15Squelch level set maximum (80). by using the front UP / DN switch

16Apply 0.95 uV of modulated standard deviation on-channel RF signal to the 50 Ω antenna connector.

Adjust Squelch range RV201 counter-clockwise just until squelch opens (audio on).

70-0671 Alignment Procedure

SETUP

1 Remove the six securing screws from the bottom cover , and the cover itself.

2 Connect a resistive 50 Ω RF load and wattmeter to Antenna Connector J502.

3 Connect 13.4V DC power to transceiver J505.

4 Connect a 3.2 Ω, 20W resistor to pins 4 and 6 of the Accessory Plug. The jumper between pins 5 and 6 must be temporarily removed to make this connection. The resistor serves as a constant load to replace the speaker's inconsistencies.

CAUTION:Both speaker terminals are LIVE. Never ground either one. Connect grounded receive-audio measuring-equipment to only one side of the speaker, and chassis ground. Normally, voltage measurement will be half of true values.

5 Turn the radio on (Push on and Push off switch), set the VOLUME control to a mid-position.

15 Squelch level set maximum (80). by using the front UP / DN switch

16 Apply 0.95 uV of modulated standard deviation on-channel RF signal to the 50 Ω antenna connector.

Adjust Squelch range RV201 counter-clockwise just until squelch opens (audio on).

Connect the Programmer to Programming Port Mic Jack J302.

Upload the radio programming Data-Packet into the Programmer and initiate its Remote Control Mode. Refer to the appropriate manual for details.

SYNTHESIZER ALIGNMENT

- VCO Resonance

1 Select the Remote Control Mode of the Programmer and enter the following test frequencies:

	A-Band	B-Band	C-Band	
RX Frequency	30.00	36.00	42.00	MHz
TX Frequency	30.00	36.00	42.00	MHz

2 Adjust Channel RX Tank L713 for 1.5V DC at VC (VCO Steering) .

15Squelch level set maximum (80). by using the front UP / DN switch

16Apply 0.95 uV of modulated standard deviation on-channel RF signal to the 50 Ω antenna connector.

Adjust Squelch range RV201 counter-clockwise just until squelch opens (audio on).

3 Active transmit mode (using the programmer) and adjust TX Tank L702 for 1.5V DC at VC (VCO Steering) .

15Squelch level set maximum (80). by using the front UP / DN switch

16Apply 0.95 uV of modulated standard deviation on-channel RF signal to the 50 Ω antenna connector.

Adjust Squelch range RV201 counter-clockwise just until squelch opens (audio on).

•Reference Oscillator

4 Initiate transmit on any channel. Measure transmitted RF carrier frequency without modulation and, if necessary, adjust REFERENCE OSCILLATOR X701 for carrier frequency to within ±30Hz of channel frequency.

PA MODULE ALIGNMENT

The 70-0671 should be adjusted to have a 6 MHz channel spread (8 MHz C-Band) at 110W. To do so :

1 Change the TX test frequency to the desired frequency.

2 Activate transmit mode and measure RF power at Antenna connector J502. Set RF output power to 110W at J502 using the programmer.

MODULATOR ALIGNMENT

15Squelch level set maximum (80). by using the front UP / DN switch

16Apply 0.95 uV of modulated standard deviation on-channel RF signal to the 50 Ω antenna connector.

Adjust Squelch range RV201 counter-clockwise just until squelch opens (audio on).

•Modulation Limiting

1 Disconnect the hand microphone from its front panel Mic Jack J302.

Apply 3Vrms of 1000Hz signal to pin 1 of Mic Jack J302, then initiate transmit.

2 Measure total carrier deviation and, if needed adjust modulation limiting to obtain ±5KHz (wide) or ±2.5KHz (narrow) using the programmer.

•Microphone Gain

3 No alignment for Microphone gain is required.

•CTCSS/DCS

4 Remove the 1KHz audio signal from Mic Jack J302.

5 Add 250.3Hz CTCSS tone to the transmit test by testing frequency using the programmer.

15Squelch level set maximum (80). by using the front UP / DN switch

16Apply 0.95 uV of modulated standard deviation on-channel RF signal to the 50 Ω antenna connector.

Adjust Squelch range RV201 counter-clockwise just until squelch opens (audio on).

6 Adjust CTCSS deviation to ±750 Hz ± 10 Hz (wide) or ± 375 Hz ± 10 Hz (narrow) deviation using the programmer.

7 Change 67.0 Hz CTCSS tone to the transmit test by testing frequency using in the programmer.

8 Adjust RV401 for ±750 Hz ± 100 Hz (wide) or ± 375 Hz ± 100 Hz (narrow) deviation.

9 Change the transmit DCS code +023 to the transmit test by testing frequency using the programmer.

10 Adjust RV401 so that modulation waveform from modulation analyzer matches the correct waveform shown in Figure 2-1.

11 Change 250.3 Hz CTCSS tone to the transmit test by testing frequency using the

15Squelch level set maximum (80). by using the front UP / DN switch

16Apply 0.95 uV of modulated standard deviation on-channel RF signal to the 50 Ω antenna connector.

Adjust Squelch range RV201 counter-clockwise just until squelch opens (audio on).

programmer. Carefully adjust RV401 for ± 750 Hz ± 10 Hz (wide) or ± 375 Hz ± 10 Hz (narrow) deviation.

- DTMF

12 Clear the CTCSS tone, then initiate transmit test by testing frequency using the programmer.

13 Adjust DTMF deviation to ± 2.0KHz ± 10 Hz (wide) or ± 1KHz ± 10 Hz (narrow) deviation using the programmer.