

Elegant 12-Volt Outlet Box

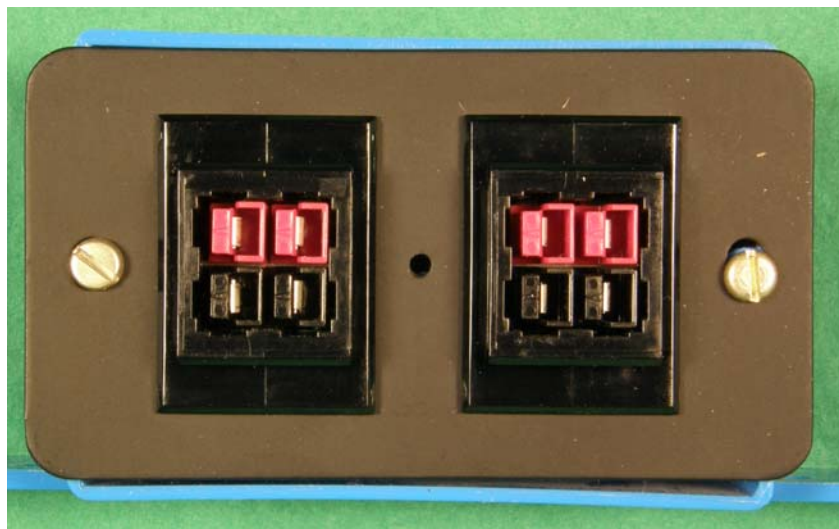
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Most of our VHF, UHF, and microwave gear runs on 12 volts, particular for portable and rover stations. Anderson Powerpole connectors (www.andersonpower.com) have become the standard for robust and reliable connections, and are readily available at reasonable cost.

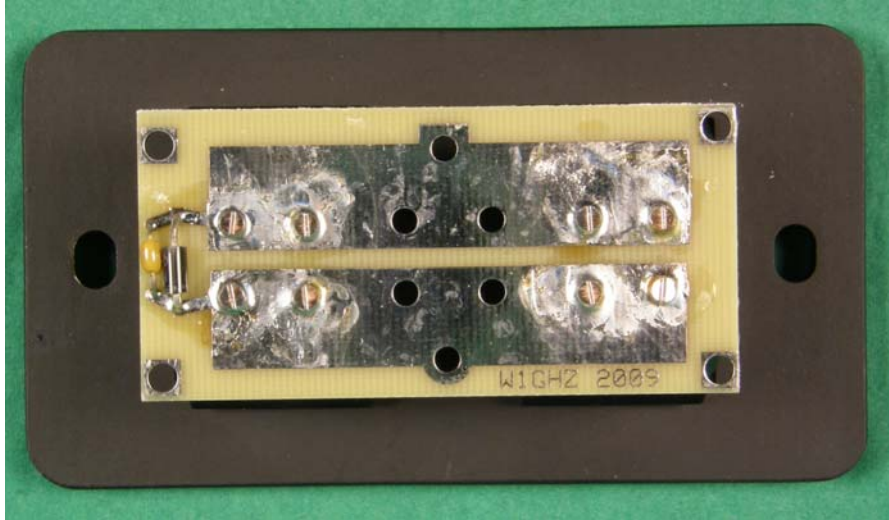
Even with the Powerpoles, power distribution is still a problem. The back of some rover installations look like red and black octopuses mating! As an attempt to improve the situation, I've made some distribution boards for a group of Powerpoles, but some metal (or plastic) work is required to box them up and look half-decent.

At a recent hamfest, one of the vendors, Quicksilver Radio (www.qsradio.com) offered some snap-in housings to hold groups of Powerpoles, and a "PowerPlate" which fits a standard electrical box and holds two housings for a total of four Powerpoles. This looked like a winner, so I bought a set.

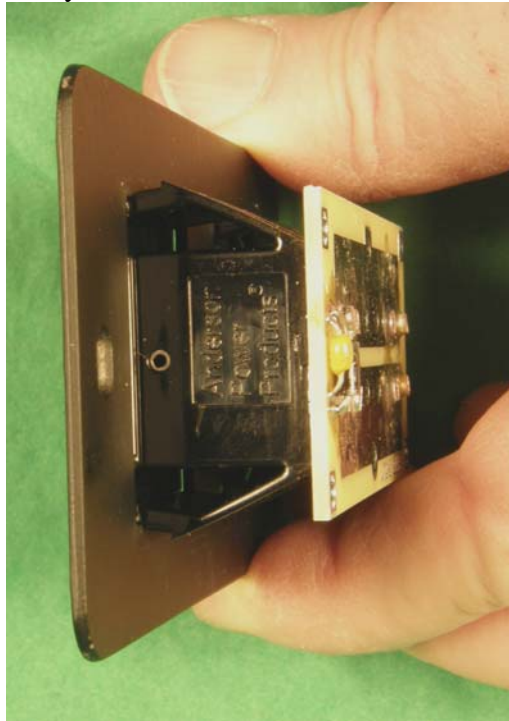
The PowerPlate kit solves the problem of making a robust and presentable distribution box – they could even be mounted on the shack wall like AC receptacles. However, the back side was still a rats nest, with wires twisted together, even in the display model. Of course, this can all be hidden inside the box. Still, it seems to me that a simple PC board would provide a neater solution and be easier to assemble. I squeezed the pattern in with another project for my next Miniboard order from ExpressPCB (www.expresspcb.com).



The result is shown in Figure 1, from the front, and Figure 2, from the back – I nice, neat power distribution box in a robust plastic electrical box. The board includes a small bypass capacitor and an idiot diode; don't forget to include a fuse in the input line.



The copper pattern on the board is sized for 30 amps per Powerpole. Assembly consists of crimping and soldering short lengths of #10 bare copper wire (scraps from household wiring) into Powerpole pins, then assembling the pins into red and black housings, and fitting hose into the group housings. The group housings snap into the PowerPlate, leaving all the wire ends sticking out. The PC board slides over the wire ends and the wires soldered with a hefty soldering iron. Then the capacitor and 1N400x diode are soldered in place – the band on the diode toward the red end. The end view below shows how it goes together. Input wires (with fuse) may be connected to the center of the board, and the whole assembly screwed into an electrical box.



PC boards are available – w1ghz@arrl.net
Or you could just skip the board and hide the wiring inside.