

change, until the output is satisfactory. The reading will be lower, especially in the middle of the band. Do not readjust L4 or L5. L11 can be used to even up the drive on 8 meters. If the peak at 8.0 Mc. (24.0 Mc.) is kept high, the two meter drive will not be affected much, but it should be checked at the high end of the band.

SERVICE DATA

No matter how well equipment is designed and manufactured, defects are bound to occur. The purpose of this section is to correct these defects as easily as possible.

In case of any difficulty, the first step is to determine definitely that a defective condition exists. If the transmitter or the equipment connected to it is not operated correctly, certain indications of trouble might be presented when there is actually nothing wrong. The operator must be thoroughly familiar with the operating procedures, before attempting to shoot trouble.

After a positive determination is made that the transmitter has a fault, the first step is to localize the fault. Once the trouble is narrowed down to a single tube or circuit, the faulty part is quite simple to identify.

With the Trouble Shooting Data Chart, Voltage and Resistance Data (Tables), localizing trouble becomes relatively simple.

TROUBLE SHOOTING DATA

SYMPTOMS AND POSSIBLE CAUSES:

1. Transmitter will not operate when AC power is applied. Pilot light will not light.
 - a. Defective 5 amp. fuse.
 - b. Poor contact at AC outlet.
 - c. Defective POWER switch.
 - d. Open high voltage rectifier diodes.
 - e. Open 20 ohm wire wound resistor.
2. Fuse blows.
 - a. Wrong size fuse. Use 5 amp. 3AG fuse.
 - b. Short in high voltage circuits:
 - Rectifier diode or diodes D2, D3.
 - Filter capacitors C48, C49.
 - Bypass capacitors or coupling capacitors C27, C28, C29.
 - Wiring shorts.
 - c. Power transformer shorted or burned.
 - d. Shorted tube; 7984, 7868.
3. No final cathode current reading on meter.
 - a. Key not connected or not operated.
 - b. Meter open
 - c. Meter switch not making contact. See that it can move freely to all 3 positions without being stopped by the panel. If it doesn't move freely, loosen mounting screws and reset the switch.
 - d. No high voltage. See 1d, 1e.
 - e. Defective tube 7984.
 - f. Open RF choke L12.
 - g. Either jumper on octal socket (on rear) cut.
 - h. R39 open.
4. No final grid current reading on meter.
 - a. 1d, 1e, 3a, 3b, 3c, 3e, 3g.
 - b. Defective crystal, no crystal plugged in.
 - c. VFO turned off or defective.
 - d. VFO-CRYSTAL switch in the wrong position.
 - e. Any defective part or tube in the V1, V2, V3, V4 circuits. Check voltages.
5. Insufficient or drooping grid current reading on the meter.
 - a. Defective crystal or VFO with insufficient output.
 - b. Weak tube V1, V2 or V3.
 - c. Alignment poor or tampered with.
 - d. Drive control too high for the particular combination of crystal or VFO and the tubes V1 or V2.
6. Final PLATE and LOAD tuning unsatisfactory.
 - a. Antenna has a high standing wave ratio (SWR). Check it with an SWR bridge.
 - b. Antenna disconnected.
 - c. Antenna relay not working or not connected properly.
 - d. Wrong filter connected in the antenna line for the band in use.
7. No ANT reading on meter. Other readings normal, signals getting out O. K.
 - a. 3c.
 - b. Defective part: D1, R20, C32.
 - c. Wiring short or break.
8. No change in METER readings when switching from CW to PHONE.
 - a. Defective V6, R34, D5, S4.
9. No modulation.
 - a. 8a.
 - b. Defective microphone or microphone cable.
 - c. Incorrectly wired microphone plug.
 - d. Wiring or part defect in V5-V6 circuits.
10. Hum in modulation.
 - a. Unshielded or incorrectly connected microphone cable.
 - b. Defective C49.
 - c. V5 defective.
11. Distortion, squeal or overmodulation.
 - a. Defective V5.
 - b. 10a, 9b, 9c.
 - c. Receiver not properly muted during transmission.
 - d. Defective C36, C40.
12. Smoke.
 - a. Turn off power, turn transmitter over quickly and try to locate the source of the smoke. Use a strong light if possible. This is the easiest trouble to find. Replace the damaged part. Locate the cause and correct it. The burned part is seldom the faulty one. Use the resistance chart to help locate the trouble.
13. Do not disturb any tuning adjustments when shooting trouble unless absolutely necessary. Unnecessary tuning is one of the best ways to make more trouble.