Adjustment Description

The radio can be adjusted by PC programming software or by manual adjustment. Manual adjustment procedure of TM800 is as follows. (Refer to “Test Mode” and “Adjustment mode” in the section *Radio Modes*.)

Instrument:

Radio Communication Test Set	1 set
Scanner	1 set
30A/30V Power Supply	1 set
Digital Voltmeter	1 set
Power Meter	1 set

Adjustment:

1. Download
   - Connect the radio with PC by programming cable; Turn the radio on.
   - Click “Download” on software interface;
   - Select the desired program and click “Open”, download starts.
   - Click “End” when download is completed.
   - Turn the radio off and remove the programming cable.
2. Initialization

   It’s necessary to set the frequency and initialize the radio before adjustment because there is no needed information in FLASHROM when the radio is manufactured.
   - Turn the power on while holding down [PF2], then press [PF3], [PF4] and [PF6] in sequence.
   - The LED on control panel turns green from red, indicating that the initialization is completed.

3. Adjustment

Some items can be adjusted in conventional mode and the others in manual adjust mode.

- Turn the power on to enter conventional mode.
- Switch the power off and back on while holding down [PF6], the radio enters manual adjust mode. The channel number is displayed on the LCD.

VCO

Item	Condition	Measurement		Adjustment		Specification / Remarks
		Test Instrument	Terminal	Part	Method	
1. Power supply	1.Power supply voltage DC13.6V					
2. VCO lock voltage (TX)	1.CH: TX HI	Digital Voltmeter	CV	TC1	8.0V±0.1V	

	2.CH: TX LO				Check	□1.5V
3. VCO lock voltage (RX)	1.CH: RX HI			TC2	8.0V±0.1V	
	2.CH: RX LO				Check	□1.5V

Receiver

Item	Condition	Measurement		Adjustment		Specification /Remarks
		Test Instrument	Terminal	Part	Method	
4.□□ bandpass filter	Enter adjustment item “10”, each Ch corresponds to a specific RX Freq	Scanner	ANT . TP1	Adjust software settings	Adjust the gain to the Max. value, the corresponding freq is on the rightmost to bandpass waveform. Press [PF6] to save.	
5. Sensitivity	1.CH: RX Center □ turn to CH1(C) in manual adjust mode	Radio Communication Test Set SSG output: -118dBm MOD:1KHz DEV:±3KHz(W) ±1.5KHz(N) FILTER: 0.3-3.4KHz	ANT SP Jack	W/N □turn on power while holding down [PF6] to enter Channel Set Mode□	[UP]/ [DOWN] to change channel Check	SINAD: 12dB or higher
	2. CH: RX LO□ turn to CH2(L) in manual adjust mode					
	3.CH:RX HI□ turn to CH3(H) in manual adjust mode					

6.SQ Open	Enter adjustment item “11”	Radio Communication Test Set SSG output: -121dBm□level 3□ SSG output -113dBm □ level 9□	ANT SP Jack	[UP]/ [DOWN] to change channel	Adjust to open the SP at SQL3 and SQL9	Adjust to open the squelch
7.SQ Close	Enter adjustment item “12”□	Radio Communication Test Set SSG output: -123dBm□level 3□ SSG output: -115dBm □ level 9□			Adjust to close the SP at SQL3 and SQL9	Adjust to close the squelch
8.Distorsion	1.CH: RX Center	Radio Communication Test Set SSG output: -60dBm	ANT SP Jack	FILTER: 0.3-3.4K Hz	Check	DIS≤5%
9.S/N						S/N≥46□W□ S/N≥40□N□

Transmitter

Item	**Condition**	**Measurement**		**Adjustment**		**Specification /Remarks**
		Test Instrument	**Terminal**	**Part**	**Method**	
10.TX Frequency	Enter adjustment item “1”, each Ch corresponds to a specific TX Freq	Radio Communication Test Set	ANT	Adjust software settings	Adjust to Ch frequency	Error <100Hz
11.TX Power	Each Ch corresponds to a specific TX Freq□ enter adjustment item “2”□adjust H/M/L power	Radio Communication Test Set Ammeter	ANT	Adjust software settings□ press [PF6] to save.	High power: PO> 50W I≤12.0A	Check High power
					Middle power: PO>25W I≤8.0A	Check Middle power
					Low power: PO>10W I≤6.0A	Check Low power

12.Max. Deviation	1. Each Ch corresponds to a specific TX Freq □ enter adjustment item “3”□	Radio Communication Test Set FILTER: 0.3-3.4KHz AF:1KHz 100mV	ANT MIC Jack	Adjust software settings, press [PF6] to save and enters the next item	Check deviation at CH L/C/H: 4.0±0.1KHz(W)	
					Check deviation at CH L/C/H: 2.0±0.1KHz (N)	
13. Modulation Sensitivity	1. Each Ch corresponds to a specific TX Freq□	Radio Communication Test Set FILTER: 0.3-3.4KHz AF:1KHz 6mV	ANT MIC Jack		Check deviation: 2.5KHz-3.5KHz□W□ 1.3KHz-1.7KHz□N□	Check
14. Modulation Distortion					≤5%	
15.CTCSSDeviation	Each Ch corresponds to a specific TX Freq□ enter adjustment item “5”, adjust 67Hz/127.3Hz/251HzCTCSS	Radio Communication Test Set FILTER LPF: 300Hz	ANT	Change CTCSS settings with Selector Knob	Adjust deviation to 0.75KHz±0.10KHz □W□ 0.35KHz±0.05KHz □N□	
16.CDCSSBalance	Each Ch corresponds to a specific TX Freq □ enter adjustment item “4”	Radio Communication Test Set FILTER LPF: 300Hz	ANT	Change CDCSS settings with Selector Knob		Check waveform
17. CDCSS Deviation	Each Ch corresponds to a specific TX Freq □ enter adjustment item“6”	Radio Communication Test Set FILTER LPF: 300Hz	ANT	Change CDCSS settings with Selector Knob	Adjust deviation to 0.75KHz±0.10KHz □W□ 0.35KHz±0.05KHz □N□	
18.DTMF Deviation	Each Ch corresponds to a specific TX Freq □ enter adjustment item “7”	Radio Communication Test Set FILTER LPF: 3KHz	ANT	Change DTMF settings with Selector Knob	3.0KHz±0.2KHz □W□ 1.5KHz±0.1KHz □N□	

19.MSK	Each Ch corresponds to a specific TX Freq □ enter adjustment item “8”		ANT	Change DTMF settings with Selector Knob		
20.2TONE/5 TONE	Each Ch corresponds to a specific TX Freq □ enter adjustment item “9”	Radio Communication Test Set FILTER LPF: 3KHz	ANT	Change 2-tone/ 5-tone settings with Selector Knob	Adjust deviation to 3.0KHz±0.10KHz □W□ 1.5KHz±0.05KHz □N□	