



**Daisy Mountain Fire & Medical  
CERT Communications Team  
W7CRT NET Control**

**100 Ah 13.5 V LFP DC Power Station Build List**

- 1- Bioenno BLF-12100AS – 12v, 100Ah LFP Battery
- 1- Pelican Air 1557 Case Orange with foam
- 1- West Mountain Radio Epic PwrGate Battery Backup System 58404-1673
- 1- West Mountain Radio RIGRunner DC Outlet Panel RR/4005
- 1- Victron Energy BMV-712 Smart Battery Monitor with Shunt and Temperature Sensor
- 1- Powerwerx Panel Mount USB QC3.0 and USB-C QC4.0 75watt Charger
- 2- Powerwerx PanelPole2 Panel Mount Dual 45amp Anderson Powerpole Connector
- 2- Powerwerx PanelPole1 Panel Mount single 45amp Anderson Powerpole Connector (switch to orange for power supply input and yellow for solar input)
- 1- Moroso Thru-Panel Battery Connector 74144 Red
- 1- Moroso Thru-Panel Battery Connector 74145 Black
- 2- Side Post Battery Disconnect Switch
- 12' – 10 AWG Black/Red Bonded Zip Cord
- 10 – Unassembled 45-amp Anderson Powerpole connector Red
- 10 – Unassembled 45-amp Anderson Powerpole connector Black
- 1 – Unassembled 45-amp Anderson Powerpole connector Orange
- 1 – Unassembled 45-amp Anderson Powerpole connector Yellow
- 1- Powerwerx CRG-14-6-10A 10amp 14.6 Volt AC to DC Power Supply
- 1- 45-amp 12 V Female Cigarette Lighter to 45-amp Anderson Powerpole Adaptor
- 8 - #10x1/2" bolt with nuts
- 2- Pieces of ACM/plywood/plastic

**Notes:**

I had several of the components from previous projects, which was the only reason this build made ANY sense monetarily. Something rebuilt could probably be bought for a fraction of the cost, several of the components could be bought for way less or some components reconfigured to be less expensive. I wanted some flexibility that would probably never be seen on a rebuilt, like the battery post terminals separated from the "radio" side to be able to use as camper battery backup, using the 40-amp Epic PwrGate as power controller/ isolator/ backup switch / charge controller, and four 45-amp powerpole outlets when my power controller is limited to 40 Amp total on the "radio" side.

The use case is an RF noise free, 24-hour, dc power source for an HF Rig, a VHF/UHF/GMRS rig, and a laptop simultaneously. Paired with 100-watt solar input for 6-8 hours per day the system is capable of powering these devices indefinitely. With the physical battery disconnects and the LFP battery chemistry long term storage without attention is a big for me. With Bioenno, the built in BMS will hopefully save it I were to forget to disconnect. I opened (to steal some of these parts) my old Kenwood 12 ah LFP battery powered HF rig after probably a year or more only to discover that I had forgot to disconnect the battery. The Epic Pwrgate has a parasitic draw, so either the BMS or maybe the PWRGate protected the battery. With a quick "jumpstart" of the battery by connecting direct to the 12V powers supply, it was fine and it only took 20 minutes to be recharged completely.