

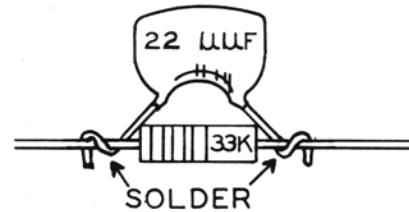
- () Refer to Figure 3 and feed the three wires from transformer T2 through Grommet E. Connect the yellow wire to pin 3 (NS) of tube socket V2.
- () Connect the black wire to lug 2 (NS) of terminal strip D.
- () Connect the red wire to lug 1 (NS) of terminal strip D.
- () Connect the long yellow wire from the power transformer T1 to pin 5 (NS) of tube socket V1. Dress wire as shown.
- () Connect the short yellow wire from T1 to lug 3 (NS) of terminal strip N.
- () Connect one of the black wires from T1 to lug 1 (NS) of terminal strip N.
- () Connect the remaining black wire to lug 4 (NS) of terminal strip N.
- () Connect one of the red wires from T1 to lug 2 (NS) of terminal strip K.
- () Connect the remaining red wire to lug 3 (S-1) of terminal strip K.

NOTE: The individual lengths of wire to be used in the following steps have been measured and the lengths are noted in each step. The wire should be cut to the specified length and approximately 1/4" of the insulation stripped from each end before it is used.

- () Connect one end of a 9 1/4" length of wire to pin 5 (NS) of socket V1. Connect the other end of the wire to pin 4 (NS) of socket V2. Dress wire as shown.
- () Feed one end of a 2" length of bare wire through the center ground lug (NS) of V2 and connect to pin 5 (S-1). Connect the other end of the wire to lug 3 (NS) of terminal strip B.
- () Connect a 12 1/2" wire to pin 1 (NS) of socket V2. Temporarily dress the wire through grommet J.
- () Connect one end of a 9 1/2" wire to lug 1 (NS) of terminal strip G. Connect the other end to lug 1 (NS) of terminal strip K.
- () Connect one end of a 3 1/2" length of wire to lug 1 (NS) of terminal strip B. Connect the other end to lug 1 (NS) of terminal strip G.
- () Connect one end of a 5" wire to lug 3 (NS) of terminal strip G. Feed the other end through grommet H.
- () Connect one end of a 2" length of wire to lug 1 (NS) of terminal strip G. Connect the other end to pin 7 (S-1) of socket V2.
- () Twist two 11" lengths of wire together to form a twisted pair. Connect the wires at one end of the pair to lugs 1 (S-2) and 2 (NS) respectively, of terminal strip N. Dress the other end of the pair toward the front of the chassis, as shown.
- () Feed a 2 1/2" length of bare wire through pin 9 of V1. Connect one end of the wire to ground lug R (NS) and the other end of the wire to the center ground lug of tube socket V1 (NS). Now solder pin 9.

- () Refer to Figure 4 and connect a 33 K Ω (orange-orange-orange) resistor between lug 3 (NS) and lug 4 (NS) of terminal strip B.
- () Connect a .001 μ fd disc ceramic capacitor between lug 3 (NS) and lug 4 (NS) of terminal strip B.
- () Connect a 100 K Ω (brown-black-yellow) resistor between lug 2 (NS) and lug 4 (NS) of terminal strip B.
- () Connect a 100 K Ω (brown-black-yellow) resistor between lug 4 (S-4) of terminal strip B and pin 8 (NS) of V2.
- () Connect a 390 Ω (orange-white-brown) resistor between lug 3 (S-4) of terminal strip B and pin 9 (NS) of socket V2.
- () Connect a .001 μ fd disc ceramic capacitor between pin 1 (NS) and the center ground (NS) of tube socket V2.
- () Connect a 10 K Ω (brown-black-orange) resistor between lug 1 (S-2) of terminal strip B and pin 1 (NS) of socket V2.
- () Connect a .01 μ fd disc capacitor between lug 2 (S-2) of terminal strip B and pin 1 (S-4) of V2.
- () Connect a 100 K Ω (brown-black-yellow) resistor between pin 2 (NS) of socket V2 and lug 2 (NS) of terminal strip D.
- () Connect a .01 μ fd capacitor between pin 3 (S-2) of V2 and lug 2 (S-3) of terminal strip D.
- () Connect a .0047 μ fd tubular capacitor between lug 1 (NS) and lug 3 (NS) of terminal strip D.
- () Connect one lead of a .1 μ fd tubular capacitor to lug 1 (S-3) of terminal strip D. Connect the other lead to ground lug F (NS).
- () Connect a .02 μ fd ceramic capacitor between lug 1 (NS) and lug 2 (S-1) of terminal strip G.
- () Connect a 680 Ω (blue-gray-brown) resistor between lug 1 (S-5) of terminal strip G and pin 6 (NS) of socket V2.
- () Connect a .01 ceramic capacitor between pin 6 (S-2) of V2 and lug 3 (S-2) of terminal strip G.
- () Connect a 47 μ mf ceramic capacitor between the center ground lug (S-3) and pin 9 (S-2) of socket V2.
- () Connect one lead of a 2.2 μ mf (red-red-white) small phenolic tubular capacitor to pin 8 (NS) of V2. Connect the other lead to lug 1 (S-1) of the tuning gang.

- () Connect one lead of a 4.7 $\mu\mu\text{f}$ ceramic tubular capacitor to pin 8 (S-3) of V2. Connect the other lead to the tap on the high frequency coil L1 (S-1). Dress this capacitor close to the tuning gang.
- () Connect one lead of a 56 $\text{K}\Omega$ (green-blue-orange) resistor to ground lug R (NS). Connect the other lead to pin 2 (NS) of socket V1.
- () Connect a .02 μfd ceramic capacitor between ground lug R (S-3) and pin 1 (NS) of socket V1.
- () Feed one lead of a 47 $\mu\mu\text{f}$ mica capacitor through the lug of the trimmer capacitor C7, and connect to pin 2 (S-2) of V1. Now solder C7. Connect the other lead to lug 2 (NS) of the tuning gang.
- () Feed one lead of a .02 μfd ceramic capacitor through pin 4 (S-1) of V1 and connect to pin 5 (S-3) of V1. Connect the other lead to ground lug U (S-1).
- () Connect a .005 μfd ceramic capacitor between the center ground lug (S-2) and pin 6 (NS) of V1.
- () Using sleeving, connect the wire from the tap of coil L1 to pin 8 (S-1) of V1.
- () Prepare the 22 $\mu\mu\text{f}$ mica capacitor and a 33 $\text{K}\Omega$ (orange-orange-orange) resistor as shown and connect one lead to pin 7 (S-1) of V1. Connect the other lead to lug 3 (S-2) of the tuning gang.



- () Connect a .02 μfd ceramic capacitor between lug 2 (NS) and lug 3 (NS) of terminal strip N.
- () Connect another .02 μfd capacitor between lugs 3 (S-3) and 4 (NS) of terminal strip N.
- () Connect a 2.2 $\text{K}\Omega$ (red-red-red) 1 watt resistor between lug 1 (NS) and lug 4 (NS) of terminal strip K.
- () Feed the two wires on the positive (+) end of the 20-20 μfd filter capacitor through grommet L from the tube side of the chassis. Connect the negative (-) lead of the capacitor to ground lug P (S-1). Connect one of the positive (+) leads to lug 1 (NS) and the other lead to lug 4 (NS) of terminal strip K. Use sleeving on both leads.
- () Connect the positive (+), or red, lead of the silicon rectifier to lug 4 (S-3) of terminal strip K. Connect the negative (-), or black, lead to lug 2 (S-2).
- () Connect one lead of a 33 $\text{K}\Omega$ (orange-orange-orange) resistor to lug 1 (S-4) of terminal strip K, leaving about 1" of lead between resistor body and lug 1. Dress the resistor toward V1. The other lead of the resistor will be connected later.

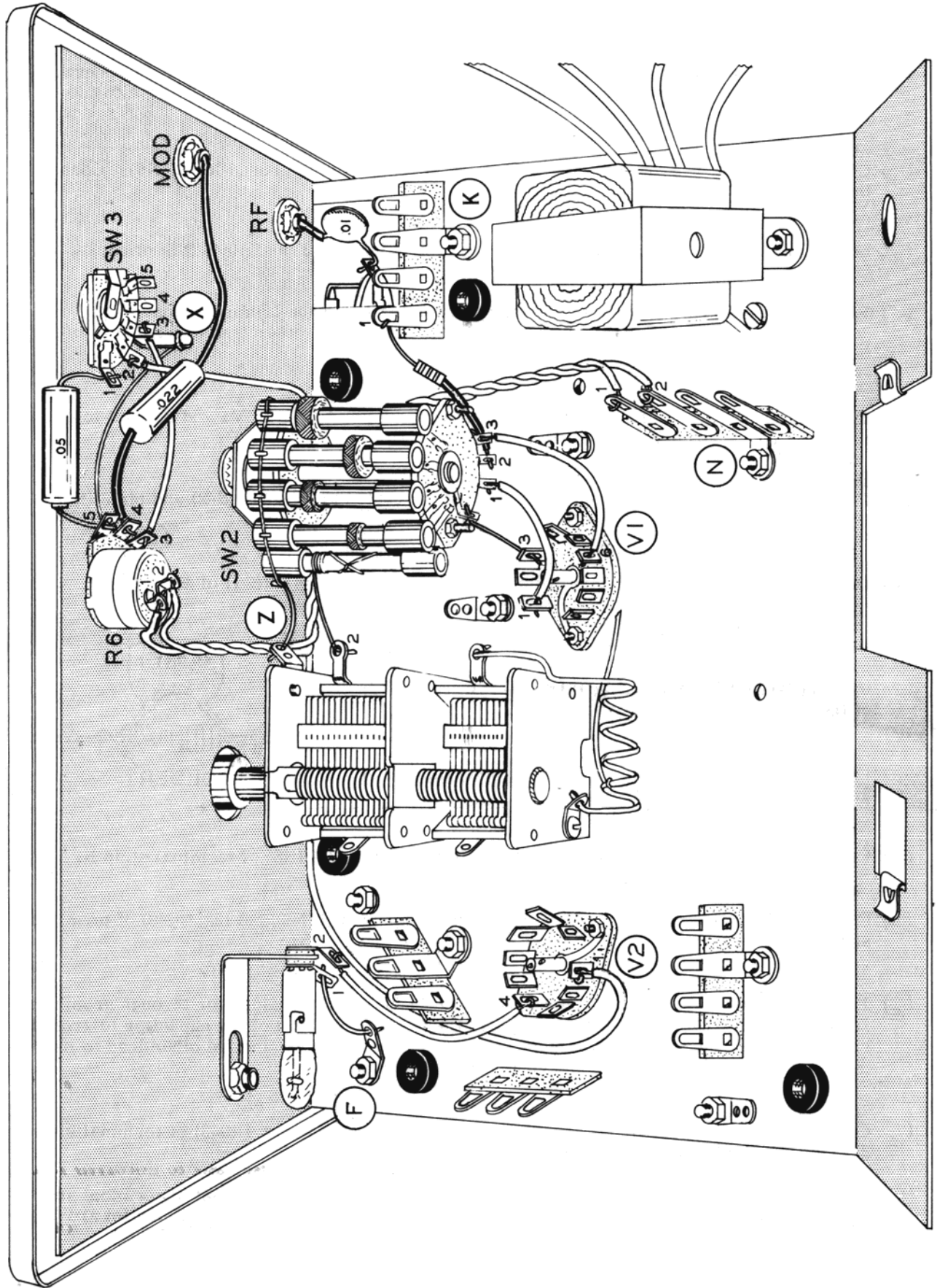


Figure 5

MOUNTING THE FRONT PANEL

Make sure that the chassis and panel are properly aligned before tightening any mounting hardware securely.

- () Refer to Figure 5 and mount the front panel to the chassis with the modulation control R6 (#19-11). Use a control lockwasher between the control and the chassis. Use a flat control washer under the nut.
- () Mount the modulation switch SW3 (#63-211). Use a control solder lug, positioned as shown, and a flat control washer.
- () Mount the pilot light socket, using the pilot light jewel and nut, as shown.
- () Mount the RF and modulation jacks. Discard the solder lugs and use a lockwasher between the chassis and nut.
- () Connect the twisted pair of wires from terminal strip N to lugs 1 (S-1) and 2 (S-1), respectively, of control R6. Either wire to either lug.
- () Connect a 3" length of bare wire between lug 5 (NS) of control R6 and solder lug X (NS).
- () Connect a 2 1/2" length of hookup wire between lug 3 (S-1) of R6 and lug 3 (S-1) of the modulation switch SW3.
- () Connect the previously installed wire from pin 1 of V2 to lug 2 (S-1) of SW3. This wire was temporarily inserted through grommet J.
- () Connect a .05 μ fd tubular capacitor between lug 5 (S-2) of R6 and lug 1 (S-1) of SW3.
- () Connect a .022 μ fd tubular capacitor between lug 4 (S-1) of R6 and the modulation jack. Use sleeving on both leads. The sleeving must cover the lead on the inside of the jack. Use enough solder on the jack to insure good contact with the connector.
- () Connect a short length of bare wire from solder lug F (S-2) to lug 1 (S-1) of the pilot light socket.
- () Connect a 2 1/2" wire between pin 4 (S-2) of socket V2 and lug 2 (S-1) of the pilot light socket.
- () Install the #47 pilot light.
- () Install the band switch SW2. Use a control lockwasher, flat washer and nut. Orient switch as shown so that knob pointer will indicate properly.
- () Connect the ground wire from the coils to ground lug Z (S-1) on the tuning gang. The ground wire is the short wire connected to the coil lug nearest the tuning capacitor.
- () Connect the wire from the front wafer of SW2 to lug 2 (S-2) of the tuning gang.
- () Connect the wire from the rear wafer of SW2 to pin 3 (S-1) of V1.
- () Connect the 33 K Ω (orange-orange-orange) resistor which was previously connected to terminal strip K to lug 2 (S-1) of SW2. Use sleeving.
- () Connect a 1 3/4" length of wire between pin 1 (S-2) of V1 and lug 1 (S-1) of SW2.
- () Connect a 2 1/4" wire between pin 6 (S-2) of V1 and lug 3 (S-1) of SW2.

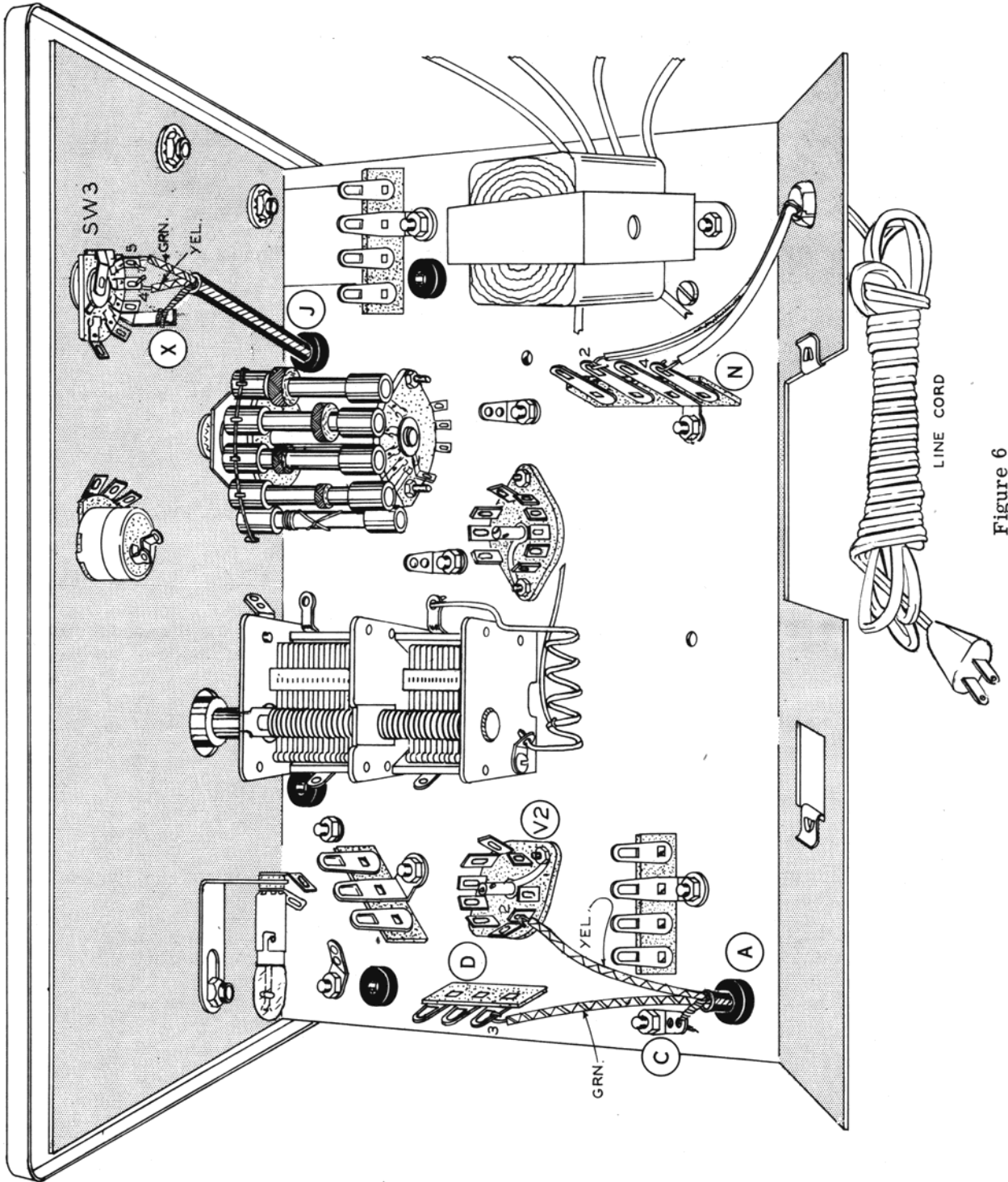


Figure 6

- () Prepare the two-conductor shielded cable as shown in Figure 7. Tin ends of leads.

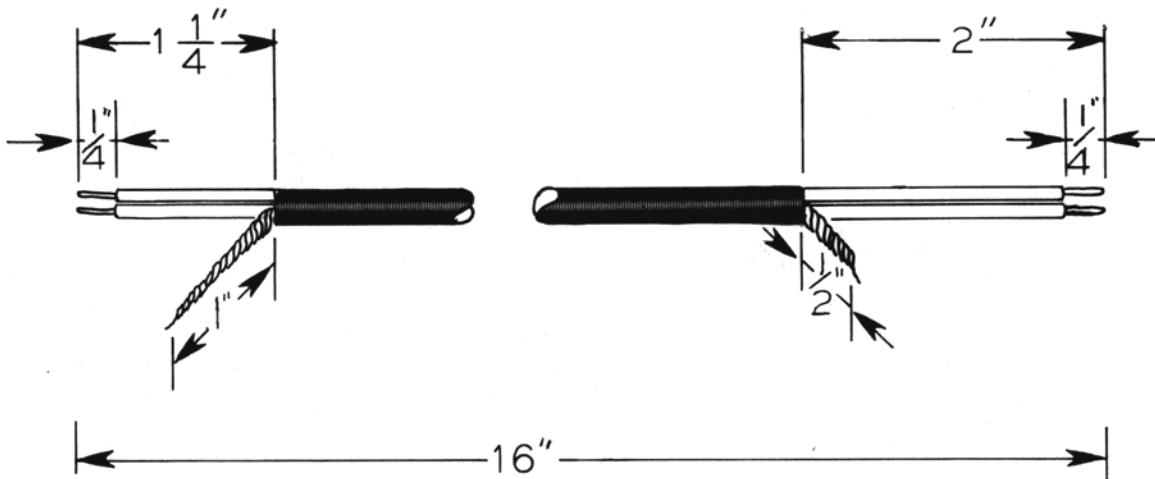


Figure 7

- () Refer to Figure 6 and insert the end of the shielded cable with the shortest leads through grommet J, from the tube side of the chassis. Connect the yellow wire to lug 4 (S-1) and the green wire to lug 5 (S-1) of SW3. Connect the shield to solder lug X (S-2). Insert the other end of the cable through grommet A. Connect the yellow wire to pin 2 (S-2) of V2, the green wire to lug 3 (S-2) of terminal strip D and the shield to ground lug C (S-1).
- () Install the line cord as shown in Figure 8. First tin leads and then connect one wire to lug 2 (S-3) and the other wire to lug 4 (S-3) of terminal strip N.

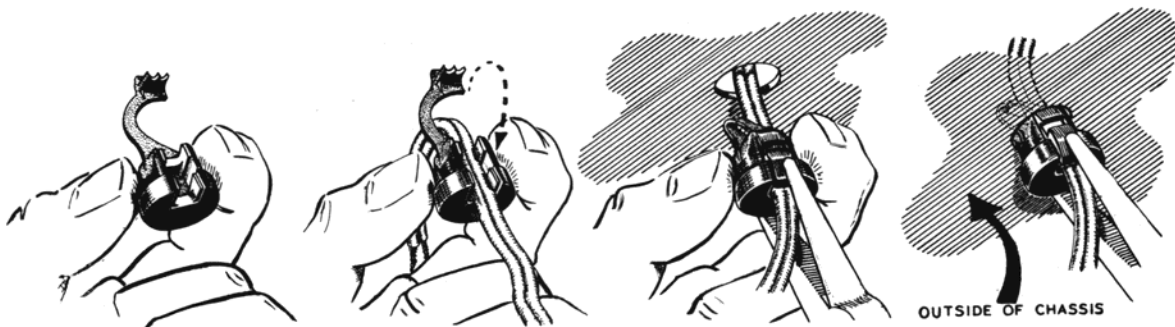


Figure 8

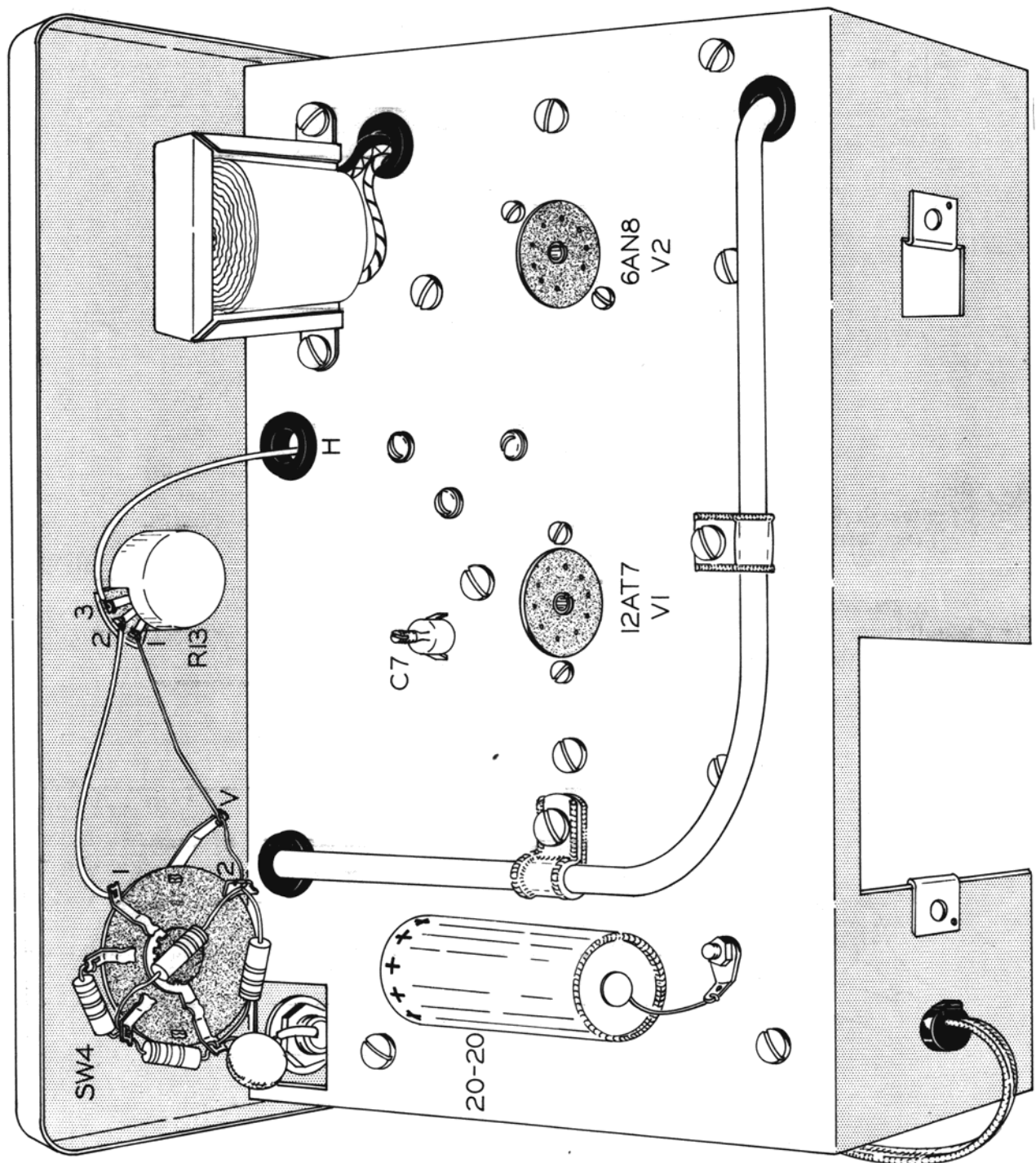
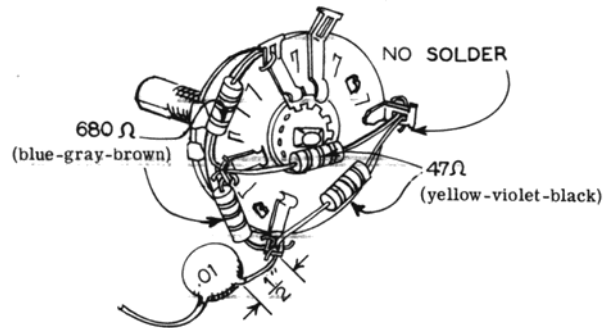


Figure 9

- () Turn the unit over and install the two cable clamps as shown in Figure 9. Use 6-32 x 3/8" BHMS.
- () Install the fine attenuator control (#10-27) R13. Use two control lockwashers between the control and panel.
- () Prepare the attenuator switch SW4 as shown in Figure 10. Install the switch, using a control lockwasher and a control solder lug next to the panel. Orient as shown, so that knob pointer will indicate properly.
- () Connect the wire from terminal strip G through grommet H to lug 3 (S-1) of R13.
- () Connect one end of a 2 1/2" length of bare wire to lug 1 (S-1) of R13. Wrap the wire around the solder lug V (S-1) and connect to lug 2 (S-3) of SW4.
- () Connect a 2 1/2" wire between lug 2 (S-1) of R13 and lug 1 (S-1) of SW4.
- () With the use of sleeving, connect the .01 μ fd capacitor from SW4 to the RF output jack (S).



NOTE:
INSTALL THE COMPONENTS AS
SHOWN AND SOLDER. KEEP THE
LEADS SHORT.

Figure 10

This completes the wiring of your Heathkit Model RF-1 Signal Generator. Carefully check each operation for accuracy. Remove any solder splashes, wire clippings or any other foreign material. Inspect the wiring to be sure that all components are dressed to avoid shorts to each other, or to the chassis.

IMPORTANT WARNING: MINIATURE TUBES CAN BE EASILY DAMAGED WHEN INSTALLING THEM IN THEIR SOCKETS. THEREFORE, USE EXTREME CARE WHEN INSTALLING THESE TUBES. WE DO NOT GUARANTEE OR REPLACE MINIATURE TUBES BROKEN DURING INSTALLATION.

- () Install the 12AT7 and 6AN8 tubes, V1 and V2. Refer to Figure 9.

- () Refer to Figure 11 and install the dial pointer, using an 8-32 setscrew. Make sure that the pointer lines up with the end marking at the low end of the dial scale when the tuning gang is at its maximum counterclockwise rotation. Tighten the setscrew securely.
- () Install the knobs.

NOTE: The BAND switch and ATTEN switch may have to be oriented so that the knob pointers line up with the panel markings.

- () Prepare the output cable as shown in Figure 12.
- () Mount the handle on the cabinet, using #10 self-tapping screws. After completing the calibration procedure, install the instrument in the cabinet and secure with 6-32 x 3/8" BHMS.

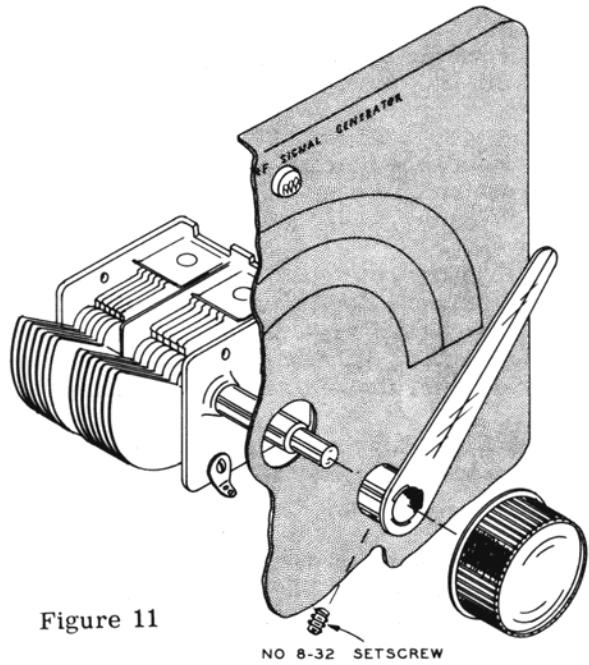


Figure 11

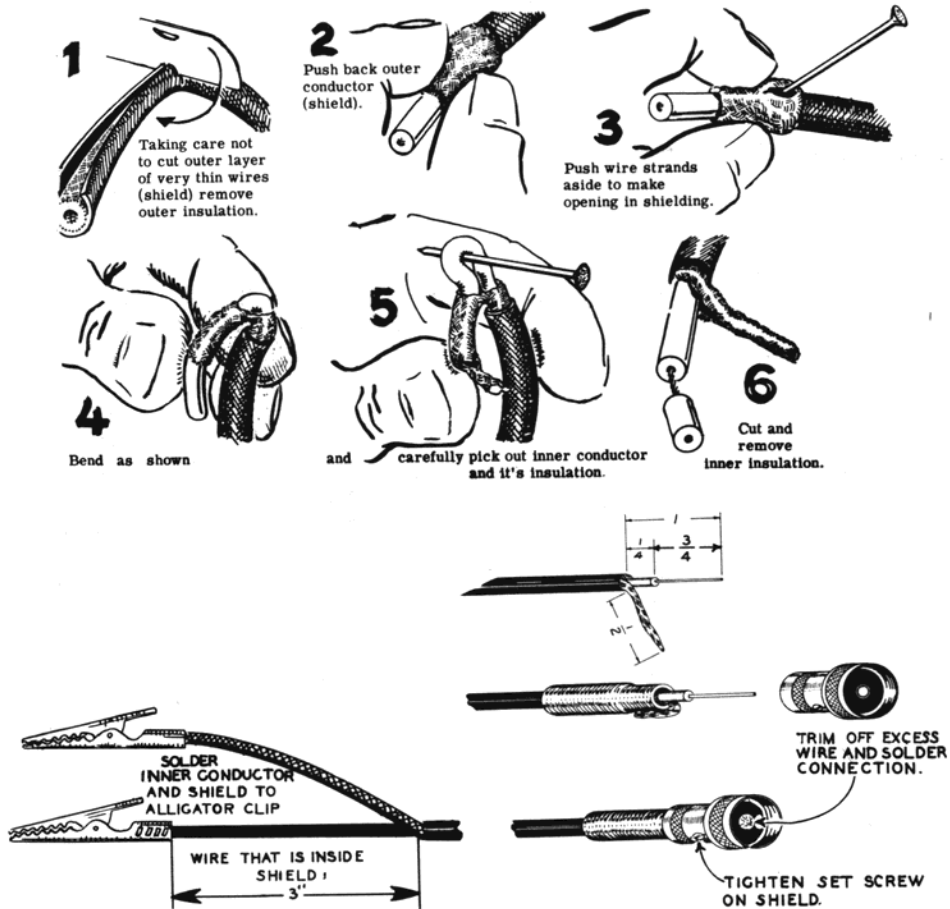


Figure 12