

It was nice to see the RIGrunner 12 VDC distribution panels featured in the October “Short Takes” and the 30 amp Anderson Powerpoles promoted in the November QRP column. Besides being able to share equipment, power supplies and batteries with other hams, using this standard 12VDC ARES/RACES connector makes moving equipment in your home shack much easier as well.

I recently discovered that powering my home station through a RIGrunner makes adding a large gelcel battery for automatic back-up power very easy. In his series of classic articles on standby battery power (QST March to May, 1990; available on the ARRL website under the TIS/Emergency Power selection)) W4MLE shows that a gel cell battery can be safely floated across a regulated 13.8 VDC power supply for battery back up. Since all of the outputs on a RIGrunner are individually fused and can also be used as inputs, it’s easy to have a regulated power supply and a gel gel connected to power bus simultaneously. This not only allows operations when AC power disrupted, it also allows the battery to provide power for peak loads, assist in surge protection and filter any residual ripple from the power supply.

To do this, I simply plugged my Astron RS-35 35 amp 13.8 VDC power supply into the RIGrunner input position using a 35-amp fuse. I then connected my 85 amp-hour gelcel to position 2 of the RIGrunner using a 40-amp fuse in that position.

As W4MLE mentions in his sidebar in the April 1990 QST, your power supply might need to be protected from reverse current flow when AC power is lost. Installing a hefty diode in the supply line from the power supply is one way to do this.

If you use the popular Astron line of linear power supplies, it’s even easier. They use a 723 IC for regulation. Adding a ½ watt 10K ohm resistor between pin 4 of the IC and the wiper of the voltage adjust potentiometer restricts the current flow to protect the IC. To do this, merely disconnect the power supply from everything, open the case and locate the “L” shaped trace between pin 4 of the IC and the wiper of R5. Cut the trace on the circuit board with a Dremel tool or Xacto knife and bridge the gap with the 10 K ohm resistor. More details and circuit diagram can be found at <http://www.ntc.cap.gov/comm/ntc/rs35amod.cfm>

As is mentioned, a fuse is also needed between the power supply and the battery to protect the SCR’s if the crowbar circuit ever fires. The fuses on the RIGrunner automatically perform this function for you!

So I now have automatic standby power, improved surge protection, peak load supply and better filtering all for the cost of 10K ohm resistor!

Thanks to Michael Tracy, KC1SX at league headquarters for his help with this.

73

Gary Wilson, K2GW

Southern New Jersey Section Emergency Coordinator