

60-WATT TRANSMITTER — PARTS LIST

Quantity	Reference Symbol	Description
1	A1	Chassis, aluminum, 10 x 17 x 3 inches 3. 10
1	A2	Panel, aluminum, black ripple finish, 19 x 10.5 inches
1	C1	Capacitor, ceramic, 0.001 μ f, 600 volts
1	C2	Capacitor, ceramic, 500 pf, 600 volts
3	C3, C4, C6	Capacitor, ceramic, 0.01 μ f, 600 volts
1	C5	Capacitor, ceramic, 0.005 μ f, 600 volts
1	C7	Capacitor, ceramic, 0.001 μ f, 2,000 volts
1	C8	Capacitor, variable, 140 pf, Hammarlund Type HFA-140A
1	C9	Capacitor, variable, dual type (oscillator and mixer receiving types, in parallel), total capacitance 575 pf
1	C10	Capacitor, paper, 0.05 μ f, 600 volts
2	C11, C12	Capacitor, electrolytic, 10 μ f, 450 wvdc
1	CR1	Crystal, in 7-mc band (7150-7200 kc)
1	E1	Terminal, feed-through
3	E2, E3, E4	Insulator, stand-off
1	F1	Fuse, type AG, 3 amperes
1	H1	Terminal strip, 3 terminals
2	H2	Grommet, rubber
1	I1	Lamp, pilot, 6.3 vac at 150 ma
1	J1	Jack, code key, Mallory Type 701
1	J2	Jack, coaxial, Type S0-239
3	L1, L2, L4	Choke, r-f, 2.5 mh, 125 ma
1	L3	Coil, Barker and Williamson No. 3018 (it is sold 3 in. long; cut it to 24 turns)
1	L5	Choke, filter, 10.5 henries, 110 ma, Knight No. 62G139
1	M1	Meter, 0-200 ma dc, 2 inch diameter 1300
1	R1	Resistor, carbon, 47K, 1/2 watt
1	R2	Resistor, carbon, 100 ohms, 1 watt
1	R3	Resistor, wirewound, 33K, 10 watts
1	R4	Resistor, wirewound, 25K, 25 watts
✓1	S1	Switch, toggle, SPST

<i>Quantity</i>	<i>Reference Symbol</i>	<i>Description</i>
1	T1	Transformer, power, Thordarson No. 26R23
1	V1	Tube, 6DQ5 354
1	V2	Tube, 5U4 95
1	W1	Line cord, with plug
1	XCR1	Socket, crystal
1	XF1	Fuseholder, for Type AG fuse
1	XI1	Pilot light assembly (for I1)
2	XV1, XV2	Tube sockets, octal
-	—	Nameplates: PLATE-MA, POWER, TUNE, LOAD, ON-OFF, AC SWITCH, KEY
-	—	Plate cap, ceramic (for VI), Millen Type 36002

Before mounting any part, deburr (remove all the sharp edges) every hole. This can be done by running an oversized drill bit (or reamer)

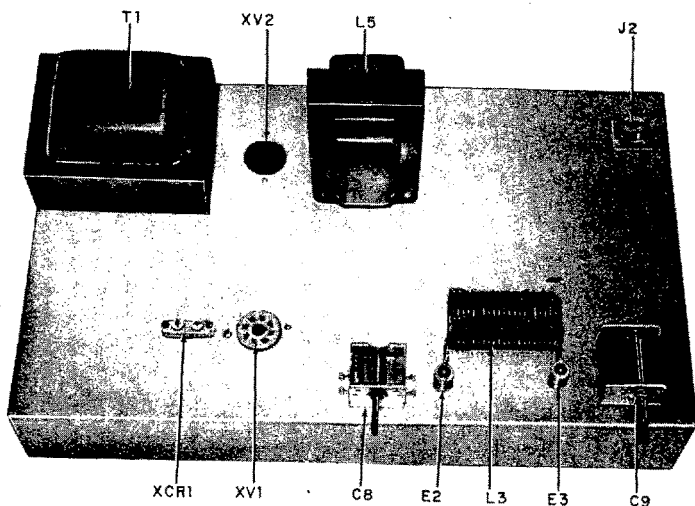


Fig. 2-26. Layout of parts for the Novice-Class 60-watt station.

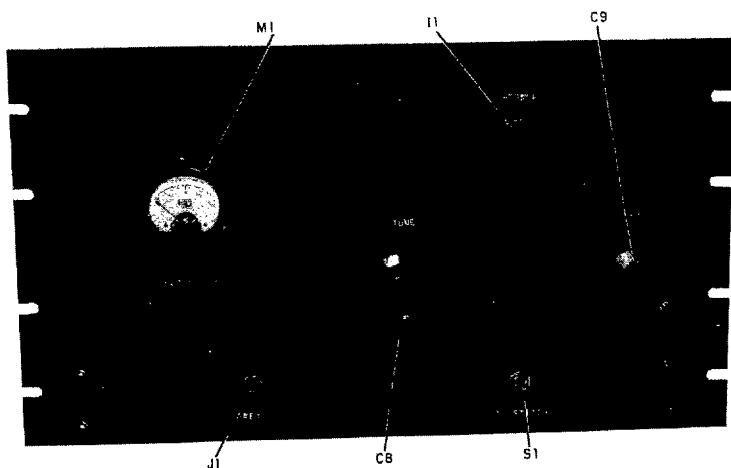


Fig. 2-27. View of front panel of Novice-Class 60-watt station.

lightly over the back side of the hole until the burrs are removed. A round metal file may also be used for this purpose.

Mount all major components on the chassis and panel, as shown in Figs. 2-26 and 2-27. Make sure that all mounting screws and nuts are tight.

Wiring. Following is the proper wiring procedure:

1. Use a clean, freshly tinned soldering iron or soldering gun.
2. Use rosin-core solder.
3. Before soldering, the end of each wire should be scraped clean, tinned, and securely wrapped to the part to which it is to be soldered, as discussed in Chapter 1.
4. Make a large pencil copy of the schematic in Fig. 2-25. As you install each wire, mark it off on the pencil copy to prevent omission or duplication of wires.
5. Wire the parts systematically; complete the wiring for one part before proceeding to the next.

After completing the chassis wiring, check all solder connections to be sure that no mistakes have been made. The transmitter assembly is now complete and should look like the one shown in Figs. 2-28 and 2-29.

Putting up the Antenna

Many types of antennas can be used for this station — including the

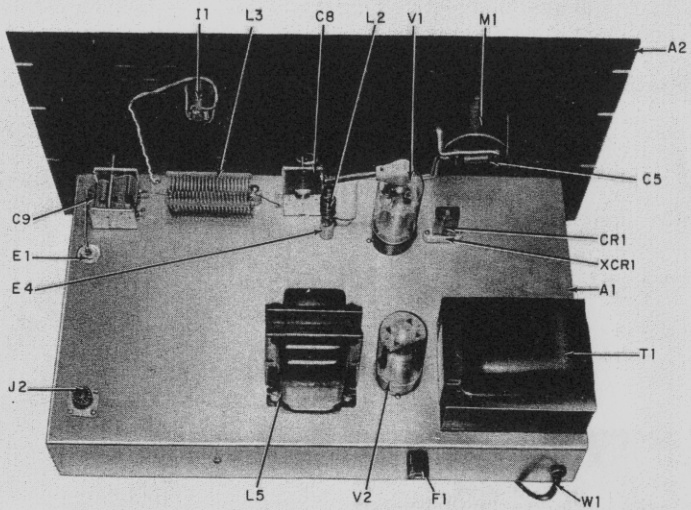


Fig. 2-28. Top view of Novice-Class 60-watt station.

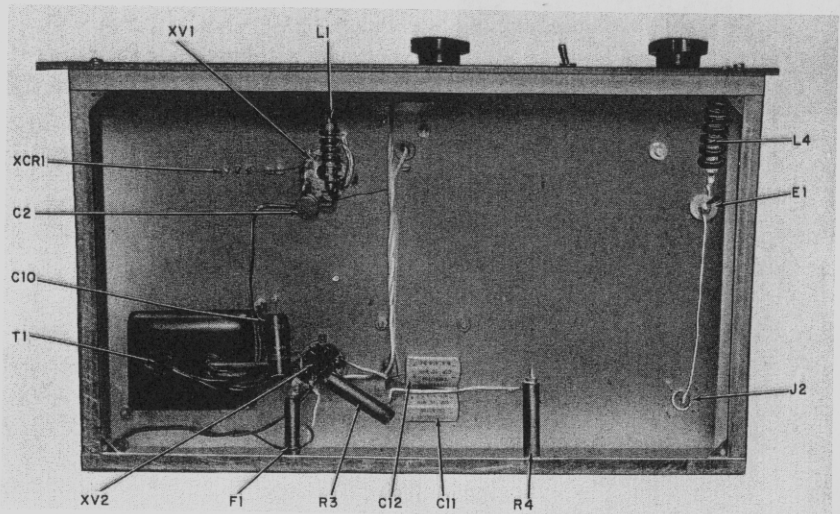


Fig. 2-29. Bottom view of Novice-Class 60-watt station.

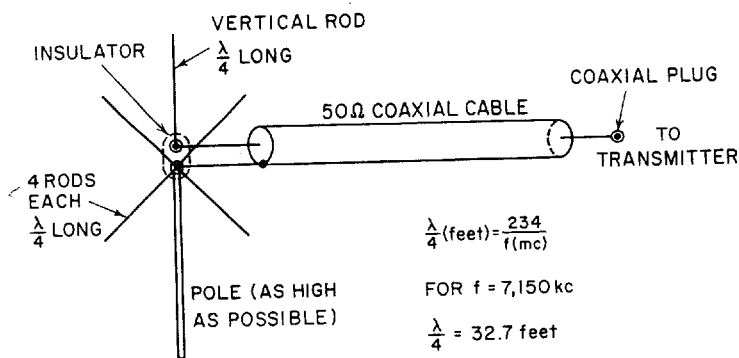


Fig. 2-30. Vertical antenna for the Novice-Class 60-watt station.

Zepp antenna used with the 15-watt station (described at the beginning of the chapter).

The vertical antenna, described below, is used by many amateurs who prefer this type of propagation. Figure 2-30 shows the details of its construction. The higher the antenna, the better the results.

Tuning The Transmitter

Read the following instructions completely before proceeding with the individual steps:

1. Throw the ON-OFF switch S1 to the OFF position.
2. Plug the coaxial plug from the antenna into the antenna coaxial jack J2.
3. Plug the code key into the code key jack J1.
4. Plug the power plug into the electrical outlet receptacle.
5. Rotate the LOAD capacitor C9 to its maximum capacity (plates completely meshed).
6. Throw the ON-OFF switch S1 to the ON position.
7. Depress the code key and quickly rotate the TUNE capacitor C8 until plate current meter M1 shows a resonance effect — a rise in current followed by a dip.
8. Slowly decrease the capacitance of LOAD capacitor C9 (unmesh the plates) while rotating TUNE capacitor C8 for the resonance effect.
9. Repeat step 8 until the plate current meter M1 reads approximately 125 milliamperes.
10. The station is now tuned correctly and is ready for operation.