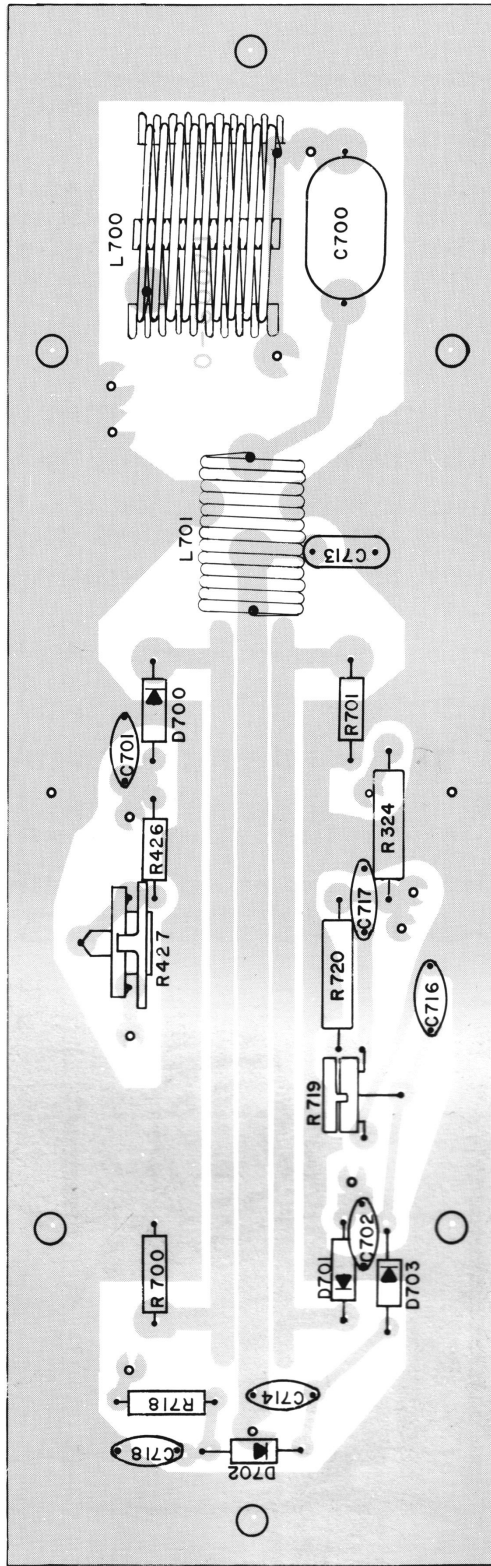


BALANCED MODULATOR BOARD PCB D

Fig. 11



RF BRIDGE BOARD PCB E
Fig. 12

Zeroing the S-Meter

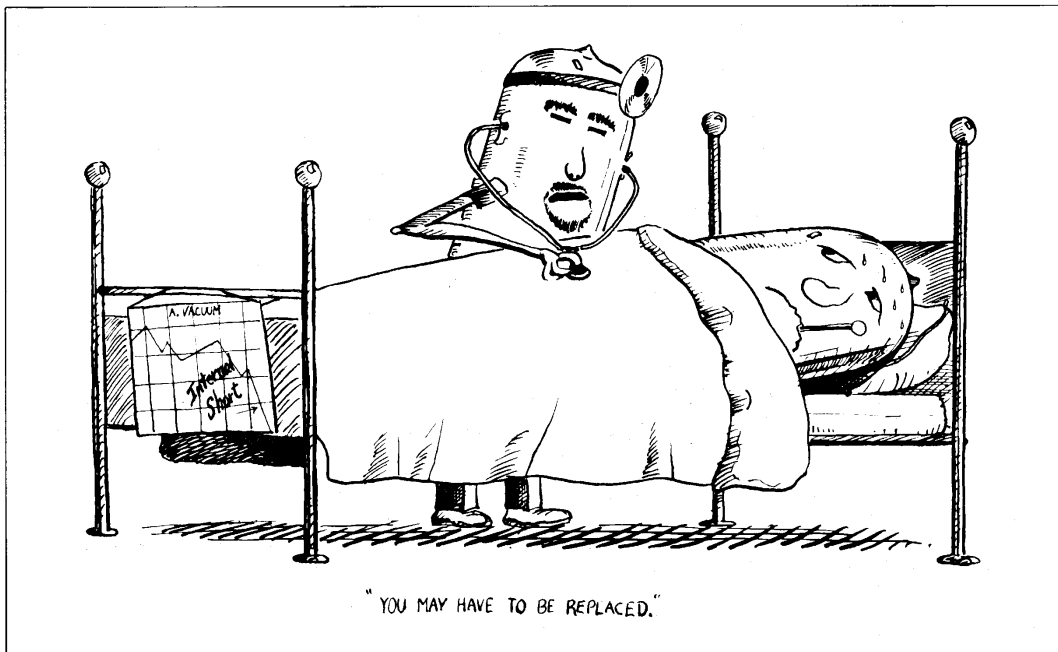
Some drift in the S-Meter zero setting may be experienced before the vacuum tubes and related components stabilize with use. To check and adjust S-Meter zero proceed as follows: (allow 1/2 hour warm-up)

CAUTION Hazardous voltages and high temperatures may be encountered within the D201 cabinet. Keep hands clear of hot tubes and chassis components in general. REMOVE MIC CORD to prevent high voltages from appearing on the RF Board should the Transmitter accidentally be keyed.

1. Place CRYSTAL/MANUAL SWITCH in the CRYSTAL position.
2. Turn the RF GAIN fully CCW.
3. Rotate the CHANNEL SELECTOR to the blank channel between 22 and 23.
4. Place the METER SWITCH in the S/PWR position. The meter should read zero.
5. If adjustment is required, lift the top cover and locate the S-Meter zero control (R422) on the Receiver 'A' board next to the relay K600 as shown in fig. 3.
6. Momentarily defeat the AC interlock on the Top Cover and adjust R422 for a Zero reading on the meter.
7. Close Top Cover and restore controls to normal operating positions.

NOTES ON TUBE REPLACEMENT

1. If V701 is replaced the Final Amplifier circuit will require reneutralization. This procedure must be performed by a First or Second Class F.C.C. license.
2. If V300 is replaced the S-Meter circuit may require calibration.
3. If V401 or V602 is replaced the S-Meter circuit will require zeroing.



TUBE TROUBLE LOCATOR

MOST PROBABLE CAUSE

SYMPTOM	6BQ7A V 300	6BK7B V 301	6BK7B V 302	6BA6 V 400	6GH8A V 401	12AX7 V 402	6BA6 V 500	6BA6 V 501	6GH8A V 502	6GH8A V 600	6GH8A V 601	6GH8A V 602	6L6 GC V 603	12BY7A V 700	6L6GC V 701
WEAK OR NO OPERATION	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
AM AND SSB RECEIVE	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
AM RECEIVE	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SSB RECEIVE	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MANUAL RECEIVE	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
AM AND SSB TRANSMIT	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
AM MODULATION	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SSB TRANSMIT/ MODULATION	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SSB RECEIVE MICROPHONIC	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
IMPROPER S-METER	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SQUELCH	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

RECEIVER FAILURE CHART

Symptom	Possible Cause
1. Receives in SSB but not AM.	V400, V401, FL400. If dead in Manual Receive, V302, T400, T401, X300.
2. Receives in AM, but not SSB.	V500, V501, V502. If no SSB transmit, Balanced Modulator Module.
3. No S-Meter response in SSB receive.	No SSB AGC. Q500, Q501, + 14V power supply.
4. Low gain in all modes, but normal S-Meter readings.	V402, V602, V603. If transmitter modulation is good, V402 only.
5. No audio, but normal S-Meter readings.	Same as above.
6. Low gain in all modes, meter readings low.	V300, V301, Synthesizer Module.
7. No USB receive or transmit.	6.2535 crystal (X200) See fig. 11
8. No AM/LSB receive or transmit.	6.2565 crystal (X201) See fig. 11
9. Every fourth channel dead in crystal receive.	(See trouble crystal chart page 36)
10. Four sequential channels dead in crystal receive.	(See trouble crystal chart page 36)
11. Receives in crystal but not in Manual.	V302, L301, K600, X108, V109.
12. Receives in Manual, but not in crystal.	Synthesizer Module.
13. Erratic or inaccurate Manual Tune.	X108, X109. (See fig. 10)
14. Manual Tuning dial, out of calibration.	See Manual Tuning alignment procedure.
15. Manual tuning dial slips or binds.	Loosen tuning capacitor mounting screws, rotate knob several turns, tighten screws. CAUTION: Never Lubricate or degrease Vernier drive Assembly.
16. Frozen Manual Tuning.	Tuning condenser shaft binding.
17. S-Meter drifts.	V401-V602.
18. Receiver noise increases with Noise Blanker on.	Blanker oscillating. Turn slug of T802 approximately 1/4 to 1/2 turn, until oscillation stops.
19. Feedback at high Volume levels in SSB.	Microphonic Tube: V501, V502
20. Receive and Transmit dead.	Synthesizer Module, 14V supply.