A 12-V Junction Box For Your Shack

Today, many of the accessories we use around the shack are powered by 12-V dc. Robert Capon, WA3ULH, became frustrated with the proliferation of 12-V power connectors and described this junction box in the August 1994 *QST*. The box has an on/off switch, an LED and a panel-mounted fuse. You can build the junction box in one evening for about $25 or less.

Construction

Fig 22.102 shows the layout of the top of the case. Use a photocopy of this figure as the drilling template. Begin with ten small, 1/16-inch guide holes. Then remove the template, and use larger bits to drill the remaining holes.

Next, install all the panel-mounted components. Wire them as shown in **Fig 22.103**.

Finally, you'll need to round up all of your accessories and standardize your shack on the mating male dc plugs. Remove the old plugs from these devices, and solder the new plugs to each. The positive lead goes to the center conductor, and the negative or grounded lead goes to the shield of the plug. Do not automatically assume the red or the striped wire from your accessory is the positive lead. Check the documentation to determine the correct polarity of each lead.

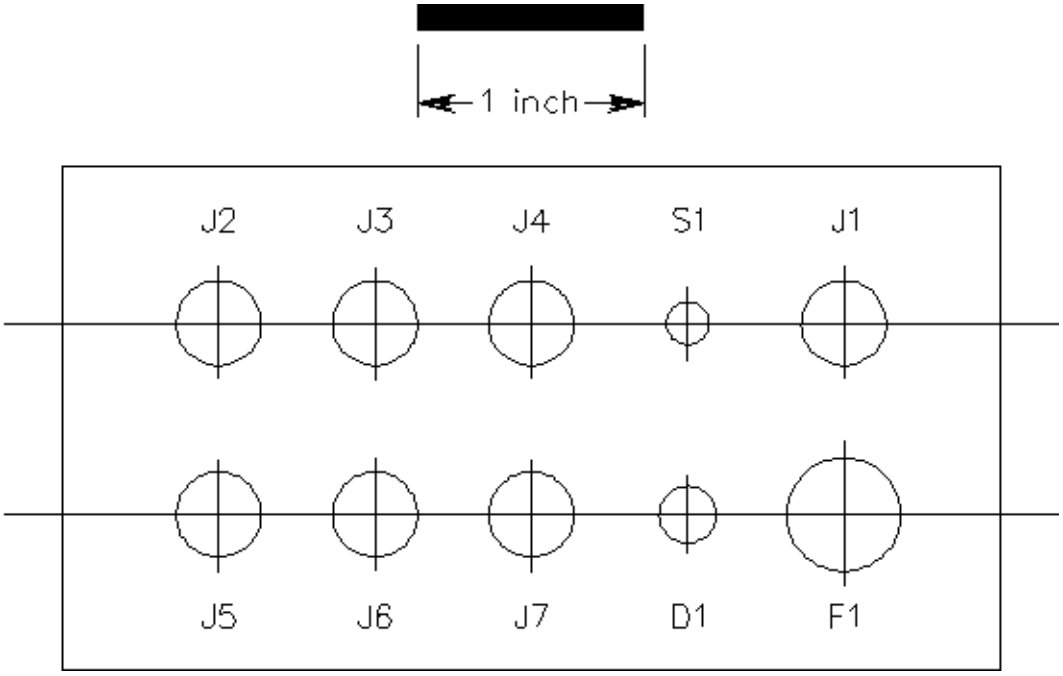

Fig 22.102 —Drilling template. Photocopy this page, cut out the template and tape it to the box as a drilling guide.

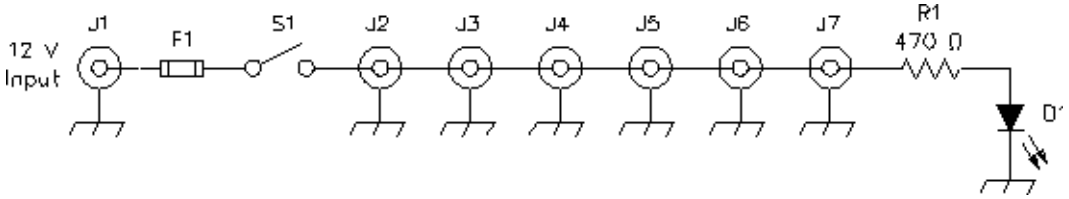

Fig 22.103 — Wiring diagram of the 12-V junction box. All parts are available at Radio Shack.

D1—LED in panel-mount holder (276-068A).

F1—10 A fuse holder (270-362).

J1-J7—5.5 mm/2.1 mm dc power jacks (7*), (274-1563).

R1—470-Ω resistor (271-1317).

S1—SPST microminiature switch (275-324).

#20 stranded hook-up wire (278-1225).

5.5 mm/2.1 mm dc power plugs (7)*, (274-1569A)

Plastic project box (270-221).

***See sidebar for high powered version.**

A High-Powered Version for Your Mobile Rig

WA3ULH's junction box uses a 1.5-A fuse and low current jacks and plugs. A high-current version, fused for 10-A, can fit in the same space. Use the female MOLEX connector, recommended earlier in this chapter, for standard connection of VHF and UHF radios. A mating pair of these connectors is sold by Radio Shack with the part number 274-222. The female snaps into a rectangular hole. Use the matching male as the connector on the leads from the rig or accessory.

Drill one or more of the six output connector holes on the left side of the layout with a 1/4-in drill. Then file each hole in the soft plastic case to 11/16× 1/4-in. Replace the power input connector in the top-right corner with a set of #14 wire leads fed through the panel hole and a grommet. These leads connect directly to your power source. Use a 10-A fuse in place of the 1.5-A unit. Now you can plug your mobile rig directly into the junction box.