

ALIGNMENT AND ADJUSTMENT

This transceiver is completely aligned at the factory and does not require any adjustment installation. However it is considered good practice to verify that none of the adjustments has changed or been disturbed.

This test setup used either in part or total during the following adjustments.

A. TEST EQUIPMENT

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|--|--------------------------------|
| 1) DC Power Supply (13.8V DC) | 0-15V 3A max. set at 13.8V DC |
| 2) RF Power Meter | 10W 50 ohm 100-200MHz |
| 3) RF Signal Generator | 100-200MHz, 50 ohm termination |
| 4) FM Linear Detector (FMLD) | 100-200MHz |
| 5) Frequency Counter | 1-500MHz |
| 6) Oscilloscope | 20MHz |
| 7) Distortion Meter | |
| 8) INADDER (Trademark of Helper Instruments Co.) | |
| 9) Audio Oscillator | |
| 10) Toggle Switch (for use as PTT switch). | |

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STEP	ADJUSTMENT	TEST POINT	PROCEDURE
1	L20 PLL PD Voltage	TP1	<ol style="list-style-type: none"> 1. Connect a digital voltmeter to TP1 on RF PCB. 2. Set 151.625MHz. 3. Adjust L114. 4. TP1 Voltage read 1.2VDC (1.1~1.3 VDC). 5. Press PTT to check. PD Voltage read $1.4 V \pm 0.2V$.
2	VC1 PLL Frequency	ANT	<ol style="list-style-type: none"> 1. Connect the coupler output to a frequency counter. 2. Set channel to 151.625MHz) 3. Adjust VC101 to obtain a frequency reading $151.625MHz \pm 200Hz$
3	VR201 Modulation	ANT	<ol style="list-style-type: none"> 1. Connect the coupler output to an FM linear detector. 2. Connect audio oscillator to microphone Jack. 3. Set unit to transmit mode. 4. Set audio oscillator output to -23dBm 1KHz. 5. Adjust VR201 to obtain $\pm 2.5KHz$ deviation. 6. Set audio oscillator output to -43dBm 1KHz. 7. Read deviation meter [$\pm 1.2 - \pm 1.5KHz$].
4	L5 L6 L7 L8 L201 Receiver	SPK Jack	<ol style="list-style-type: none"> 1. Connect a VHF signal generator to the antenna connector. 2. Connect a SINAD meter to Ext. speaker jack. 3. Set signal generator to output 1KHz modulation signal with $\pm 1.5KHz$ deviation. 4. At frequency 151.625MHz, adjust L201 to get maximum output and minimum distortion. 5. Adjust L5, L6, L7, L8 RF coil to get maximum sensitivity.

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