

## ■ ADJUSTMENT

### 1. VHF PLL SECTION (LOCK)

- (1) Connect a tester (10 V range) to C120 (+).
- (2) Set the receiving frequency to 144.00 MHz.
- (3) Turn L16 so that the tester indicates 2.5 V.
- (4) Verify that the tester indicates 2.7–3.0 V when setting the receiving frequency to 146.00 MHz.

### 2. VHF TRANSMITTER SECTION

- (1) Set the frequency to 146.00 MHz.
- (2) Turn VR1 fully clockwise and set the front H/L switch to H side.
- (3) Connect a tester (10 V range) to L9 and put the device on transmitting position.
- (4) Turn VC1 so that the tester indicates the minimum.
- (5) Turn VR1 so that RF power is 26 W. In case current consumption is over 6 A or the output power does not reach to 26 W, adjust L11, L12, L13 and L14 by expansion.
- (6) Set the front H/L switch to L side so that the output power is between 3 W and 7 W.
- (7) Turn VC2 to set the transmitting frequency to 146.00 MHz.
- (8) Send 1 kHz modulation signals into the microphone terminal to set the modulation level to -10 dBm.
- (9) Turn VR2 so that the modulation degree is 4.7 kHz (dev).
- (10) Set the modulation level at the microphone terminal to 0.
- (11) For ALD 24T; set the TONE frequency to 88.5 Hz (TONE No. 08) and turn VR1 of the TSQ unit to get a modulation degree of 0.6 kHz.
- (12) For ALD 24E; press the TONE switch to put the device on transmitting position and turn VR3 so that the modulation degree is 3.5 kHz.
- (13) Verify that the transmit spurious is less than -60 dB (both H, L output).
- (14) Adjust the angle of D14 so that 4 (or 8) indicators of the S meter illuminate when transmitting on LOW power.

### 3. VHF RECEIVER SECTION

- (1) Set the receiving frequency to 146.00 MHz.
- (2) Connect a tester (2.5 V range) to the CN2 ⑥ terminal.
- (3) Adjust SG output so that the tester indicates around 0.5 V.
- (4) Turn L2 to L6 so that the tester indicates the maximum.
- (5) Should the tester indicate over 1 V, turn the SG output down and repeat steps (3) and (4).
- (6) Set AF LEVEL to 0 dB. Verify that the sensitivity of SINAD 12 dB has to be less than -8 dB $\mu$ .
- (7) Verify that distortion is less than 10% when output power is 1.6 W.
- (8) Set SG output to 15 dB $\mu$  (SG release value).
- (9) Adjust VR4 so that all the indicators up to the right edge of the S meter illuminate.

### 4. UHF PLL SECTION (LOCK)

- (1) Set the frequency to 450.00 MHz (for ALD 24E; 440.00 MHz) and connect a tester (10 V range) to C535 (+).
- (2) Adjust L423 when transmitting and adjust VC404 when receiving so that the tester (10 V range) indicates 6 V in both cases.
- (3) Verify that the tester indicates 3.4–3.7 V when setting the receiving frequency to 440.00 MHz (for ALD 24E; 430.00 MHz).

## 5. UHF TRANSMITTER SECTION

- (1) Set the transmitting frequency to 445.00 MHz (for ALD 24E; 435.00 MHz) and set the H/L switch to H side.
- (2) Turn VR401 so that the transmitting output reaches 26 W. (If the output does not reach to 26 W, adjust L417, 419 and 420 by expansion.)
- (3) Set the H/L switch to L side so that the output power is between 3 W and 7 W.
- (4) Turn VC406 so that the transmitting frequency is 445.00 MHz (for ALD 24E; 435.00 MHz).
- (5) Send 1 kHz modulation signals into the microphone terminal to set the modulation input level to  $-10$  dBm.
- (6) Turn VR402 so that the modulation degree is 4.7 kHz (dev).
- (7) Set the modulation level at the microphone terminal to 0.
- (8) For ALD 24T; set the TONE frequency to 88.5 Hz (TONE No. 08) and turn VR405 so that the modulation degree is 0.6 kHz.
- (9) For ALD 24E; press the TONE switch to put the device on transmitting position and turn VR403 so that the modulation degree is 3.5 kHz.
- (10) Verify that the transmit spurious should be less than  $-60$  dB (both H, L output).
- (11) Adjust the angle of D410 so that 4 (or 8) indicators of the S meter illuminate when transmitting on LOW power.

## 6. UHF RECEIVER SECTION

- (1) Set the receiving frequency to 450.00 MHz (for ALD 24E; 440.00 MHz).
- (2) Make the connections as shown in Fig. 1.
- (3) Turn VC401 to 403 and L407 to 409 so that the middle frequency 445.00 MHz (for ALD 24E; 435.00 MHz) indicates the maximum level.
- (4) Turn L407 and L408 to keep the value at the left inflection point of the curve around 440 MHz (for ALD 24E; 430 MHz).
- (5) Turn L409 and VC402 to keep the value at the right inflection point of the curve around 450 MHz (for ALD 24E; 440 MHz).
- (6) Turn VC401–403 again to balance the values of right and left inflection points.
- (7) Repeat (4)–(6) until the curve behaves in the same pattern as shown in Fig. 2.
- (8) Disconnect the CN5 cable and connect the antenna terminal to SG.
- (9) Send signals to the antenna terminal of the unit, on which the SG frequency is set on 450.00 MHz (for ALD 24E; 440.00 MHz), the output level on  $15$  dB $\mu$ , the modulation frequency on 1 kHz and the modulation degree on 3.5 kHz.
- (10) Turn L411 so that it indicates the minimum distortion degree.
- (11) Adjust VR406 so that all indicators of the S meter illuminate.

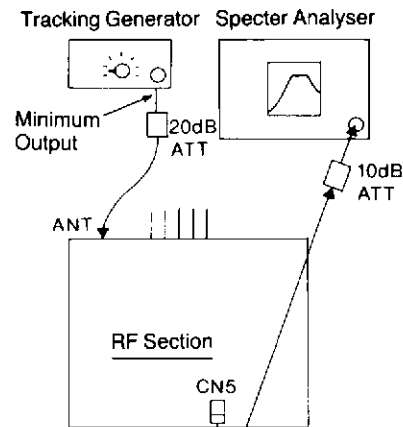


Fig. 1

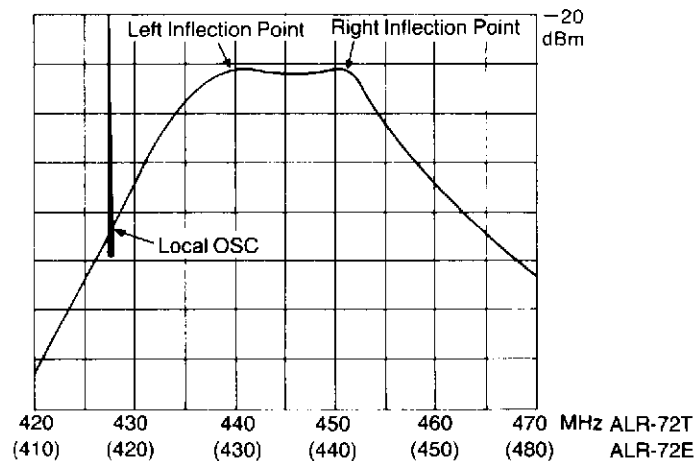


Fig. 2