

Adjustment Description

Before the adjustment, please beforehand save the user's setting.

Required Test Instrument

1. Stabilized power supply 1set
 - 1) The supply voltage can be changed between 2V and 6V DC, and the output current is 2A or more;
 - 2) The standard output voltage is 3.6V DC;
 - 3) The power supply output voltage stabilizes.
2. Ammeter 1 set
3. Digital Voltmeter 1 set
4. Radio Communication Test Set 1 set

Test and Adjustment

1. Setting: Put the main unit under test on the jig (Note: Make sure the test terminal and the jig connect well), and turn on the power.
2. VCO

Enable "Default Set Mode" function in programming software. And then press "+", "-", and "MENU" keys simultaneously to turn on the radio and enter adjustment mode.

Item	Condition	Measurement		Adjustment		Specification/ Remarks
		Test Instrument	Terminal	Parts	Method	
Transmit VCO lock voltage	CH1: Transmitting	Digital Voltmeter	P6	L22	Adjust L22 using ceramic screwdriver until the lock voltage reaches the selected range	$2.5 \pm 0.1V$
Receive VCO lock voltage	CH1: Receiving	Digital Voltmeter	P6	L22	Check	Around 1.0V

3. Receiver

Item	Condition	Measurement		Adjustment		Specification/Remarks
		Test Instrument	Terminal	Parts	Method	
RX IF demodulation output	Adjust to CH1. Press MON for 1 second to receive.	Radio Communication Test Set SSG: -60dB MOD: 1KHz, DEV: 1.5KHz FILTER: 0.3~3KHz	Antenna Mic jack	L20	Adjust L20 using ceramic screwdriver until the max. AF output signal appears.	When adjusting, rotate the volume control to the right position so that the output won't limit.

Item	Condition	Measurement		Adjustment		Specification/Remarks
		Test Instrument	Terminal	Parts	Method	
Receiving Sensitivity	Adjust to CH1. Press MON for 1 second to receive.	Radio Communication Test Set SSG: -119dBm, MOD:1KHz DEV: 1.5KHz FILTER: 0.3~3KHz	Antenna Mic jack		Check	SINAD: 12dB or higher
Squelch	Adjust to CH1 and set SQ as level 1	Radio Communication Test Set SSG: -119dBm,	Antenna Mic jack		Reduce the SSG output signal gradually until AF output mutes.	Squelch level: -122 ± 1.5dB
	Adjust to CH1 and set SQ as level 4	Radio Communication Test Set SSG: -110dBm,				Squelch level: -114 ± 1.5dB

4. Transmitter (Be sure to connect the antenna or dummy load before adjustment)

Item	Condition	Measurement		Adjustment		Specification/Remarks
		Test Instrument	Terminals	Parts	Method	
Transmitting Frequency	Adjust to CH1. Press PTT to transmit.	Radio Communication Test Set	Antenna	VC1	Use ceramic screwdriver to adjust VC1 so that the center frequency is no more than the error.	± 2.5ppm
Transmitting power		Radio Communication Test Set Ammeter			Check	≥ 700mW
Max frequency deviation	Adjust to CH1. Press PTT to transmit.	Radio Communication Test Set LPF: 15KHz AF OUT: 1KHz/150mV	Antenna Mic Jack	R77	Use screwdriver to adjust R77 so that frequency deviation is in the regulated range.	Frequency deviation: 2.1KHz~2.2KHz
Modulation Sensitivity	Adjust to CH1. Press PTT to	Radio Communication	Antenna Mic Jack		Check	Frequency deviation: 1.1KHz~1.8KHz

	transmit.	Test Set BPF:0.3~3KHz AF OUT: 1KHz/12mV				
CTCSS /CDCSS Frequency Deviation	Adjust to CH2 and CTCSS code automatically turns to "1". Press PTT to transmit.	Radio Communication Test Set LPF:0.3KHz	Antenna		Use screwdriver to adjust R153 and R152 so that CTC frequency deviation is in the regulated range.	Frequency deviation: $0.45 \pm 0.05\text{KHz}$
	Adjust to CH3 and CTCSS code automatically turns to "38". Press PTT to transmit.	Radio Communication Test Set LPF:0.3KHz	Antenna		Check	Frequency deviation: $0.45 \pm 0.05\text{KHz}$
	Adjust to CH4 ; automatically turn to CDCSS. Press PTT to transmit.	Radio Communication Test Set LPF:0.3KHz	Antenna		Check	Frequency deviation: $0.5 \pm 0.1\text{KHz}$
Low Battery Alert Level	Set the battery as A	Digital Voltmeter	Power supply port	Power supply	Adjust power supply output voltage and check alert level	$3.3 \pm 0.1\text{V}$
	Set the battery as n				Adjust power supply output voltage and check alert level	$3.1 \pm 0.1\text{V}$
Low Battery Power-off Level	Set the battery as A	Digital Voltmeter	Power supply port	Power supply	Adjust power supply output voltage and check power off level	$3.1 \pm 0.1\text{V}$
	Set the battery as n				Adjust power supply output voltage and check power off level	$3.0 \pm 0.1\text{V}$

5. After adjustment, recover the original setting (before adjustment) of the radio through programming software.