles.
- Use all yellow wires for positive and an equal number of black wires for negative.



My First Power Supply

- Older power unit with on/off switch from factory
- LED installed to show when power is on
- Old school solder and tape method used
- Fan has since been cleaned
- Terminals used instead of Power Poles
- This provides 12.2-12.4 volts DC and provides enough power for 2 Meter (at 5 Watts) or QRP rig.



Questions?