

- a. Select any channel.
  - b. Set squelch control to fully unsquelched position.
  - c. Set CB-PA switch to CB.
  - d. Set RF gain control to maximum position (if so equipped).
  - e. Set any accessory mode switches such as noise blanker or automatic noise limiter to off.
  - f. Select the AM mode on AM/SSB units.
4. Turn on the transceiver.
  5. Turn up volume until strong receiver noise is heard in the speaker. If no receiver noise is present, adjust the volume control to about  $\frac{3}{4}$  of its maximum setting.
  6. Perform as many steps of Fig. 24 as is required to be directed to a troubleshooting procedure. Use the referenced troubleshooting procedure to isolate and correct any malfunction.
  7. If troubleshooting and repair are required, recheck transceiver operation by repeating the steps of Fig. 24, starting at the beginning. Repeat the steps as many times as required until the test results end with "Check SSB mode of operation for AM/SSB transceivers".
  8. If an AM/SSB transceiver is being checked, perform as many steps of Fig. 25 as is required to be directed to a troubleshooting procedure. Use the referenced troubleshooting procedure to isolate and correct any malfunction. If an AM only transceiver is being checked, skip this step and proceed to step 10.
  9. If troubleshooting and repair are required, recheck SSB operation by repeating the steps of Fig. 25, starting at the beginning. Repeat the steps as many times as required to successfully complete the SSB checks.
  10. Perform as many steps of Fig. 26 as is required to be directed to a troubleshooting procedure. Use the referenced troubleshooting procedure to isolate and correct any malfunction.
  11. If any troubleshooting and repair are required in step 10, recheck transceiver performance by repeating the steps of Fig. 26, starting at the beginning. Repeat the steps as many times as required to successfully complete the checks.
  12. The transceiver completely meets all performance specifications.

## TROUBLESHOOTING BY SYMPTOM

### TROUBLESHOOTING PROCEDURE FOR "RADIO DOES NOT RECEIVE" SYMPTOM

Use this troubleshooting procedure when there is no received audio and transmitter RF power is normal. More specifically, use this procedure if there is no receiver noise, or if an audio output cannot be obtained when a strong modulated carrier is applied to the receiver.

This symptom can be caused by failure in almost any portion of the receiver (circuits No. 1 thru 9, 12, and 15 thru 19 in Figs. 22 and 23).

#### NOTE

If there is no receiver noise, it is probable that the fault is in the 455 kHz IF or audio section of the receiver. If some receiver noise is present, the problem is more likely in the RF or 1st IF section of the receiver. An open circuit in the RF portion often does not cause complete failure to receive; high strength RF test signals are often coupled through the open circuit with sufficient strength to produce an audio output. Receiver sensitivity, of course, is extremely poor. A short in the RF circuits will often give a symptom of no receiver audio.

The following steps will isolate the problem to a much smaller area.

1. Perform the PA mode check.
  - a. If the PA mode operates, the audio section is proven good (circuits 15 thru 18). Proceed to step 2 if the transceiver is not equipped with an S meter, or to step 3 if the radio is equipped with an S meter.
  - b. If the PA mode does not operate, the audio section is defined as the problem area (circuits 15 thru 18).
    - (1) Operate the transceiver in the PA mode.
    - (2) Generate a 1 kHz test tone on the speaker of the CB ServiceMaster.
    - (3) Drive the microphone with the 1 kHz test tone.
    - (4) Measure audio signal on the oscilloscope at circuit 15, then 16, then 17 and 18 until the loss of signal is noted.
    - (5) The circuit at which loss of signal is noted is defective.
2. If the transceiver is not equipped with an S meter, inject a modulated 455 kHz signal into the detector (circuit No. 6).
  - a. If audio output is obtained, the detector (circuit No. 6) and first audio amplifier (circuit No. 12) are proven good. Proceed to step 4.
  - b. If no audio output is obtained, measure the audio signal on the oscilloscope at each accessible measurement point in the signal path from the detector (circuit No. 6) through the first audio amplifier (circuit No. 12), and note the point of signal loss. If the input to circuit No. 12 is normal, but no output is measured, check the DC voltages of the associated squelch switch circuit. Certain component failures can cause the circuit to remain in the fully squelched condition at all times.