

TUNE-UP PROCEDURE

FRS3028

1. TRANSMITTING

1.1 TX VCO ADJUSTMENT

- a) Connect the DC voltmeter to the test point 1 (TP1).
- b) Press the PTT Button.
- c) Adjust L18.
- d) Specification: 0.9Vdc +/- 0.3 V @ CH 1

1.2 FREQUENCY ADJUSTMENT

- a) Connect the frequency counter to ANT point.
- b) Adjust CV1.
- c) Specification: Tx Frequency +/- 200Hz

1.3 TX POWER CHECK

- a) Connect the RF level meter to the ANT point (RF impedance: 50Ω)
- b) Press the PTT button.
- c) Check the TX Power
- d) Specification: 0.06W

1.4 MAX. DEVIATION ADJUSTMENT

- a) Connect the deviation meter to the ANT point.
- b) Apply the audio signal 1KHz, 4mVrms to the test point 7 (TP7 - MIC input)
- c) Observe the clipped signal on the scope.
- d) Adjust SVR1.
- e) Specification: 2.5KHz Dev +/- 0.15KHz

1.5 MODULATION SENSITIVITY ADJUSTMENT

- a) Connect the deviation meter to the ANT point.
- b) Apply the audio signal 1KHz, 8mVrms to the test point (TP7 - MIC input).
- c) Adjust SVR1.
- d) Specification: 0.9-1.0KHz Dev

1.6 CALL DATA MODULATION SENSITIVITY CHECK

- a) Press the Call Button and observe the deviation meter to check the deviation.
- b) Specification: 1.8KHz +/- 0.5KHz

2. RECEIVING

2.1 RX VCO CHECK

- a) Connect the DC voltmeter to test point 1 (TP1).
- b) Check the DC voltage.
- c) Specification: 0.9Vdc +/- 0.6V @ CH 1

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2.2 QUAD COIL ADJUSTMENT

- a) Connect the DC voltmeter to the test point 3 (TP3).
- b) Adjust the IFT1.
- c) Specification: 1.5Vdc +/- 0.2V

2.3 SENSITIVITY CHECK

- a) Connect the Sinnader meter to test point 5 (TP5).
- b) Reduce the RF output level of signal generator to get the 12dB of Sinnader.
- c) Specification: <-112dBm

2.4 SQUELCH THRESHOLD POINT ADJUSTMENT

- a) Connect the DC voltmeter to test point 16.
- b) Same setup as the Sensitivity Check.
- c) Adjust the SVR1 to get the DC changing point.
- d) Specification: 7dB +/- 1dB

2.5 SPEAKER OUTPUT LEVEL CHECK

- a) Connect the Audio level meter to test point 5 (TP5).
- b) Connect the 8Ω load to test point 5 (TP5).
- c) Press the volume button till its maximum level.
- d) Adjust the modulation deviation of RF signal generator.
- e) Check the clipping start deviation & level.
- f) Specification: Clipping start deviation = >0.6KHz
Level = -2 +/- 4 dBm

NOTE:

- 1. Press PTT button continuously when checking TRANSMITTING parameters.
- 2. Press the Monitor button to disable the RX power saving when the RX is not stable.

3. OTHER PARAMETER CHECKING

3.1 LOW BATTERY DETECT VOLTAGE CHECK

- a) Change the voltage until the Battery icon is flashing on the LCD.
- b) Check the voltage.
- c) Specification: 4.2Vdc +/- 0.3V