Radioddity

QT60

10 Meter Amateur Radio

Instruction Manual

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FUNCTIONS & FEATURES

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◆ FM、AM、USB、LSB、PA mode
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◆ Flexible Menu Function and PC Program Software
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◆ SQ, ASQ Function (FM and AM mode only)
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◆ SCAN Function
◆ Programmable RB Function
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◆ Model Name Customized Function
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◆ VOX Function
◆ TX and RX Noise Reduction
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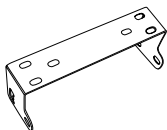◆ WX weather channel
◆ Weather Alert

■ STANDARD ACCESSORIES
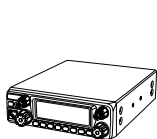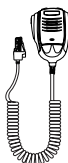
| Radio | Microphone | Mounting Bracket | Microphone Hanger | Non-slip Mat |

| Screws for bracket | Pads for bracket | Adjusting screws | Spare Fuses (10A, 125V) | Self-tapping Screws | Pads |

■ INSTALLLATON

Choose the most appropriate setting from a simple and practical point of view. Your radio should not interfere with the driver or crash the driver's knee or leg when rush brake.

1. Using the self-tapping screws and pads(2 sets) to fix the bracket.

2. Put the Non-slip mat on the 2 ends of the bracket and put in the radio. Then insert the adjusting screws and check careful each screws, make sure the screws and machine will not loose when the car shaking.

3. Choose suitable angle by the 3 screw holes in the two ends of bracket.
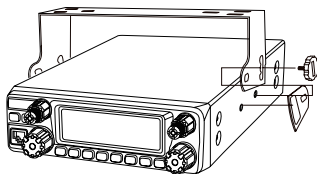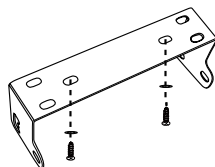
⚙ Microphone connection

1. Plug microphone connector into jack.
2. Pull on the screw for microphone connector.
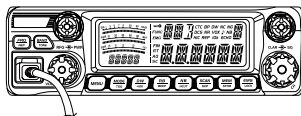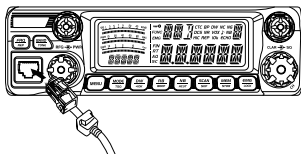
✖ ANTENNA INSTALLATION

Before using this radio, please install a high efficent and harmonious adjusted CB antenna, suitable antenna type and correct installation will bring excellent communication.

To match with the radio, the antenna and cable shall with characteristic impedance of 50ohm, or the antenna system will not efficient enough and will disturb TV, radio or other electronics.
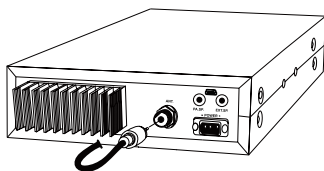
1. Screw the antenna connector into the antenna jack.
2. Grounding the antenna system to ensure best performance of this radio.

WARNING:

▲ Connect antenna firstly before transmiting, or it might damage the radio.

▲ To avoid the risk of fire, electric shock, radio damage, all base station shall equip of lightning protector

▲ Be sure choose a matching antenna, you may enquiry our dealers.

3. The position of antenna can be put as following example:
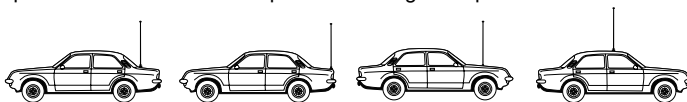
✖ POWER CONNECTION

This radio adopt 13.8V power supply, never connect it to 24V battery, And the 13.8V car battery shall with sufficient current, or the LCD will become dark and Transmit power will drop down.

1. Connect positive red power cable with the + terminal of the battery.
2. Connect negative black power cable with the - terminal of the battery.
3. Connect the DC power cable to the transceiver's power supply connector.

▲ We suggest not use cigar lighter as it often bring down the voltage.

▲ Locate the power cable away from high temperature, moisture, portfire and cable insulator.

▲ Use a full power cable even it is longer than need, do not take off the fuse holder from the cable.

Towards starter

Connected to chassis
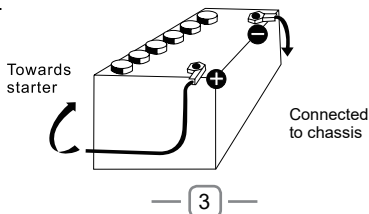
❊ Replacing Fuse

This radio adopt 15A, 250V fuse.

If the fuse blows, determine the reason, then correct the problem.

After the problem is resolved, replace the fuse. If newly installed fuses continue to blow, disconnect the power cable and contact your autho-rized dealer or an authorized servicecenter:

1. Pull the two fuse cover in difference direction and open it.
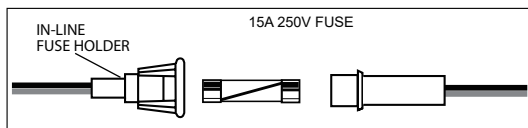
2. Replace the broke fuse with good one, and close the fuse holder.
3. Be sure to use suggested fuse, or it might damage the radio.
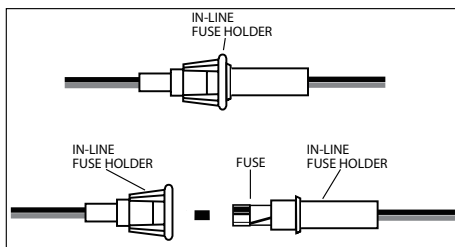
❊ Install Microphone Hanger

Choose a ideal location which will not interfere the driver. Using supplied self-tapping screws and pads(2 sets) to fix the hanger.
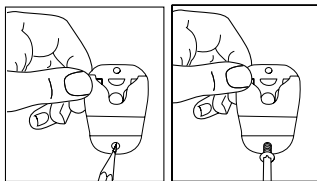
❊ Install External Speaker

If use an external speaker, please choose 8ohm speaker with 3.50mm mono band (doulbe cable) plug.

1. Locate the external speaker in a suitable place.
2. Plug into the speaker jack.
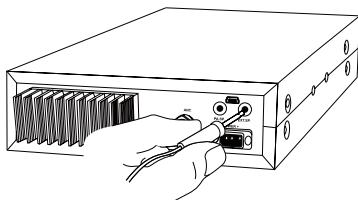
■ GETTING ACQUAINTED

▓ Front Panel
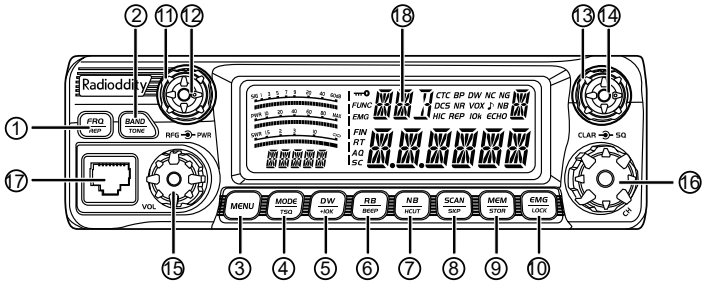
No.	Key	Functions
1	FRQ	Switch between channel mode and frequency mode、offset setup
2	BAND	Switch band: A-I、ECHO setup
3	MENU	Function Menu key
4	MODE	Switch mode(FM、AM、USB、LSB、PA)、TSQ setup
5	DW	Dual–watch scan、Frequency+10K function
6	RB	RB function、Beep voice prompt function
7	NB	NB function、HI-CUT function
8	SCAN	Scan、Scan add、Scan delete
9	MEM	Use, store or delete memory channel
10	EMG	Emergency Channel; Keypad lock.
11	PWR	RF Power Control
12	RFG	RF Gain Control
13	SQ	Squelch Control
14	CLAR	SSB Clarifier switch
15	VOL	Power On/Off; Volume Control.
16	CH	Channel Switch, Push key.
17		Microphone Jack
18		LCD Display

Rear Panel
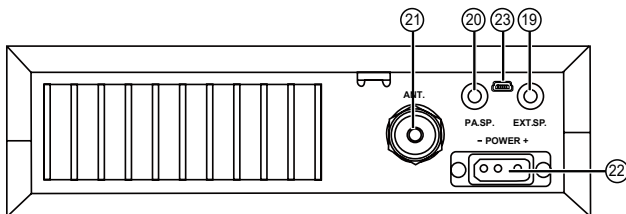
No.	Functions
19	External SP Jack
20	External PA Jack
21	Antenna Jack
22	Power Supply Jack
23	Programming jack

Microphone

Channel Down

Channel UP

PTT button

Mic

RJ45 connector

⑧ SP
⑦ PTT
⑥ MIC
⑤ GND
④ NC
③ NC
② NC
① NC

Microphone cable
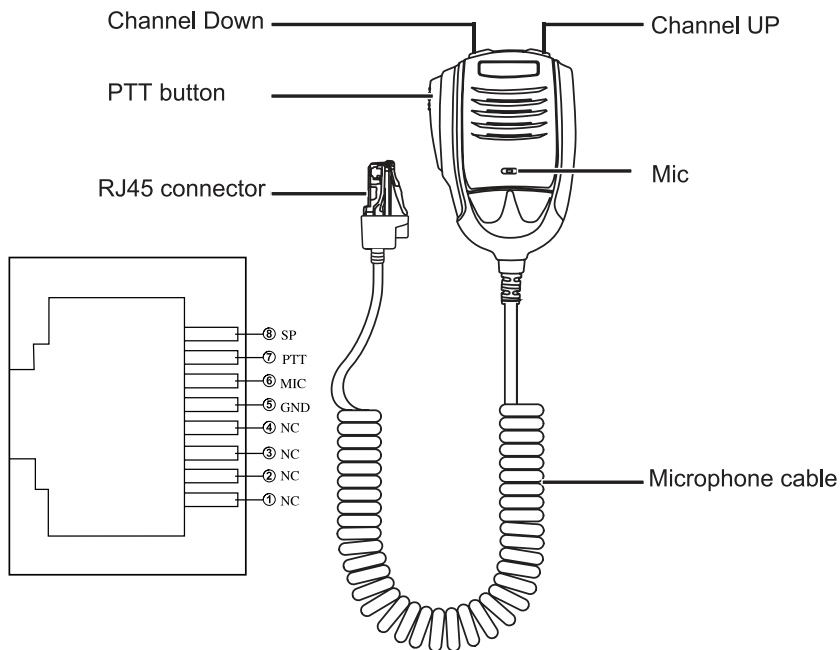
⚙ LCD Display
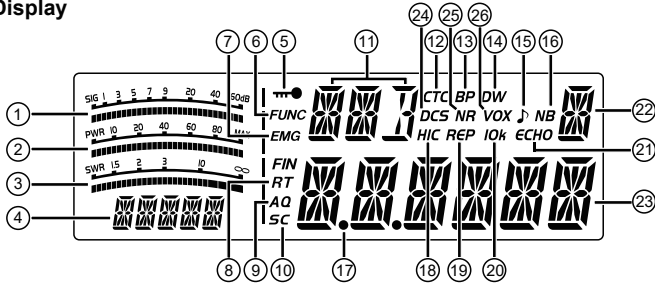
1	RX Signal strength indicator.
2	TX Signal strength indicator.
3	SWR strength indicator.
4	Model name Indicator.
5	Appears when the Keypad lock function is ON.
6	**FUNC** Appears when press MENU key.
7	**EMG** Appears when using Emergency channel.
8	FIN RT Appears when adjust SSB clarifier frequency.
9	AQ Appears when use ASQ.
10	SC Appears when scan function is ON.
11	Appears when modulation mode is ON.
12	CTC Appears when set with CTCSS code.
13	BP Appears when Beep voice is ON.
14	DW Appears when Dual-watch function is ON.
15	RB Appears when RB function is ON.
16	NB Appears when adjust Noise Blanker is ON.
17	● Appears when scan list is ON.
18	HIC Appears when Hi-cut function is ON.
19	REP Appears when repeater function is ON.
20	10k Appears when add 10k function is ON.
21	ECHO Appears when Echo function is ON.
22	Working band indicator.
23	Display of frequency and channel.
24	DCS Appears when set with DCS code.
25	NR Appears when noise reduction function is ON.
26	VOX Appears when VOX function is ON.

■ HOW TO USE YOUR RADIO

☀ OFF/ON Radio

    1. Turn VOL clockwise to switch on the radio, the radio emit a beep. When the LCD displays frequency or channel, the radio is on.

    2. Turn VOL anti-clockwise to switch off the radio, the radio is OFF when hear Ka Ta from the switch.

☀ Volume Control

When the radio is turned on, turn VOL clockwise will increase the volume, turn VOL anti-clockwise will reduce the volume. The LCD displays **VOL: XX** (XX stands for the volume level, total 1-36 levels).

Note: Adjust the volume during communication to get suitable level.

☀ RF Power Control

When the radio is transmitting, turn PWR outer shaft to adjust power. Turn it clockwise to increase power, anti-clockwise to reduce power.

☀ RF Gain Control

When the radio is receiving, turn RFG inner shaft to adjust RF gain. Turn it clockwise to increase gain, anti-clockwise to reduce gain.

☀ SQUELCH Control

When the radio is standby, turn SQ outter shaft clockwise to adjust squelch level. The LCD displays **SQ: XX**. (XX stands for the squelch level, total 1-36 levels).

☀ SSB Clarifier control

When the radio is transmitting or receiving, turn CLAR inner shaft to adjust USB/LSB TX or RX frequency. Turn it clockwise to increase frequency, anti-clockwise to reduce frequency.

☀ Channel Selection

When radio is in channel mode, turn channel knob to select desired channel. Clockwise to increase, anti-clockwise to reduce channel.

Note: In channel display mode, each press【PUSH】key will increase the frequency by 10 times of channel step size.

✦ Frequency control

1. In frequency mode, press 【**PUSH**】 key, then you can adjust frequency for present channel;
2. When the frequency is flashing, turn CH clockwise to increase frequency, anti-clockwise to reduce frequency.
3. When the frequency is flashing, press 【**PUSH**】 again to adjust frequency step size

■ KEYPAD FUNCTION

✦ 【 MENU+MODE 】

Press 【**MENU**】 and 【**MODE**】 together to enter weather channel mode.

✦ 【 FRQ/REP 】

Short press 【**FRQ**】 to switch between frequency display mode and channel display mode.

Offset Direction Function
1. Long press 【**FRQ**】 for 2 seconds to enter offset direction function, LCD displays "**REP**";
2. Press 【**PUSH**】 to select offset, turn channel switch to select;
   REPOF: Turn off offset direction function;
   REP+: Turn on offset direction function, TX frequency>RX frequency;
   REP-: Turn on offset direction function, RX frequency>TX frequency;
3. Press 【**PUSH**】 to store and exit.

✦ 【 BAND/TONE 】

Band Selection Function
Short press 【**BAND**】 to choose band A-B-C-D-E-F-G-H-I.
Echo Function
1. Long press 【**BAND**】 for 2 seconds to enter ECHO function, LCD displays "**ECHO**";
2. Long press 【**BAND**】 for 2 seconds to turn off ECHO function.

✦ 【 MENU 】

Long press 【**MENU**】 for 2 seconds to enter menu list.

✦ 【 MODE/TSQ 】

Modulation Mode
Short press 【**MODE**】 to choose mode FM-AM-USB-LSB-PA.

CTCSS/DCS Function

Long press【 **MODE** 】 for 2seconds to enter CTC/DCS setting.

Press Push to choose turn on or off CTCSS/DCS function.

When CTCSS/DCS is turned on, the LCD displays CTC or DCS.

【 DW/+10K 】

Dual-Watch function

1. Short press【 **DW** 】to turn on Dual watch, LCD displays "**DW**";
2. Short press【 **DW** 】again or press PTT to exit DW mode;

Frequency+10KHz function

1. Long press【 **DW** 】for 2 seconds to turn on frequency +10KHz function, LCD displays "**10K**";
2. Long press【 **DW** 】for 2 seconds again to turn off frequency +10KHz function.

【 RB/BEEP 】

RB function

1. Short press【 **RB** 】to turn on RB function, LCD displays "**RB**";
2. Press【 **PUSH** 】to select RB frequency, turn on channel switch to select. OFF~5, total 6 groups.

   OFF: Turn off RB function;
3. Press 【 **PUSH** 】 to store and exit.

BEEP Voice Prompt function

1. Long press【 **RB** 】for 2 seconds to enter BEEP voice prompt function, LCD displays "**RB**";
2. Long press【 **RB** 】for 2 seconds again to turn off BEEP voice prompt function.

【 NB/HCUT 】

NB function

1. Short press【 **NB** 】to enter NB function, LCD displays "**NB**";
2. Short press【 **NB** 】again to turn off NB function.

HI-CUT function

1. Long press【 **NB** 】for 2 seconds to enter HI-CUT function, LCD displays "**HIC**";
2. Long press【 **NB** 】for 2 seconds again to turn off HI-CUT function

✄【 SCAN/SKP 】

Scan function

1. Short press【 **SCAN** 】to enter scan function, LCD displays "**SC**";

2. In scan mode, Turn channel switch will change scan direction.

3. Short press【 **SCAN** 】again to exit.

Add/delete scan list function

1. Long press【 **SCAN** 】for 2 seconds to add or delete the current channel from scan list;

2. When LCD displays "●", current channel is not added to scan list; When LCD does not display "●", current channel is added to scan list.

✄【 MEM/STOR 】

Using memory channel:

1. Short press【 **MEM** 】to enter memory channel, turn channel switch to choose memory channel. M1-M6, Total 6 memory channels.

2. Short press【 **MEM** 】again to exit memory channel mode.

Store/Delete memory channel:

1. **Store memory channel**

When the radio is not in memory channel mode, choose the channel to be stored, and hold【 **MEM** 】enter storage mode, the channel number flashes, Turn Channel switch to choose the location to be stored (M1-M6), then hold【 **MEM** 】until the flashing channel number disappear, the storage is done.

2. **Delete memory channel**

In channel mode, hold【 **MEM** 】for over 2 seconds, the memory channel number flashes, turn the CH switch to choose the memory to be deleted. Then hold【 **MEM** 】until the flashing channel number disappear, the delete is done.

Note: Total 99 programmable meomory channels.

✄【 EMG/LOCK 】

Choose EMG channel:

Short press【 **EMG** 】to use Emergency channel, LCD displays "**EMG**".

1. Short press【 **EMG** 】once to choose CH9;

2. Short press【 **EMG** 】again to choose CH19;

3. Short press【 **EMG** 】thrice to return to last normal channel.
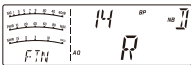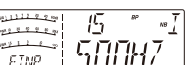
Keypad Lock Function:
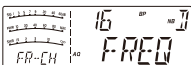
1. Long press【 **EMG** 】to lock keys, LCD displays " ⚷ ";

2. Long press【 **EMG** 】again to unlock the keys.
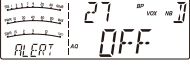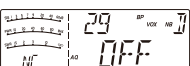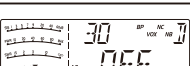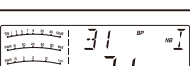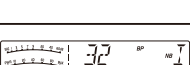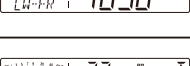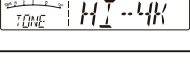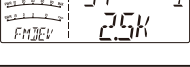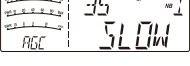
Note: When this function is turned on, only PTT button is valid.

■ BACKGROUND FUNCTION MENU OPERATION

1. Press【**MENU**】for 2 seconds to enter menu list;
2. Turn Channel switch to select menu list;
3. Press【**PUSH**】to enter the menu setup;
4. Turn channel switch to select wanted setup;
5. Press any other key or wait 5 seconds, the setting will be stored and exit.

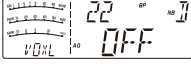| No.	Function	LCD Display	Values and Descriptions
1	Mic Gain	01 MIC 25	1-36, Total 36 levels available; **Default:** 25.
2	Microphone type	02 MICP EL	EL: Choose EL if use electronic microphone DY: Choose DY if use dynamic microphone Default: DY
3	Volume control path	03 VPATH MAIN	MAIN: the VOL knob controls the internal speaker volume. MIC: the VOL knob controls the microphone built–in speaker volume. BOTH: the VOL knob controls both the internal speaker and microphone builtin speaker volume. Default: MAIN
4	Dimmer	04 DIM 05	1–5，5 levels. OFF：Turn off backlight Default：5
5	CTCSS/DCS code (For RX)	05 RCDT C--008	OFF: Turn off CTCSS/DCS for RX. C-XXX: Choose CTCSS code: 67.0-250.3Hz, Total 38 groups; D-XXX: Choose DCS code: 023N-754N total 104 groups; Default: C-008(88.5Hz) Note: Press Scan key can start CTCSS/DCS scan.
6	CTCSS/DCS code (For RX)	06 TCDT C--008	OFF: Turn off CTCSS/DCS for TX. C-XXX: Choose CTCSS code: 67.0-250.3Hz, Total 38 groups; D-XXX: Choose DCS code: 023N-754N total 104 groups; Default: C-008(88.5Hz)
7	CTCSS/DCS code For TX and RX	07 RTCDT C--008	OFF: Turn off CTCSS/DCS for TX and TX. C–XXX: Choose CTCSS code: 67.0–250.3Hz, Total 38 groups; D–XXX: Choose DCS code: 023N–754N total 104 groups; Default: C–008(88.5Hz) Note: Press Scan key can start CTCSS/DCS scan.
8	Frequency Step	08 STEP 1K	100: Step size is 100Hz 1K: Step size is 1KHz 5K: Step size is 5KHz 10K: Step size is 10KHz 100K: Step size is 100KHz 1M: Step size is 1MHz Default: 1KHz Note: This function is valid only when the channel switch is defined as FREQ.
9	Monitor Gain	09 NOG OFF	1-32, OFF, Total 33 levels available; Default: OFF. (Shut NOG function)
10	TOT	10 TOT 180	1-600s, OFF, Total 10minutes available; **Default:** 180S. (Shut TOT function)
11	SWR Protection	11 TSR ON	**OFF:** Shut SWR function; **ON:** Open SWR function; **Default:** ON.

No.	Function	LCD Display	Values and Descriptions
12	Voltage protection	*12 ON*	OFF: Shut voltage protectio; ON: Open voltage protection; Default: ON.
13	Scan Type	*13 SQ*	**SQ:** SQ scan function; **TI:** Time scan function; **Default:** SQ.
14	SSB Clarifier switch	*14 R*	**OFF:** Shut frequency adjustment; **R:** Open RX frequency adjustment; **T:** Open TX frequency adjustment; **RT:** Open TX/RX frequency adjustment; **Default:** R.
15	FINP: CLARIFIER step setup	*15 500HZ*	500Hz: adjustable rage ±500Hz 5KHz: adjustable rage ±5KHz Default: 500Hz
16	Channel Frequency switch	*16 F-REQ*	**CHAN:** Channel adjust; **FREQ:** Frequency adjust; **Default:** FREQ.
17	ASQ Control	*17 ASQ05*	01~09: Total 9 Levels; OFF：Turn off ASQ Default: 05.
18	Offset frequency	*18 0 1000*	**Frequency range:** 100Hz~5MHz; **Default:** 100KHz.
19	DW-CH:DW channel	*19 CH--09*	Set dual watch channel and its mode, band Turn channel knob to change channel, press MODE to choose mode, press BAND to choose band.
20	EMG–1	*20 CH--09*	Set emergency channel and its mode. Turn channel knob to change channel, press MODE to choose mode.
21	EMG–2:	*21 CH-- 19*	Set emergency channel and its mode. Turn channel knob to change channel, press MODE to choose mode.
22	VOX level	*22 OFF*	01~09: Total 9 Levels for VOX sensitive. Default: OFF.
23	VOX delay	*23 04*	01~09: Total 9 Levels for VOX delay time set. Default:04
24	V–SPK:VOX	*24 OFF*	OFF：Turn off VOX when squelch is on. ON：Turn on VOX when squelch is on. Default：OFF

25	Echo volume		01~32: Total 32 Levels for echo volume. Default:19
26	Echo delay		01~32: Total 32 Levels for echo delay time set. Default:19
27	Weather alert		OFF: Shut weather alert function; ON: Open weather alert function; Default:OFF.
28	WX channel squelch		01~09: Total 9 Levels; OFF：Squelch open Default: 03.
29	RXNR		01~05: Total 5 Levels for RX noise reduction OFF:Turn off RX noise reduction Default:OFF
30	TXNR		01~05: Total 5 Levels for TX noise reduction OFF:Turn off TX noise reduction Default:OFF
31	CW Volume		This menu is to adjust the side volume of CW SIDE VOL CW. 64 grades in total. Default: 31
32	CW frequency		This menu is to select CW Side Tone Frequency from 300Hz–3KHz, the shift step is 10Hz. Default: 1050Hz
33	SSB TX audio bandwidth		HI–4K：4K audio bandwidth LO–3K：3K audio bandwidth Default：HI–4K
34	FM deviation		2.5K：2.5K deviation 4.0K：4.0K deviation Defauilt：2.5K
35	S–Meter speed		SLOW：S–Meter return slow speed FAST：S–Meter return fast speed Default：SLOW
36	Reset		OPT: All function setup resume default; ALL: All channels and setup resume default Default: OPT

■ SPECIFICATIONS

GENERAL	
Frequency Range	28.000-29.700MHz(Programmable)
Frequency Band	A/B/C/D/E/F/G/H/I
Channel	40 channels in each band (a total of 60 programmable channels)
Frequency Control	Phase-Locked-Loop Synthesizer
Frequency Step	100Hz,1KHz,5KHz,10KHz,100KHz,1MHz
Frequency Tolerance	±5.00ppm
Temperature Range	-20℃ to +50℃
Microphone	with push-to-talk /UP/DN and coiled cord
Input Voltage	13.8V
Dimensions (in mm)	305(L)x200(W)x60(H)
Weight	1.73kg
Antenna Connector	UHF, SO239

TRANSMITTER	
Power Output	AM PEP: 60W / FM: 50W / SSB: 60W(PEP)
Drain	10A(with modulation)
Modulation	AM/FM/USB/LSB
Inter-modulation Distortion	SSB: 3rd order, more than -25dB; 5th order, more than -35dB
SSB Carrier Suppression	55dB
Unwanted Sideband	50dB
Frequency Response	AM/FM: 300 to 3000Hz SSB: 450 to 2500Hz
Output Impedance	50ohms, unbalanced

RECEIVER	
Sensitivity	SSB: 0.25μV for 10dB(S+N)/N at greater than 1/2-watt of audio output AM:1.0μV for 10dB(S+N)/N at greater than 1/2watt of audio output FM: 1.0μV for 20 dB (S+N)/N at greater than 1/2 watt of audio output
Adjacent-Channel Selectivity	AM/FM: 60dB SSB: 70dB
Image Rejection	More than 65dB
IF Frequency	AM/FM: 10.695MHz 1st IF, 455KHz 2nd IF SSB: 10.695MHz
RF Gain Control	45dB adjustable for optimum signal reception
Automatic Gain Control(AGC)	Less than 10dB change in audio output for inputs from 10 to 100,000 microvolt.
Squelch	Adjustable; threshold less than 1.0μV. Automatic Squelch Control(only AM/FM)1.0μV
Audio Output Power	3 watts into 8 ohms
Frequency Response	AM/FM: 300 to 3000Hz SSB: 450 to 2500Hz
Built-in Speaker	8 ohms, round.
External Speaker(Not Supplied)	8 ohms; disables internal speaker when connected.

WX channels	
WX-01	162.400MHz
WX-02	162.475MHz
WX-03	162.425MHz
WX-04	162.450MHz
WX-05	162.500MHz
WX-06	162.525MHz
WX-07	162.550MHz

Note: Total 40 programmable channels, receiving range 136−174Mhz.

■ CTCSS/DCS CHART

✖ 38 SETS ANALOG FRQ LIST(CTCSS)

No.	Freq.(Hz)	No.	Freq.(Hz)	No.	Freq.(Hz)	No.	Freq.(Hz)
01	67.0	11	97.4	21	136.5	31	192.8
02	71.9	12	100.0	22	141.3	32	203.5
03	74.4	13	103.5	23	146.2	33	210.7
04	77.0	14	107.2	24	151.4	34	218.1
05	79.7	15	110.9	25	156.7	35	225.7
06	82.5	16	114.8	26	162.2	36	233.6
07	85.4	17	118.8	27	167.9	37	241.8
08	88.5	18	123.0	28	173.8	38	250.3
09	91.5	19	127.3	29	179.9		
10	94.8	20	131.8	30	186.2		

✖ 104 SETS DIGITAL FRQ LIST(DCS)

Code No.	DSC (Octal)	Code No.	DSC (Octal)	Code No.	DSC (Octal)	Code No.	DSC (Octal)
001	023	027	152	053	311	079	466
002	025	028	155	054	315	080	503
003	026	029	156	055	325	081	506
004	031	030	162	056	331	082	516
005	032	031	165	057	332	083	523
006	036	032	172	058	343	084	526
007	043	033	174	059	346	085	532
008	047	034	205	060	351	086	546
009	051	035	212	061	356	087	565
010	053	036	223	062	364	088	606
011	054	037	225	063	365	089	612
012	065	038	226	064	371	090	624
013	071	039	243	065	411	091	627
014	072	040	244	066	412	092	631
015	073	041	245	067	413	093	632
016	074	042	246	068	423	094	654
017	114	043	251	069	431	095	662
018	115	044	252	070	432	096	664
019	116	045	255	071	445	097	703
020	122	046	261	072	446	098	712
021	125	047	263	073	452	099	723
022	131	048	265	074	454	100	731
023	132	049	266	075	455	101	732
024	134	050	271	076	462	102	734
025	143	051	274	077	464	103	743
026	145	052	306	078	465	104	754

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