

### RF WATTMETER CALIBRATION

1. Connect the output from a transceiver to the TRANSMITTER jack on 1040.
2. Connect an accurate, calibrated RF WATTMETER to the EXT RF load jack on the 1040. If the RF WATTMETER is a thru-line, terminate the wattmeter into a  $50\Omega$  resistive load.
3. Rotate the 1040 RF FUNCTION switch to FWD and the RANGE switch to 10W. RF LOAD switch should be in to EXT position.
4. Turn 1040 power switch to ON and zero RF WATTMETER.
5. Key the transmitter with no modulation.
6. Adjust R12 until 1040 RF WATTMETER and external wattmeter agree.

### 26 MHz OSCILLATOR ADJUSTMENT

1. Temporarily connect a jumper wire from emitter to collector Q1.
2. Connect an accurate, calibrated frequency counter to the collector of Q11.
3. Adjust C15 with a nonmetallic screwdriver for a reading of 26.255 MHz.
4. Disconnect jumper wire.

### TWO-TONE AMPLITUDE ADJUSTMENT

1. Connect an oscilloscope to the 1040 AUDIO OUTPUT jacks.
2. Move the AUDIO SOURCE switch to the TWO-TONE position, and the SPEAKER switch to OFF.
3. Rotate AUDIO GAIN control to full CW.
4. Temporarily connect a .1 mfd capacitor from the collector of Q6 to ground and adjust R92 for 1.5 V P-P signal on scope.
5. Remove capacitor from Q6 and connect to the collector of Q7. Adjust R50 for 1.5 V P-P signal on scope.
6. Remove capacitor from Q7.

### AUDIO WATTMETER CALIBRATION

1. Rotate the 1040 AUDIO FUNCTION switch to the .1 WATT range.
2. Rotate the 1040 LOAD switch to the  $4\Omega$  position.
3. Adjust R76 for zero on AUDIO WATTMETER.
4. Connect a 1000 Hz oscillator to the input of an audio amplifier and the amplifier output to the 1040 EXT SPKR jacks.
5. Connect an accurate, calibrated AC voltmeter to the 1040 EXT SPKR jacks and adjust the amplifier output for .632 V RMS (100 mW at  $4\Omega$ ).

6. Adjust R73 for full scale.

7. Rotate the LOAD switch to the  $8\Omega$  position and adjust the amplifier output for .894 V RMS (100 mW at  $8\Omega$ ).

8. Adjust R74 for full scale.

9. Rotate the LOAD switch to  $16\Omega$  and adjust amplifier output for 1.265 V RMS. (100 mW at  $16\Omega$ ).

10. Adjust R75 for full scale.

The 500 Hz and 2400 Hz oscillators are combined by R49, 50, 51 and R92 to form the two-tone signal.

The two signals are selected by AUDIO SOURCE switch S4 to be applied to audio amplifier IC3. Switch S4 also selects a portion of the transceiver output for monitoring. The output of audio amplifier IC3 is also available at the 1040 front panel AUDIO OUTPUT jacks.

### NOTES