TURN-UP INFORMATION

MODEL: R8

1. TRANSCEIVER SETTING

A) Power Supply: By using three pieces of AAA size battery, the nominal power supply voltage is 3.6V, the operating voltage can be ranged from3.3V to 4.5V.

B) TX/RX Channel Setting：

Press and hold the MENU PWR key for 3 seconds to switch on the transceiver. At standby mode, the primary digit displays the channel number and supplemental digit displays the CTCSS / DCS number.

Press the MENU PWR key one time, the CH will flash, then press ▼ or ▲ to select the Channel and press PTT to confirm and back to receiving mode interface.

C) CTCSS/DSC Number Setting

Press the MENU PWR key two time, the sub-channel will flash, then press ▼ or ▲ to select the CTCSS or DCS and press PTT to confirm and back to receiving mode interface. Press and hold the MENU PWR key for 3 seconds to switch off the transceiver, press PTT key to confirm and back to receiving mode interface.

2. TRANSMIT

A) Press and hold the “PTT” button while speaking at about 5cm from the microphone for transmission. LCD will display out TX icon. Release the “PTT” button to return to standby mode.

B) Press the MENU PWR key one time to enter into channel selection sub-manual, and short press MENU PWR key three times to enter into VOX(voice-operated transmission) sub-manual,

Use ▼ or ▲ to select OFF & the desired VOX level (OFF – 03). Without pressing the PTT button, the voice signal can be transmitted through the microphone.

3. ADJUSTMENT DESCRIPTION

The transceiver can be adjusted manually , Manual adjustment procedure for R8 is summarized as follows.

A) Instrument Lists:

Radio Communication Test Set(HP8924C) ·····1 set

15V/2A DC Power Supply·····1 set

multimeter ·····1 set

B) Preparation for tuning the transceiver

i. Before attempting to tune the transceiver, connect the device under test (DUT) to a 4.5V DC power supply.

ii. Whenever the transmitter is tuned, the antenna port of DUT must be connected to a 50Ω dummy load iii. The speaker output must be terminated to an 16Ω dummy load and connected to a Radio Communication Test Set(HP8924C) at all times during tuning.

C) Adjustment Procedures

i. Common Section

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Item	Condition	Measurement		Adjustment		Specification/Remarks	
		Test Instrument	Terminal	Part	Method		

1.Power supply	1.Power supply voltage DC4.5V	15V/2A DC power supply	BAT+&BAT-				

ii.Receiver Section

Item	Condition	Measurement		Adjustment		Specification/Remarks	
		Test Instrument	Terminal	Part	Method		
2. Sensitivity	1. RX low Channel 2. RX center channel 3. RX high Channel	Radio Communication Test Set Signal Generator i. Output: ≤ -119dBm ii. Modulating signal: 1KHz iii. Frequency Dev: ±1.5KHz	Antenna port: RF I/P Speaker Jack: Audio O/P with 16Ω dummy load		Check	SINAD: 12dB or higher	
Distortion 4.Audio power	1. RX center channel	Radio Communication Test Set Signal Generator i. Output: -60dBm	Antenna port: RF I/P Speaker Jack: Audio O/P with 16Ω dummy load		Check	Audio Distortion ≤ 5% @ 0.05W Audio power output > 0.2W	

iii. Transmitter Section

Item	Condition	Measurement		Adjustment		Specification/Remarks
		Test Instrument	Terminal	Part	Method	
5. TX Frequency Error	1.TX center channel	Radio Communication Test Set @ TX Mode	Test Set is connected to antenna port of DUT			Error ≤ ±200Hz
6. TX Power	1.TX power	- Radio Communication Test Set @ TX Mode - multimeter	Test Set is connected to antenna port of DUT		Adjust it to : RF PWR ＜ 0.5W I≤ 350mA	Check RF power level
7. Max. Frequency Deviation	1.TX center channel 2. TX low channel 3. TX high channel	Radio Communication Test Set @ TX Mode FILTER: 0.3-3.4KHz AF O/P:1KHz 100mV	‘- Test Set is connected to antenna port of DUT - AF O/P is connected to MIC Jack with 2K Ω dummy load		Check deviation at ＜2.5KHz		

8. Modulation Sensitivity	1. TX center channel	Radio Communication Test Set @ TX Mode FILTER: 0.3-3.4KHz AF O/P:1KHz 12mV	’ - Test Set is connected to antenna port of DUT - AF O/P is connected to MIC Jack with 2K Ω dummy load		Check deviation: 1.2KHz-1.8KHz	Check
9. Modulation Distortion					≤5%	
10. CTCSS Frequency Deviation	1. TX center channel	Radio Communication Test Set @ TX Mode FILTER LPF: 300Hz	Test Set is connected to antenna port of DUT		Adjust deviation to 0.3KHz ± 0.2KHz	
11. CDCSS Frequency Deviation	2. TX center channel	Radio Communication Test Set @ TX Mode FILTER LPF: 300Hz	Test Set is connected to antenna port of DUT		Adjust deviation to 0.3KHz± 0.2KHz	

Tune-up Power Range

Description	Tune-up Power (dBm)	Tune-up Power Range (dBm)
FRS	19.60 ± 0.7	18.90 ~ 20.30
GMRS	19.70 ± 0.6	19.10 ~ 20.30