2. TUNE UP PROCEDURE

2. 1 JSB-196GM MF/HF RADIOTELEPHONE

2. 1. 1 GENERAL

This section provides you with servicing instructions for proper preventive maintenance and servicing. The JSB-196GM is designed to provide trouble free operation and adherence to recommended installation and preventive maintenance measures will help to assure this.

2. 1. 2 PERIODIC MAINTENANCE

The following procedures are recommended for performance at monthly intervals to minimize the possibility of equipment failure and to assure optimum performance.

1. Inspect the antenna system. Pay particular attention to the cleanliness of the antenna insulator(s), condition of electrical connections, coax transmission line and connections, antenna and lead-in, and ground strap and connections.

2. Check the condition of the 13.6 Vdc power source. Make sure that all connections are clean, that the conductors have sufficient current capacity, and that the battery has sufficient capacity and high specific gravity.

3. Fuse ferrules are subject to corrosion which increases circuit resistance. Fuse should be removed from their holders, inspected, and cleaned of any free of corrosion, batteries should be in proper condition and clean, power cabling insulation should be in proper condition to prevent short circuits or corrosion of the conductors.

4. Plastic surfaces should be cleaned with lens tissue or soft nonabrasive cloth. Care should be exercised with any plastic surface to prevent scratching. Mild soap and water may be used in stubborn cases. DO NOT USE SOLVENTS.

2.1.2.1 Test Equipment

The test equipment listed below is used for the test setup shown in Figure 2-1.

1.	DC Power Supply	13.6Vdc, 40A Continuous Duty, Minimum.
2.	RF Power Meter	Bird Model 43, 50 ohms, 250W, 2-30MHz, or equivalent.
3.	Audio Oscillator	HP 4204A or equivalent.
4.	Coaxial Dummy Load	50 ohms, 150W minimum.

2.1.2.2 Test Equipment Interconnection

Figure 4-1 is a block diagram indicating hookup of test equipment for tune-up and troubleshooting procedures as outlined in the following pages.

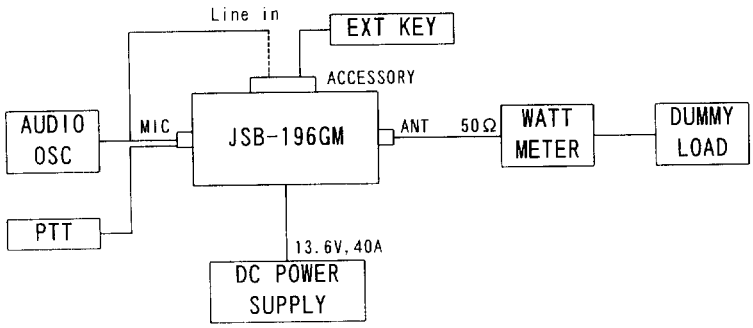

Figure 2-1 Test Equipment Interconnection

2. 1. 3 JSB-196GM TUNE UP PROCEDURE

The JSB-196GM is a wide band transceiver and will not require tune up procedures after the initial installation, unless major repairs, requiring major component changes, have been performed. Upon initial installation or in the event of such changes, perform the following procedures:

2.1.3.1 Transmitter Adjustment

Table 2-1 Transmitter Adjustment

No.	Item	Unit name	Test circuit	Adjusting procedures	Ratings
1.	POWER MENU operation	———	Fig. 2-1	1. Initial settings: Audio oscillator: off 2. Adjustment: Automatic power adjustment 1) Clear the TX power data by MENU 17,PWR 2) Once turn off power, press both [POWER] and [MENU]. 3) Select "ADJ" by JOG dial. 4) Select "150" by JOG dial and then start Automatic power adjustment sequence.	
2.	MIC LEVEL MENU operation	———	Fig. 2-1	1. Initial settings: TX frequency: 8294.0kHz Mode: USB Power: High Audio frequency: 1500 Hz Audio level : -55dBm 2. Adjustment: Adjust the transmit output by MENU 32.	30-70W
3.	LINE IN LEVEL RV430	TRX UNIT CMN-1960	Fig. 2-1	1. Initial settings: TX frequency: 8294.0kHz Mode: F1B Power: High Audio frequency: 1700 Hz Audio level : -15dBm 2. Adjustment: Adjust the transmit output by RV430.	30-70W
4.	PA BIAS RV1 and RV2	PA UNIT CAH-1960	Fig. 2-1	1. Initial settings: TX frequency: 8294.0kHz Mode: USB Power: Low Audio oscillator: off 2. Adjustment: 1) Rotate RV1 and RV2. 2) Turn on EXT KEY to tramsmit. 3) Measure the source current Ix. 4) Adjust the source current by RV1. 5) Adjust the source current by RV2.	I = Ix + 300mA I = Ix + (700-730mA)

Note: MENU 16-32 is User Definitions(Level 2 MENU).
Once turn off the power, both press [POWER] and [MENU].

2.1.3.2 Receiver Adjustment

Figure 2-2 is a block diagram indicating hookup of test equipment for receiver test and adjustment.

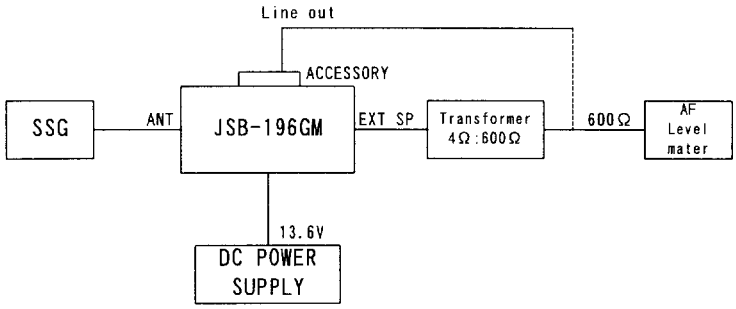

Figure 2-2 Receiver Test Circuit

Table 2-2 Receiver Adjustment

No.	Item	Unit name	Test circuit	Adjusting procedures	Ratings
1.	LINE OUT RV400	TRX UNIT CMN-1960	Fig. 2-2	1. Initial settings: RX frequency: 2400.0kHz Mode: USB SSG frequency:2401.5kHz SSG level: 30dBu e.m.f. 2. Adjustment: Adjust the line output level by RV400.	 0dBm

2. 2 NCT-196 DSC TERMINAL

2. 2. 1 SETTING OF THE SHORT PLUG, DIP SWITCHE AND ATTENUATOR

The settings of the short plugs and DIP switches are completed before shipping, therefore re-setting is not necessary except in the case of user options.

■Short plug settings

Plug	Function	Default	After installation
ST1	Line input level A: 0dBm B: −10dBm	A	A

■DIP switch settings

Switch No.	Function	Default	After installation
S1-1	Controlled by OFF:DSC/NBDP ON:DSC	ON	ON
S1-2	EEPROM initialization OFF:initialize ON:Not initialize	ON	ON
S1-3	EEPROM writing OFF:Disable ON:Enable	ON	OFF
S1-4	Transmission of factory test signal OFF:Possible ON:Not possible	ON	ON
S1-5	Signal transmit timing OFF:factory mode ON:normal	ON	ON
S1-6	High voltage control Normaly ON	ON	ON
S1-7	Reservation Normaly ON	ON	ON
S1-8	Reservation Normary ON	ON	ON

■Line output level adjustment

Before shipping, the line output terminal is adjusted so that the output level is 0dBm with the attenuator setting to 10dB. The attenuator adjusts the output level in 1dB step intervals.