

Fig. 4—Sketch showing how the lower portion of the tube socket is cut off.

with the stators on top. The mounting feet of the Johnson capacitor are easily moved to permit mounting in this manner, since the capacitor frame has duplicate mounting holes.

Fig. 3 shows the device used for S_2 . Similar metal brackets are attached to adjacent ends of the stator-assembly rods of the dual capacitor. The bracket on the rear end of the front capacitor section (C_{2B}) carries a $\frac{1}{4}$ -inch panel bearing through which a 3-inch length of $\frac{1}{4}$ -inch brass rod slides. One end of this rod is drilled and tapped to accept the threaded shank of a banana plug. The other end of the brass rod is coupled to a $3\frac{1}{8}$ -inch length of $\frac{1}{4}$ -inch bakelite rod which passes through another bearing in the panel to the control knob. The shaft coupler should be of the rigid type, either metal or ceramic. To assure good contact between the stator of C_{2B} and the banana plug, a piece of $\frac{3}{8}$ -inch flexible copper braid is used to connect the two directly, rather than to depend on the sliding contact at the bearing.

The banana jack is mounted on the other bracket. Be sure that the two brackets are drilled identically so that the plug and jack may be lined up accurately.

One other slight modification was made in the capacitor before mounting. A small triangular bracket was mounted inside the rear frame plate, that is, between the capacitor sections. This was fastened in place using the same screws which hold the ceramic stator bar against the frame plate. The upper point of the triangle extends sufficiently above the frame plate to allow mounting a 1-inch ceramic pillar. After the components were mounted on the chassis, the open end of the 10-meter section of L_3 was removed from the coil assembly, turned end for end, and fastened

between the ceramic end plate and the ceramic pillar. A short length of $\frac{1}{4}$ -inch copper tubing, also fastened to the ceramic pillar, connects the coil to one side of the blocking capacitors. Another short length of tubing connects the rear stator terminal of C_{2A} to the same point.

It will be noted that the 0.001- μ f. fixed output capacitor requires an additional switch position. Fortunately, this is not difficult to provide, since there is already a hole for an extra stationary contact in the ceramic end plate of the B & W coil unit. All that is necessary is to obtain a switch contact from B & W² for one dollar (or make a reasonable facsimile) and mount it in the spare hole.

The socket for the 4-1000A is Eimac's new plastic type SK-510 (amateur net \$6.50). It is designed primarily for duct connection to a blower. For the pressurized-chassis ventilating system used here, you can improve the air flow by cutting off the "nose" of the socket with a hacksaw, as shown in Fig. 4. Remove the socket contacts while this operation is performed, to avoid damaging them. Use extreme care in sawing. Although the socket is made of a tough plastic, unusual stress or strain may cause it to break.

You will note that the socket has slots next to the pins, right in the side of the molded fixture. To ground the two screen leads, pass a $\frac{1}{4}$ -inch copper ground strap through the slot and solder it to the bottom of the screen contact inside the socket; then ground the strap to the chassis at the point where it emerges from the socket. The grid bypass capacitor should be installed in the same manner. One lead passes through the slot and is soldered to the bottom of the grid contact, while the other lead is grounded to the chassis. The leads should be only $\frac{1}{4}$ -inch long.

Construction

The 14 × 17 × 4-inch chassis is made up of a pair of SeeZak³ R414 rails (4 by 14 inches), a pair of R417 rails (4 by 17 inches), and two P1417 panels (14 by 17 inches). Standard 13 × 17 × 4-inch chassis are readily available, of course, but the extra inch of depth provided by the SeeZak units is necessary to accommodate C_2 which has a length of $13\frac{1}{16}$ inches. Machining of the front and rear chassis walls and the top deck is greatly simplified by using these handy rails and panels. No more trying to get big fingers and tools into small corners. You can do all of the drilling and cutting on flat plates, and then assemble your chassis.

² Barker & Williamson, Bristol, Penna. Mention 850A type number when ordering.

³ SeeZak products are available from Radio Shack Corp., 730 Commonwealth Ave., Boston 17, Mass., Terminal Hudson Electronics, 236 West 17th St., New York, N. Y., and California Electronics Supply, Los Angeles, among others.

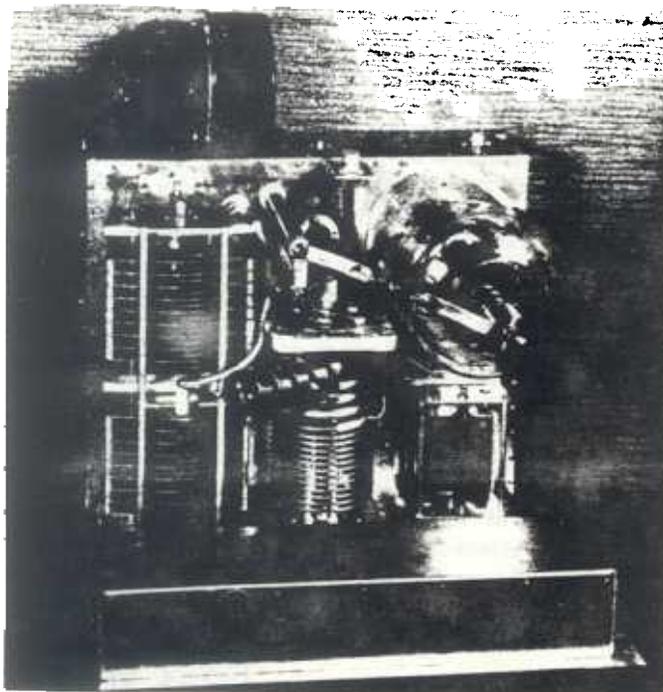


Fig. 5—Plan view of the 4-1000A grounded-grid amplifier. This view shows how the position of the 10-meter section of L_2 is changed.