

Thanks for buying the  Wouxun KG-UV920R-A mobile radio.

This mobile radio offers latest design, enhanced features, solid performances and easy accessibility. We believe you will be pleased with the high quality and reliable features for all your communication needs.

Read this important information on the safe and efficient operation before using mobile radio. This manual is suitable for KG-UV920R-A.

One or more of the following statements may be applicable:

RF Radiation Information

RF Radiation Profile

Your **Wouxun** mobile radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% transmitting and is authorized by the FCC for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking in PTT mode), not when it is receiving (listening) or in standby mode.

The device complies with SAR and/or RF field strength limits of RSS-102 requirement

RF Radiation Safety

In order to ensure user health, experts from relevant industries including science, engineering, medicine and health work with international organizations to develop standards for safe exposure to RF radiation. These standards consist of:

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J;
- American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992;
- Institute of Electrical and Electronic Engineers (IEEE) C95. 1 ~ 1999;

- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998;

FCC Regulations

Federal Communication Commission (FCC) requires that all radio communication products should meet the requirements set forth in the above standards before they can be marketed in the U.S, and the manufacturer shall post a RF label on the product to inform users of operational instructions, so as to enhance their occupational health against exposure to RF energy.

Operational Instructions and Training Guidelines

- To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits in the above standards and guidelines, users should transmit no more than 50% of the time and always adhere to the following procedures:
- Gain of antenna must not exceed 5.00dBi for UHF and 2.15dBi for VHF.
- Antenna Installation: Install the mobile antenna at least 100 cm away from your body, in accordance with the requirements of the antenna manufacturer/supplier.
- The radio is not intended for use by general population in an uncontrolled environment. It is only for occupational use and only applied to work-related conditions. The radio must be only used by users, who are fully aware of the hazards of the exposure and who are able to exercise control over their RF exposure to qualify for the higher exposure limits.

Part 15 Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help. Note: "Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment."

Safety information



Twin Band FM Transceiver

The KG-UV920R-A is an electrical apparatus, as well as a generator of RF(Radio Frequency) energy, and you should exercise all safety precautions as are appropriate of this type of device. These safety tips apply to any device installed in a well-designed amateur radio station.

- ⚠ Explosive atmospheres(gases, dust, fumes, etc.). Turn OFF your mobile radio while taking on fuel or while parked in gasoline service stations. Do not carry spare fuel containers in the trunk of your vehicle if your mobile radio is mounted in the trunk area.
- ⚠ Injury from radio frequency transmissions. Do not operate your mobile radio when somebody is either standing near to or touching the antenna, to avoid the possibility of radio frequency burns or related physical injury.
- ⚠ Dynamite blasting caps. Operating the mobile radio within 150m(500 feet) of dynamite blasting caps may cause them to explode. Turn OFF your mobile radio when in a area where blasting is in progress, or where "TURN OFF TWO-WAY RADIO" signs have been posted. If you are transporting blasting caps in your vehicle, make sure they are carried in a closed metal box with a padded interior. Do not transmit while the caps are being placed into or removed from the container.
- ⚠ Never allow unsupervised children to play in the vicinity of your mobile radio or antenna installation.
- ⚠ Be certain to wrap any wire or cable splices thoroughly with insulating electrical tape, to prevent short circuits.
- ⚠ Do not route cables or wires through door jambs or other locations where, through wear and tear, they may become frayed and shorted to ground or to each other.
- ⚠ Do not stand in front of a directional antenna while your are transmitting into that antenna. Do not install a directional antenna in any location where humans or pets may be walking in the main directional lobe of the antenna's radiation pattern.

Safety information

- ⚠ In mobile installations, it is preferable to mount your antenna on top of the roof of the vehicle, if feasible, so as to utilize the car body as a counterpoise for the antenna and raise the radiation pattern as far away from passengers as possible.
- ⚠ During vehicular operation when stopped(in a parking lot, for example), make it a practice to switch to Low power if there are people walking nearby.
- ⚠ Never wear dual-earmuff headphones while driving a vehicle.
- ⚠ Do not attempt to drive your vehicle while making a telephone call on an autopatch using the DTMF microphone. Pull over to the side of the road, whether dialing manually or using the auto-dial feature.

Notice

- » All of the above advice is suited to the use of your **Wouxun** mobile radio and its accessories. If they do not function normally, please get in touch with the **Wouxun** dealer immediately.
- » If you use components or accessories not sold by Wouxun Company, Wouxun will not guarantee the safety and usability of the transceiver.

Contents



Twin Band FM Transceiver

Checking the equipment	1
Main functions	2
Technical specifications	3
Pre-use installation	4-12
Transceiver installation	4-5
Connecting power source	6
Antenna connection	7
Front panel installation	8-11
Accessories installation	11-12
Getting started	13-16
Front panel	13
LCD	14
Back panel	15
Side panels	15
Hand microphone	16
Your first QSO	17-21
Commonly used basic operations	21
Adjust squelch	21
Select single / dual display mode	21
Select VFO / MR mode	21
Shortcut operation chart	22
Menu operation sheet	23-26
Function description	27-33

Hotkey function guide	28-33
Menu operations	33-50
Step frequency settings (STEP) ----- Menu 1	33
Wide/Narrow bandwidth settings (W/N) ----- Menu 2	33
Two medium level power settings (MPOWSET) ----- Menu 3	34
Offset frequency settings (OFF-SET) ----- Menu 4	34
Transmission prompt settings (ROGER) ----- Menu 5	34
Beep prompt settings (BEEP) ----- Menu 6	35
Voice prompt settings (VOICE) ----- Menu 7	35
Busy channel lock-out (BCL) ----- Menu 8	35
Mute settings (SP-MUTE) ----- Menu 9	36
Scan mode settings (SC-REV) ----- Menu 10	36
Transmission time-out timer (TOT) ----- Menu 11	37
Transmission overtime alarm (TOA) ----- Menu 12	37
Caller ID transmission settings (ANI-SW) ----- Menu 13	37
Ring time (RING) ----- Menu 14	37-38
Editing Caller ID (ANI-EDIT) ----- Menu 15	38
DTMF sidetone settings (DTMFST) ----- Menu 16	39
Caller ID transmission mode (PTT-ID) ----- Menu 17	39
Transmission backlight (TX-LED) ----- Menu 18	39
Standby backlight (WT-LED) ----- Menu 19	39

Receiving backlight (RX-LED) ----- Menu 20	40
Deleting a channel (DEL-CH) ----- Menu 21	40
Editing a channel name (CH-NAME) ----- Menu 22	40
Priority channel switch (PRICH-SW) ----- Menu 23	41
Speaker settings (SPK- CONT) ----- Menu 24	41
Keypad autolock (AutoLock) ----- Menu 25	42
Receiving CTCSS (RX-CTC) ----- Menu 26	42
Receiving DCS (RX-DCS)----- Menu 27	42
Transmitting CTCSS (TX-CTC) ----- Menu 28	42
Transmitting DCS (TX-DCS) ----- Menu 29	42-43
Repeater speaker switch (RPT-SPK) ----- Menu 30	43
Repeater PTT switch (RPT-PTT) ----- Menu 31	43
Repeater settings (RPT-SET) ----- Menu 32	44-45
Scan add (SCAN-ADD) ----- Menu 33	45-46
Automatic power-off (APO-TIME) ----- Menu 34	46
Single-tone pulse frequency (ALERT)----- Menu 35	46-47
Compand (COMPAND)----- Menu 36	47
Overheating detection (AUTO-FAN) ----- Menu 37	47-48
Voltage testing (LOW -V) ----- Menu 38	48
Voice scrambler (SCRAM) ----- Menu 39	48-49
CTCSS / DCS scanner saving types (SC-QT) ----- Menu 40	49

Contents

Noise reduction settings (ANS) ----- Menu 41	49
Scan group settings (SC-GROUP) ----- Menu 42	49-50
FM radio function (FM-Radio) ----- Menu 43	50
Reset settings (Reset) ----- Menu 44	50
How to operate FM radio	51-52
Turning on	51
Selecting and scanning radio stations	51
Storing and calling out the radio stations	51-52
Exiting the FM radio mode	52
Repeater usage	53
Repeater PTT selection	53
Repeater SPK selection	53
Two-way cross-band repeater entry and exit	53
Hand microphone encoding function	54
Remote control function	55-58
Remote control activation	55
Stun	56
Kill	56
Monitoring	56
Inspection	56-57
Remote control power on / off	57-58

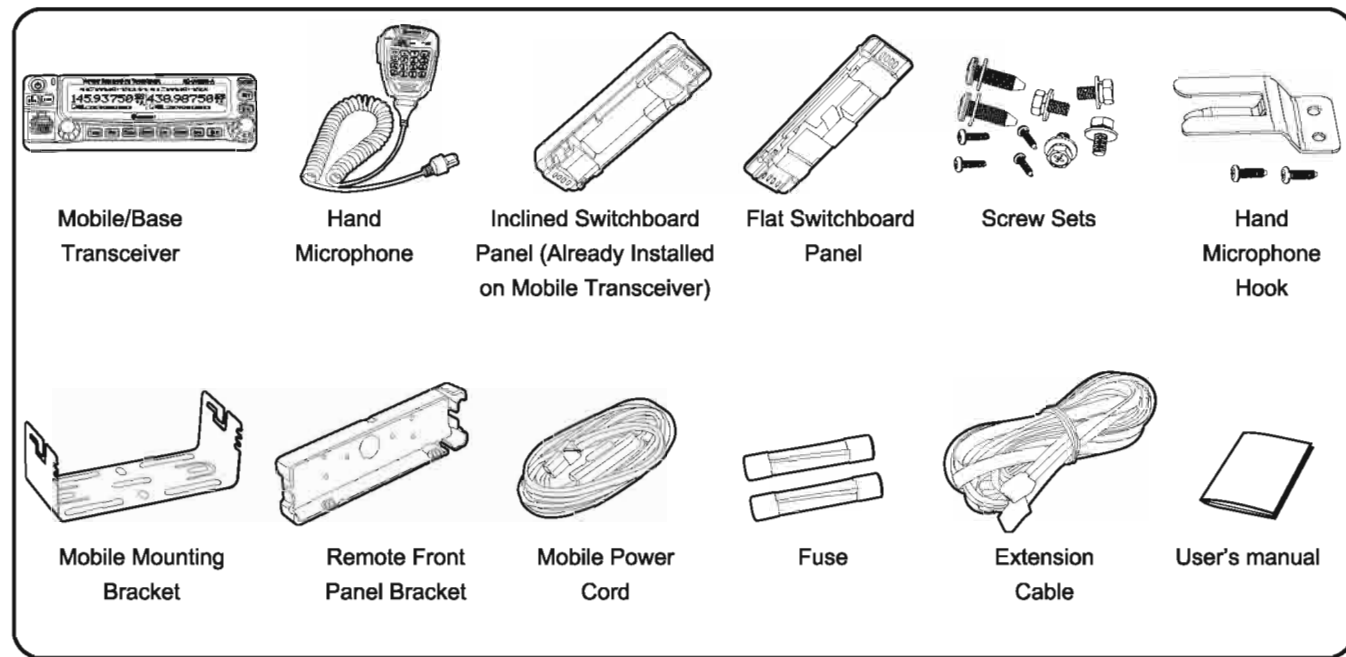
Wire-clone function	58
Optional accessories	59
Troubleshooting	60
Announcement	61

Checking the equipment

Carefully unpack the transceiver. We recommend that you identify the items in the following table before discarding the packing material.

If any item is missing or has been damaged during shipment, please notify your **Wouxun** dealer.

Standard Accessories



Main Functions

- 1. Frequency Range Suitable for any Region of any Country:**
136-174MHz & 400-470MHz 144-148MHz & 222-225MHz
136-174MHz & 400-480MHz 144-148MHz & 420-450MHz
(RX / TX) 136-174MHz & 216-280MHz 66-88MHz & 136-174MHz
136-174MHz & 420-520MHz 66-88MHz & 400-480MHz
144-146MHz & 430-440MHz
(RX) FM: 65MHz~108MHz (100K Frequency Spacing)
- 2. Band can be Set Freely**
VHF TX-UHF RX or UHF TX-VHF RX
- 3. Dual Reception**
Twin Band Simultaneous Reception
- 4. Dual Display**
Large LCD Dual Frequency Display,
Two Completely Independent Operating Systems
- 5. Over 999 Memory Channels**
Area Scanning Management
- 6. Remote-head Mounting Capacity**
Multiple Installation Types, Convenient Usage
- 7. Frequency Steps Selectable**
2.5(Optional)/5/6.25/10/12.5/20/25/30/50/100KHz
- 8. Cross-Band Repeat**
UHF / VHF Cross-band Repeat or VHF / UHF
Cross-band Repeat Functions
- 9. Both Stations can Form Combined Same Band or Different Band Repeat**
- 10. Strong and Stable Output Power (VHF:50W / UHF:40W)**
- 11. QT / DQT Encoding & Decoding, QT / DQT Scanning**
- 12. Multiple Speaker Channel Settings**
- 13. Individual Hand Microphone with TX / RX Indicator**
- 14. Incoming Message Display**
Caller ID display
- 15. DTMF Encoding and Decoding**
- 16. Group Calls, All Calls and Selective Calls**
- 17. 8 Groups Scrambler (Optional)**
- 18. Priority Channel Scanning**
- 19. APO Power Management**
- 20. English Voice Guide**
- 21. Automatic Temperature Testing**
- 22. Minimum Operating Voltage Settings**
- 23. Stun and Kill Function**
- 24. Single Tone Pulse Frequency**
2100Hz / 1750Hz / 1450Hz / 1000Hz
(Used when activating repeater signal)
- 25. Three Colors Backlight Selectable**
- 26. Reduced Noise Settings**

Technical specifications

General		Receiver	Wide bandwidth	Narrow bandwidth
Frequency Range	Frequency Range Suitable for any Region of any Country: (RX / TX) 136-174MHz & 400-470MHz 136-174MHz & 400-480MHz 136-174MHz & 216-280MHz 136-174MHz & 420-520MHz 144-146MHz & 430-440MHz 144-148MHz & 222-225MHz 144-148MHz & 420-450MHz 66-88MHz & 136-174MHz 66-88MHz & 400-480MHz (RX) FM: 65MHz~108MHz (100K Frequency Spacing)	Adjacent Channel Selectivity	≥70dB	≥60dB
		Intermodulation	≥65dB	≥60dB
		Spurious Response	≥70dB	≥70dB
		Audio Response	+1~-3dB(0.3~3KHz)	+1~-3dB(0.3~2.55KHz)
Step Frequency	2.5(Optional) 5KHz / 6.25KHz / 10KHz / 12.5KHz / 20KHz / 25KHz / 30KHz / 50KHz / 100KHz	Signal to Noise Ratio	≥45dB	≥40dB
Memory Channels	999	Audio Distortion	< 5%	
Work Mode	F2D / F3E	Audio Power	Transceiver < 3W Hand Microphone < 1W	
Operating Temperature	-20℃~+40℃	Audio distortion	Transceiver < 3W Hand Microphone < 1W	
Antenna Impedance	50Ω	Sensitivity	UHF/VHF:0.25μV	
Power Requirement	13.8VDC ± 15% (Negative Grounded)			
Weight	1437.8g (including microphone)			
Dimensions	140 x 44 x 207 (mm)			

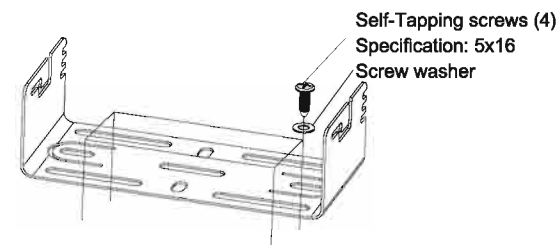
Transmitter	Wide bandwidth	Narrow bandwidth	Transmitter	Wide bandwidth	Narrow bandwidth
Type of Modulation	16K F3E	11K F3E	Max. Frequency Deviation	± 5KHz	± 2.5KHz
Adjacent Channel Power	≥ 70dB	≥ 60dB	Frequency Stability	± 2.5ppm	
Signal to Noise Ratio	≥ 40dB	≥ 36dB	Audio Distortion	≤ 5%	
Spurious	≥ 60dB	≥ 60dB	Output Power	50W/20W/10W/5W(VHF)	
Audio Response	+1~-3dB(0.3~3KHz)	+1~-3dB(0.3~2.55KHz)		40W/20W/10W/5W(UHF)	

Pre-use installation

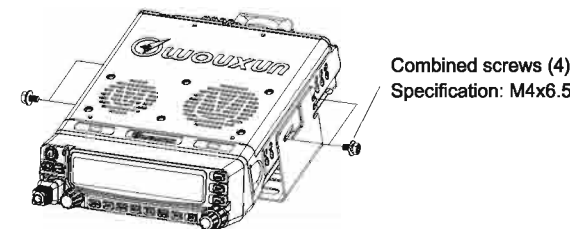
Transceiver installation

Choose a safe place inside your vehicle, one which would to the greatest extent reduce possible harm to passengers inside the car while the car is moving. It is recommended to install the transceiver on the lower part of the front meter gauge, it will prevent the transceiver from colliding with the driver in the instance of emergency or sudden braking. Install the transceiver in an area with good ventilation and avoid installing in a place with direct contact with the sun.

1. Use the supplied self-tapping screws to install the support bracket to the vehicle.

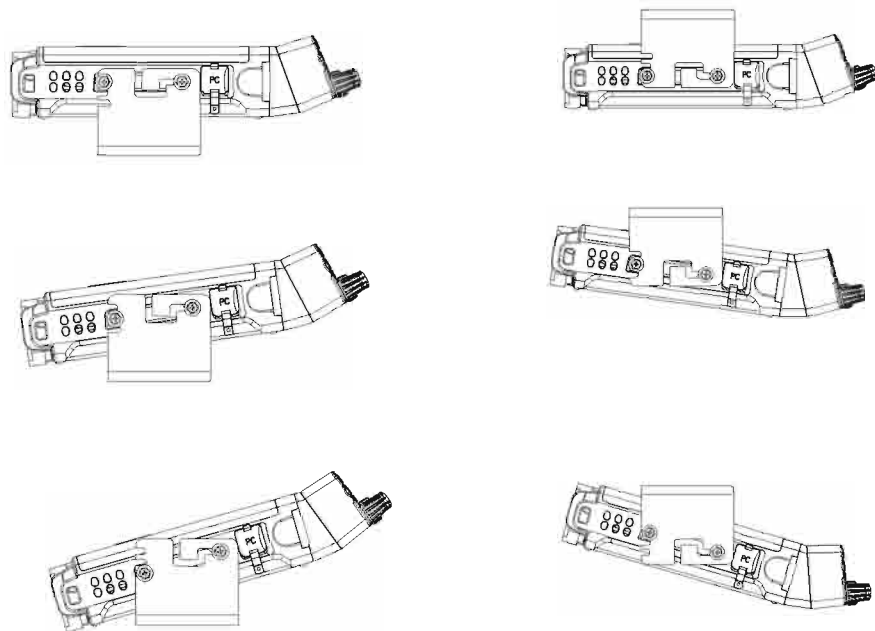


2. Set the transceiver in the bracket, then insert the supplied combined screws and tighten, insure that the screws are fastened tightly. This will insure the support bracket and the transceiver do not get bumped lose when the vehicle hits bumps or shakes.



Pre-use installation

3. Use every screw slot along the side of the support bracket, you can set the transceiver to be installed at a different angle.

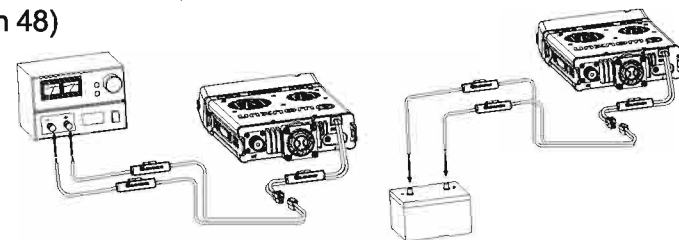


Connecting power source

Wouxun

Twin Band FM Transceiver

The transceiver power source usage ranges from $13.8V \pm 15\%$. When your power source (or vehicle power source) reaches levels up to 16V, TX will be forbidden, however RX will operate as normal. When your power source (or vehicle power source) reaches levels as low as 11.5V, the transceiver will automatically shut off. So the transceiver does not exhaust the vehicles battery and affect the vehicles normal operation. (This feature is set by the Menu 38, see instruction 48)



Special Reminder

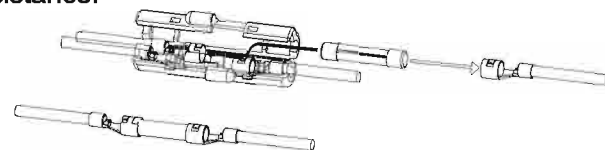
» This transceiver's working voltage is $13.8V \pm 15\%$ DC.

■ Replacing the fuse

In the instance that the transceiver blows a fuse, first find out the reason, then solve the malfunction. If after installing the new fuse it once again blows a fuse, please sever the power source and immediately contact a local authorized **Wouxun** dealer or service center for assistance.

The specified fuse current is 15A, The specified power source current is 20A and above.

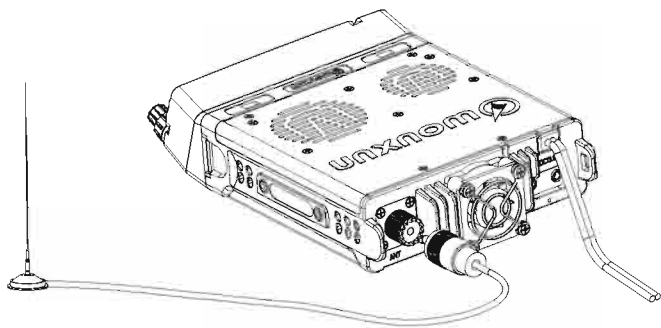
See the Fuse installation diagram on the right, after installation the fuse should be firmly secured to the copper set!



Antenna connection

Before operation, you must effectively install and adjust the antenna, installation success depends upon the type of antenna and whether or not the antenna is set up correctly. If you use the most suitable antenna and the antenna is installed correctly, the transceiver will attain the greatest results.

The transceiver antenna's impedance is 50 ohms, if the impedance is not at 50 ohms it will reduce the performance of the transceiver and possibly interfere with nearby broadcasting stations as well as other antenna's receivers, it could even harm the transceiver.

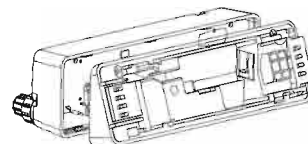


Front panel installation

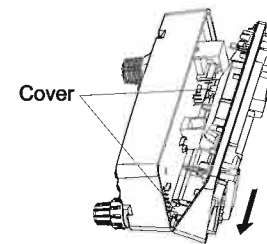
The transceiver is supplied with two kinds of switchboard panels: Inclined switchboard panel and a flat switchboard panel.

■ Install inclined switchboard panel

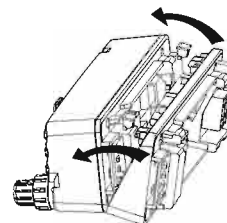
(1) Lower alignment



(2) Cover alignment



(3) Close in the direction shown by the arrows



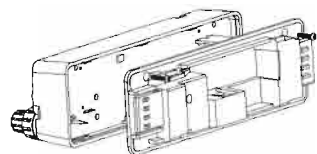
(4) Use the supplied screws to fasten



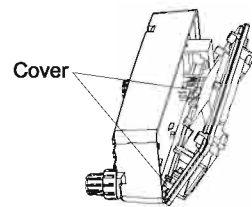
Front panel installation

■ Install flat switchboard panel

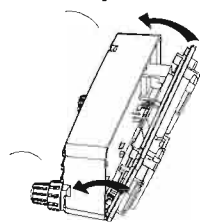
(1) Lower alignment



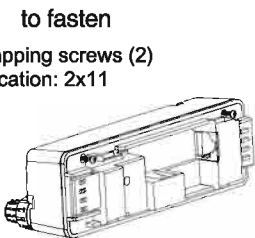
(2) Cover alignment



(3) Close in the direction shown by arrows



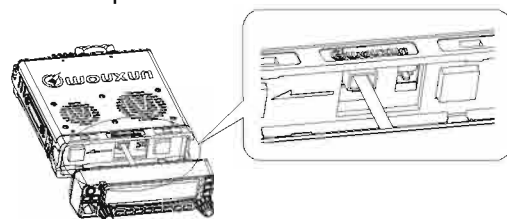
(4) Use the supplied screws



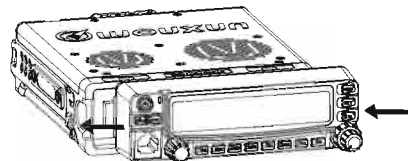
to fasten
Self-Tapping screws (2)
Specification: 2x11

■ Front panel and main station installation

(1) Connect the cable to the transceiver's 8 point socket.



(2) Proceed according to the arrow shown.



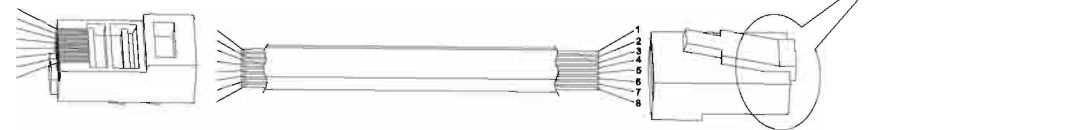
Connection method for transceiver station to operating front panel line:

The vehicle transceiver connection line uses 8 facets and 8 lead conducting wires (diagram 1),



Diagram 1

The two ends of the facets connect to the corresponding line: (Take note that direction of the connection lines on the left and right sides of the facet are not the same)



Left facet connection point 1
Left facet connection point 2
Left facet connection point 3
Left facet connection point 4
Left facet connection point 5
Left facet connection point 6
Left facet connection point 7
Left facet connection point 8

Connect through the conducting wire to right facet 1
Connect through the conducting wire to right facet 4
Connect through the conducting wire to right facet 3
Connect through the conducting wire to right facet 2
Connect through the conducting wire to right facet 5
Connect through the conducting wire to right facet 6
Connect through the conducting wire to right facet 7
Connect through the conducting wire to right facet 8

Therefore the conducting wires connection to the left facet is corresponding and the connection to the right facets 2 and 4 are swapped.

Front panel installation

Special Reminder

» If the connection wires are not  Wouxun Company supplied or dealer approved,  Wouxun Company does not guarantee its safety and operational effectiveness!

■ Dismantling the front panel and transceiver

(1) Disconnect cover in the direction of the arrow



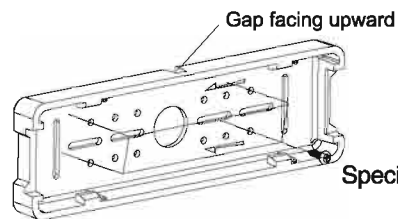
(2) Remove in the direction shown by the arrow



■ Installation of front panel support bracket

When the transceivers front panel is installed separately from the main platform, there is a supplied front panel support bracket designed especially for installation.

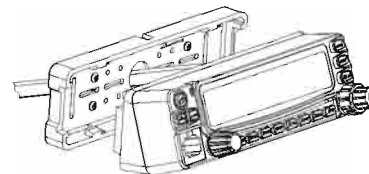
(1) First secure the support bracket with the supplied screws



Specification: 2.3X8 (4pcs)

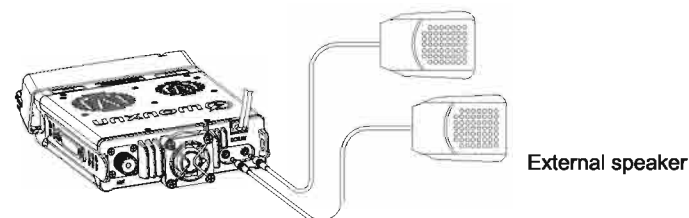
Accessories installation

(2) First string the connection line through opening in the center of the support bracket, then close the bracket cover directly as shown by the arrows.



■ Outer speakers

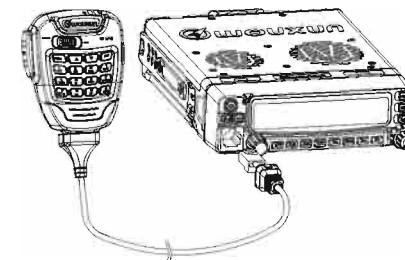
The external speaker jacks can be connected to a 3.5mm single outlet. There are two speaker outlets located on the back of the transceiver.



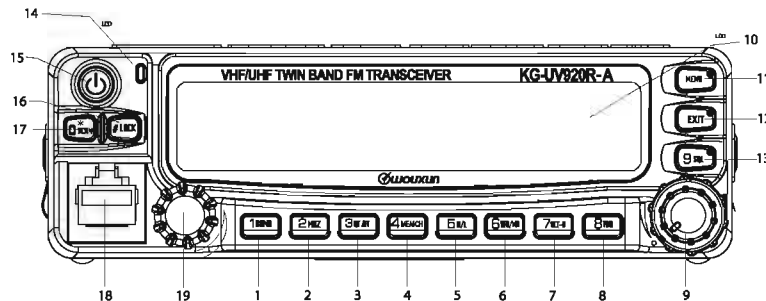
External speaker

■ Hand microphone installation

The transceiver comes supplied with two different types of hand microphone : Encoded hand microphone and unencoded hand microphone. Plug the connection cable into the 8 point socket located on the front panel.



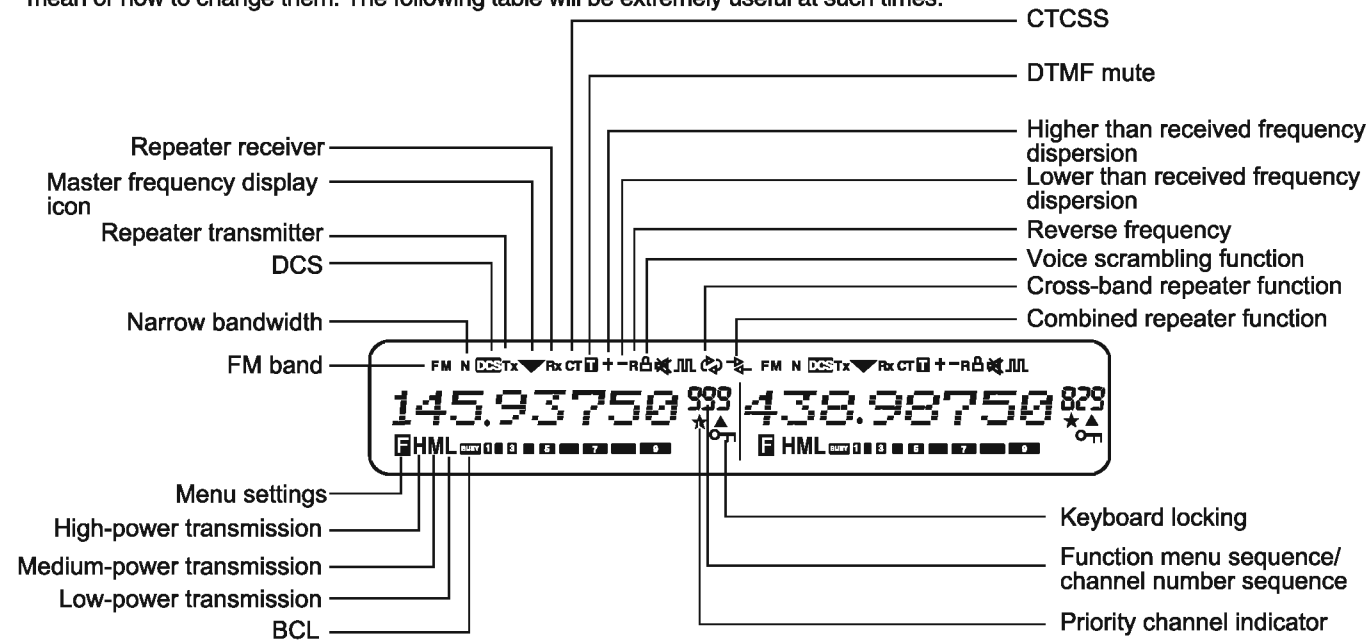
Front panel



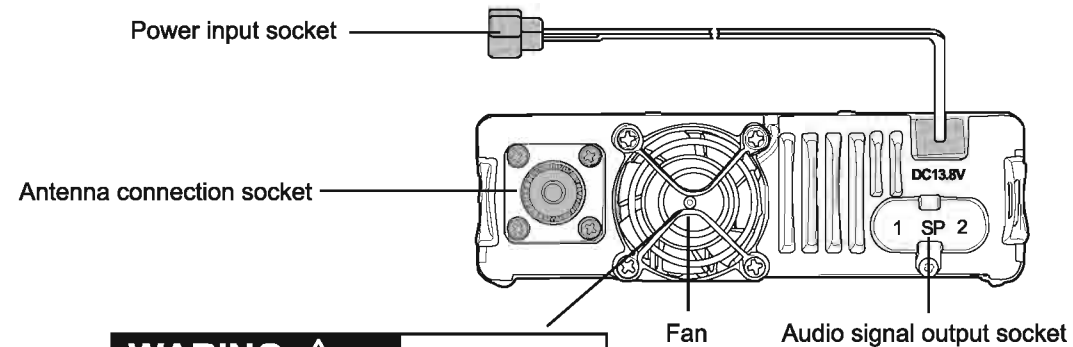
- | | |
|---|--|
| 1 Master frequency set up hot key (See hot key operation 1)
/ Single-tone pulse key (see Menu35) | 10 LCD |
| 2 Frequency or channel selection. (See hot key operation 2) | 11 Function keys / enters keys |
| 3 CTCSS / DCS encoding and decoding set up, CTCSS / DCS
scanning (see hot key operation 3) | 12 Exit / Cancel keys |
| 4 Save channel hot key (see hot key operation 4) | 13 Squelch level adjustment hot key (See hot key operations 9) |
| 5 Power output settings hot key | 14 Status indicator light |
| 6 VFO/MR switch over hot key (see hot key operation 6) | Orange standby indicator light |
| 7 Frequency shift direction hot key (See hot key operation 7) | Green RX indicator light |
| 8 TDR Single and dual display switch hot key | Red TX indicator light |
| (See hot key operation 8) | 15 Power switch button |
| 9 Volume control (See volume control) | 16 Keyboard lock key (See keyboard lock) |
| | 17 Scanning key (See scanner function) |
| | 18 Hand microphone outlet |
| | 19 Encoder |

LCD

All kinds of performance parameters can be selected on the LCD screen. Sometimes, you may be unable to think of what they mean or how to change them. The following table will be extremely useful at such times.



Back panel

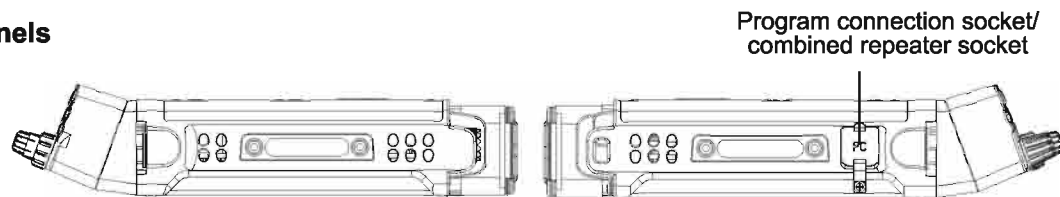


WARNING

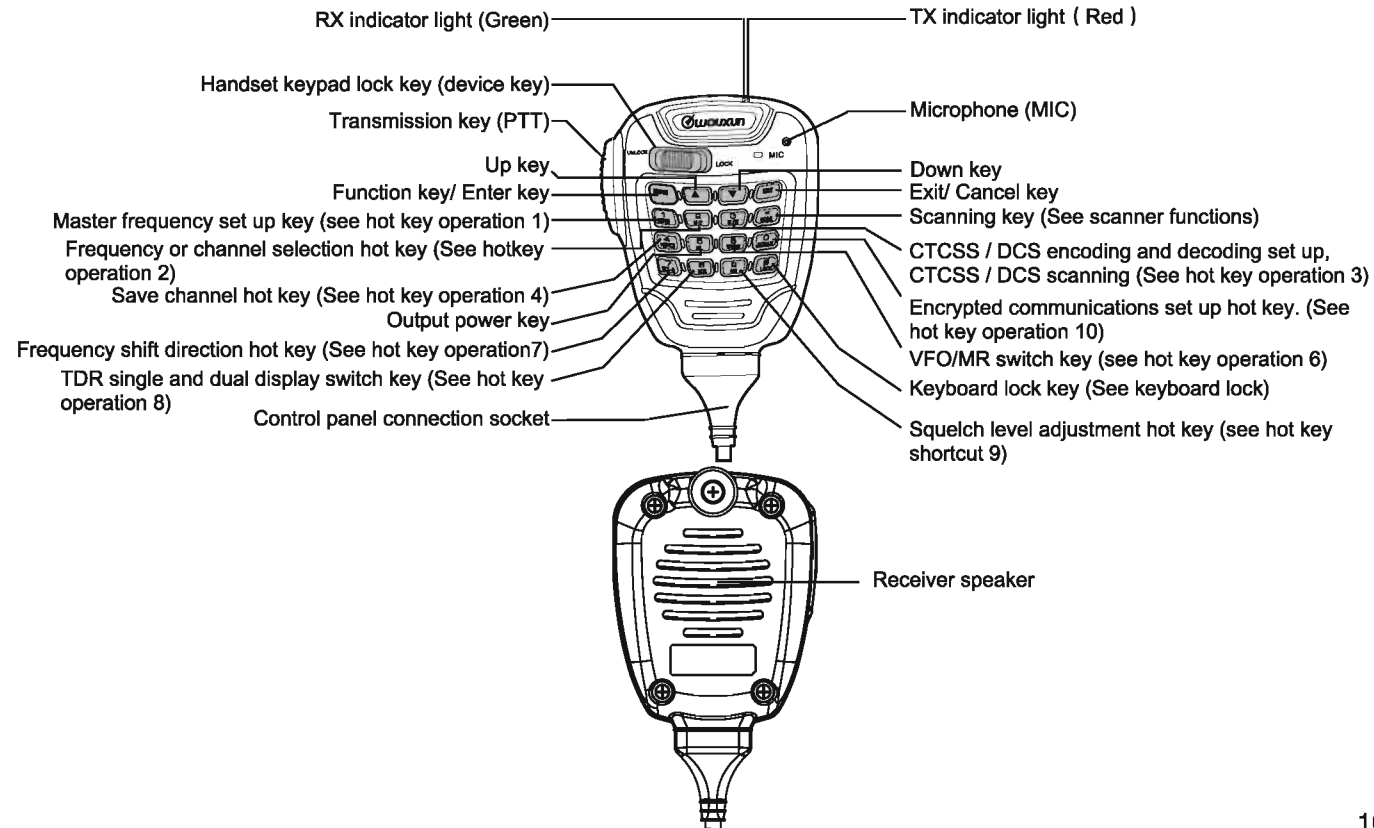


» Hazardous moving parts keep fingers and other body parts away.

Side panels




Hand microphone



First QSO

Do you want to hurry up and use your transceiver? After reading these chapters and sections you will know how to broadcast your voice out into the sky. Following is a quick instruction manual. If you encounter any problems or need further explanation, please read the detailed explanation later in this manual.

1. Installing the transceiver. (See pre-usage installation)
2. Installing the antenna. (See pre-usage installation)
3. Connecting the power source, or vehicle power source. (See pre-usage installation)
4. Press  to turn on the transceiver, the transceiver will make a long double beeping tone, its brand and model number will be displayed on the screen, and with a long double beeping tone, the transceiver will enter standby mode.



Press the key shown by the arrow



Display brand and model

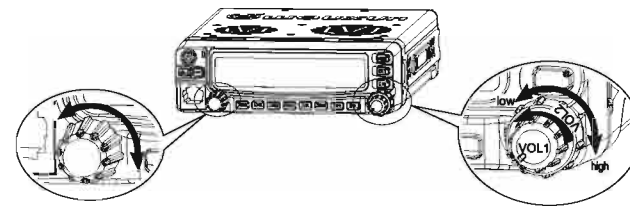


Enter standby status

Adjusting the volume

Rotate the VOL1 and VOL 2 knobs clockwise in order to increase the volume, rotate the knobs counter-clockwise to decrease volume, the corresponding volume level will be displayed on the LED.

The volume control knobs have upper and lower control devices. The upper control device is the channel and frequency RX volume control on the left side of the screen, the lower level control device is the channel and frequency RX volume control on the right side of the screen.



TURNING

Turn the volume knob clockwise to increase the volume and the RX volume. The maximum volume is level 16. Turn the knob counter-clockwise to decrease the volume and the RX volume. Continue turning the knob counter-clockwise to shut off.

Selecting Frequency

(1) Frequency mode (VFO)

VFO Mode is the basic mode for changing the operating frequency, through rotating the TURNING (Tuning) control knobs you can change the operating frequency. Turn the knobs clockwise to increase the frequency and counter-clockwise to decrease. You can also enter the desired frequency using the keypad.

Changing the operating frequency using the keypad:

While in standby mode, press the (2) key to enter in the operating frequency selection. After the LED screen displays 8 whiffle-trees, enter in the 6 figures in order which the frequency will automatically confirm according to the "frequency automated correction" verification. And will then display on the LED screen.

Automatic frequency correction:

An operating frequency has a total of 8 digits, the method for verifying the last two digits after inputting 6 digits using the keyboard is as follows:

When the 5th digit is entered in as "3" or "8", the 6th digit as "1" the final two digits will be "25".

When the 6th digit is entered in as "0" or "5" the last two digits will be "00".

If the 6th digit is not entered as shown above, it will be automatically corrected to 6.25K step match frequency.

Example frequency 1: 445.95500MHz standby mode:

Press 2 key	Display: <input type="text" value="-----"/>
Input [4]	Display: <input type="text" value="4 -----"/>
Input [4]	Display: <input type="text" value="4 4 -----"/>
Input [5]	Display: <input type="text" value="4 4 5 -----"/>
Input [9]	Display: <input type="text" value="4 4 5 . 9 -----"/>
Input [5]	Display: <input type="text" value="4 4 5 . 9 5 -----"/>
Input [5]	Display: <input type="text" value="4 4 5 . 9 5 5 0 0"/>

Example frequency 2: 445.56875MHz : standby mode

Press 2 key	Display: <input type="text" value="-----"/>
Input [4]	Display: <input type="text" value="4 -----"/>
Input [4]	Display: <input type="text" value="4 4 -----"/>
Input [5]	Display: <input type="text" value="4 4 5 -----"/>
Input [5]	Display: <input type="text" value="4 4 5 . 5 -----"/>
Input [6]	Display: <input type="text" value="4 4 5 . 5 6 -----"/>
Input [8]	Display: <input type="text" value="4 4 5 . 5 6 8 7 5"/>

(2) Channel mode (CH)

Rotate the (TUNING) control knobs in channel mode to change the operating channel in order to get to the selected operating frequency, or use the keypad to select the operating channel.

Changing the operating channel using the keypad:

In standby mode press the key, at this time hundredth place of the channel number will appear. After entering the desired hundredth digit, the tenth place digit will appear, after entering the 10th place digit, the single place digit will appear, then enter the desired single place digit of the channel.

Example: Selecting Channel CH-901

In standby mode, after pressing , enter "9", "0", "1" in sequence.

Example: Selecting Channel CH-088

In standby mode, after pressing , enter "0", "8", "8" in sequence

Example: Selecting Channel CH-008

In standby mode, after pressing , enter "0", "0", "8" in sequence

Selecting output power

While in standby mode, press the key on the front panel or the key on the encoded handheld microphone, to select the output power. Every time the output power is changed, the sequence will be

The transceivers medium output power tith 2 levels, for setup See "Menu 3"(MPOWSET)

Special Reminder

» when selecting the output power only do so in relation to the master frequency, See the hotkey operation chart for how to change the master frequency.

Commonly used basic operations

TX




(1) In order to transmit signal first grab hold of the handheld microphone, and place about 5 CM away from your mouth, press the [PTT] key, and then speak normally into the microphone. When transmitting, The LED backlight will change to your set color (For TX backlight color settings see instructions on P39-40), the LED display screen will display a TX-LED indicator light. If you press the PTT key while transmitting outside of the coverage area you will hear an error sound.

(2) Release the [PTT] key, to end transmission.



Special Reminder

» If the transmission time exceeds the "Menu 11 (Transmission time-out timer) set time, you will hear a warning indication tone, the transceiver will also stop transmitting and will limit further transmission. After releasing the [PTT] key, the tone will continue for 10 seconds after which the transmission limitation will be lifted. Note: if you press the [PTT] key anytime within the 10 seconds while the tone is sounding, you will hear a warning tone.





























Commonly used basic operations

Squelch settings: Press the  key in standby mode, and the muting level will be displayed on the screen, Press the  to choose the desired level of muting, to confirm press the  key.

Single / dual display: Press the  key in standby mode to select single or dual display.

Switching modes: In standby mode, press the  key to select VFO frequency mode or MR channel mode. (For detailed operation see hot key )

Shortcut operation chart (See P28-32 for explanation)

Key name	Function Name	Entering hotkey or operation	Remark
	Master frequency settings	In standby mode, press  to change master frequency	The LED display screen will display a  icon for the master frequency.
	Selecting channel or frequency	In standby mode, press  to enter the Channel or frequency selection.	See operations P29 "Frequency or channel selection hotkey" instructions
	CTCSS or DCS settings / CTCSS or DCS scanner	In standby mode, press  to enter the CTCSS or DCS selection. In RX mode, press  to enter CTCSS or DCS scanner.	See operations P29 "CTCSS / DCS encoding and decoding settings" instructions
	Saving channels	In standby mode, press  to save a channel.	See operations P30 "Save channel hotkey" instructions
	Output power level settings	In standby mode, press  to change the output power settings.	Press the desired output power to change level of settings, sequence is as 
	Switching frequency mode and channel mode	In standby mode, press  to change the display mode.	See P31 "Frequency / Channel switch hotkey"
	Frequency shift direction	In frequency standby mode, press  Frequency shift direction settings. In channel standby mode, press  for reverse frequency or to turn off reverse frequency.	See P32 "Frequency shift direction switch hotkey"
	Single and dual display settings	In standby mode, press  to enter single display or turn off single display.	Only for secondary frequency set up.
	Squelching level settings	In standby mode, press  to enter squelching level settings.	See P32 "Squelching level setting hotkey"
	Scanning function	In standby mode, press  to enter the scanning function.	Transceiver panel/Hand microphone key function
	Scrambler settings	In standby mode, press  to enter the scrambler settings.	Hand microphone key settings, see P28 "voice scrambler function key (optional)"
	Keypad lock settings	In standby mode, press  to lock the keyboard or to turn off keyboard lock.	Transceiver panel / Hand microphone key function

Note: Frequency mode and channel mode are of identical operation (Besides independent indication mode).

Menu operation sheet (See P33-50 for explanation)

Function Code	Function Name	Enter function set	Screen display	Select parameter	Selectable Parameter Explanation	Confirm	Back	See page
1	Step frequency settings	MENU → 1 BAND	STEP 001	MENU → Press the ▲ key or the ▼ key to choose an index	10 types of step frequency: 2.5K(Optional), 5.0K, 6.25K, 10.0K, 12.5K, 20.0K, 25.0K, 30.0K, 50.0K, 100.0K	MENU →	EXIT	P33
2	Wide/narrow bandwidth settings	MENU → 2 MHz	W/N 002	MENU → Press the ▲ key or the ▼ key to choose an index	WIDE: wide bandwidth(25K) NARR:narrow bandwidth(12.5K)	MENU →	EXIT	P33
3	Two medium level power settings	MENU → 3 QT/PT	MPOWSET 003	MENU → Press the ▲ key or the ▼ key to choose an index	MPOW-1: 20W MPOW-2: 10W	MENU →	EXIT	P34
4	Off-set frequency settings	MENU → 4 MEMCH	OFF-SET 004	MENU → Press the ▲ key or the ▼ key to choose an index	Selectable in the range 0-599.995	MENU →	EXIT	P34
5	Transmission prompt settings	MENU → 5 H/L	ROGER 005	MENU → Press the ▲ key or the ▼ key to choose an index	BOT: When the PTT key is pressed, the transmission will prompt. EOT: when the PTT is released, the transmission will prompt. BOTH: When pressing and releasing the PTT key, the transmission will prompt. OFF: Transmission beep will not prompt when off.	MENU →	EXIT	P34
6	Beep prompt settings	MENU → 6 W/M	BEEP 006	MENU → Press the ▲ key or the ▼ key to choose an index	ON: Activate beep prompt OFF: Deactivate beep prompt	MENU →	EXIT	P35
7	Voice prompt settings	MENU → 7 SET-B	VOICE 007	MENU → Press the ▲ key or the ▼ key to choose an index	CHINESE: Chinese prompts ENGLISH: English prompts OFF: Deactivate voice prompts.	MENU →	EXIT	P35
8	Busy channel lock-out	MENU → 8 TOR	BCL 008	MENU → Press the ▲ key or the ▼ key to choose an index	ON: Activate BCL function OFF: Deactivate BCL function	MENU →	EXIT	P35
9	Mute settings	MENU → 9 SQL	SP-MUTE 009	MENU → Press the ▲ key or the ▼ key to choose an index	There are three squelch settings: QT, QT+DTMF, QT+DTMF	MENU →	EXIT	P36
10	Scan mode	MENU → 1 BAND → 0 SCRAM	SC-REV 010	MENU → Press the ▲ key or the ▼ key to choose an index	SE: Carrier wave scanning 2 TO: Time scanning CO: Carrier wave scanning 1	MENU →	EXIT	P36
11	Transmission time-out timer	MENU → 1 BAND → 1 BAND	TOT 011	MENU → Press the ▲ key or the ▼ key to choose an index	There are 60 levels on TOT, each corresponding to 1 minute	MENU →	EXIT	P37

12	Transmission overtime alarm	MENU → 1 BAND → 2 MHz	TOA 012	MENU → Press the ▲ key or the ▼ key to choose an index	There are 1-10 level on TOA, each corresponding to 1 second OFF: Deactivate TOA	MENU →	EXIT	P37
13	Caller ID transmission settings	MENU → 1 BAND → 3 QT/PT	ANI-SW 013	MENU → Press the ▲ key or the ▼ key to choose an index	ON: Activate OFF: Deactivate	MENU →	EXIT	P37
14	Ring time	MENU → 1 BAND → 4 MEMCH	RING 014	MENU → Press the ▲ key or the ▼ key to choose an index	Level 1-10, each corresponding to 1 second OFF: Deactivate	MENU →	EXIT	P38
15	Editing Caller ID	MENU → 1 BAND → 5 H/L	ANI-EDIT 015	MENU → Press the ▲ key or the ▼ key to choose an index	Individual Caller IDs can be chosen within the range 100-999999, and cannot begin with 0	MENU →	EXIT	P38
16	DTMF sidetone settings	MENU → 1 BAND → 6 W/M	DTMFST 016	MENU → Press the ▲ key or the ▼ key to choose an index	DT-ST: Keypad sidetone will be activated when transmitting ANI-ST: Caller ID sidetone will be activated when transmitting DT+ANI: Caller ID sidetone and keypad sidetone will be activated when transmitting OFF: Deactivate all	MENU →	EXIT	P39
17	Caller ID transmission mode	MENU → 1 BAND → 7 SET-B	PTT-ID 017	MENU → Press the ▲ key or the ▼ key to choose an index	BOT: Press PTT to transmit caller ID. EOT: Release PTT to transmit caller ID. BOTH: Press and release PTT will both transmit caller ID.	MENU →	EXIT	P39
18	Transmission backlight	MENU → 1 BAND → 8 TOR	TX-LED 018	MENU → Press the ▲ key or the ▼ key to choose an index	WHITE: White backlight BLUE: Blue backlight GREEN: Green backlight OFF: Deactivate	MENU →	EXIT	P39
19	Standby backlight	MENU → 1 BAND → 9 SQL	WT-LED 019	MENU → Press the ▲ key or the ▼ key to choose an index	WHITE: White backlight BLUE: Blue backlight GREEN: Green backlight OFF: Deactivate	MENU →	EXIT	P39
20	Receiving backlight	MENU → 2 MHz → 0 SCRAM	RX-LED 020	MENU → Press the ▲ key or the ▼ key to choose an index	WHITE: White backlight BLUE: Blue backlight GREEN: Green backlight OFF: Deactivate	MENU →	EXIT	P40
21	Deleting a channel	MENU → 2 MHz → 1 BAND	DEL-CH 021	MENU → Press the ▲ key or the ▼ key to choose an index	There are 999 channels. The 1st, 2nd and the priority channels cannot be deleted.	MENU →	EXIT	P40
22	Editing a channel name	MENU → 2 MHz → 2 MHz	CH-NAME 022	MENU → Press the ▲ key or the ▼ key to choose an index	Channel name can be up to 8 digits long and can be made up of upper-case or lower-case letters, numbers, or symbols	MENU →	EXIT	P40

Menu operation sheet (See P33-48 for explanation)

- 23 Priority channel switch**
 MENU → 2 MHz → 3 QT/OT → PRICH-SW⁰²³ → MENU → Press the ▲ key or the ▼ key to choose an index
 ON: Activate
 OFF: Deactivate → MENU → EXIT P41
- 24 Speaker settings**
 MENU → 2 MHz → 4 MEMCH → SPK-CONT⁰²⁴ → MENU → Press the ▲ key or the ▼ key to choose an index
 SPK1: The transceiver-mounted speaker is activated
 SPK2: The hand speaker is activated
 SPK1+2: Both the transceiver-mounted speaker and the hand speaker are activated. → MENU → EXIT P41
- 25 Keypad auto lock**
 MENU → 2 MHz → 5 H/L → AUTOLOCK⁰²⁵ → MENU → Press the ▲ key or the ▼ key to choose an index
 ON: Activate
 OFF: Deactivate → MENU → EXIT P42
- 26 Receiving CTCSS**
 MENU → 2 MHz → 6 W/MR → RX-CTC⁰²⁶ → MENU → Press the ▲ key or the ▼ key to choose an index
 CTCSS have a total of 50 groups
 OFF: Deactivate → MENU → EXIT P42
- 27 Receiving DCS**
 MENU → 2 MHz → 7 SET-D → RX-DCS⁰²⁷ → MENU → Press the ▲ key or the ▼ key to choose an index
 DCS have a total of 105 groups positive code and 105 groups negative code
 OFF: Deactivate → MENU → EXIT P42
- 28 Transmitting CTCSS**
 MENU → 2 MHz → 8 TOR → TX-CTC⁰²⁸ → MENU → Press the ▲ key or the ▼ key to choose an index
 CTCSS have a total of 50 groups
 OFF: Deactivate → MENU → EXIT P42
- 29 Transmitting DCS**
 MENU → 2 MHz → 9 SQL → TX-DCS⁰²⁹ → MENU → Press the ▲ key or the ▼ key to choose an index
 DCS have a total of 105 groups positive code and 105 groups negative code
 OFF: Deactivate → MENU → EXIT P42-43
- 30 Repeater speaker switch**
 MENU → 3 QT/OT → 0 SCRAM → RPT-SPK⁰³⁰ → MENU → Press the ▲ key or the ▼ key to choose an index
 ON: Speaker is activate when repeating
 OFF: Speaker is deactivate when repeating → MENU → EXIT P43
- 31 Repeater PTT switch**
 MENU → 3 QT/OT → 1 BAND → RPT-PTT⁰³¹ → MENU → Press the ▲ key or the ▼ key to choose an index
 ON: PTT transmission activated when repeating
 OFF: PTT transmission blocked when repeating → MENU → EXIT P43
- 32 Repeater settings**
 MENU → 3 QT/OT → 2 MHz → RPT-SET⁰³² → MENU → Press the ▲ key or the ▼ key to choose an index
 X-DIRPT: Directional cross band repeat
 X-TWRPT: Two-way cross band repeat
 CRPT-RX: Repeater Reception
 CRPT-TX: Repeater Transmission
 RADIO: Transceiver mode → MENU → EXIT P44-45
- 33 Scan add**
 MENU → 3 QT/OT → 3 QT/OT → SCAN-ADD⁰³³ → MENU → Press the ▲ key or the ▼ key to choose an index
 ON: When scanning channels, they will be added to the scanning table
 OFF: Channels will not be added to the table when scanning → MENU → EXIT P45-46
- 34 Automatic power-off**
 MENU → 3 QT/OT → 4 MEMCH → APO-TIME⁰³⁴ → MENU → Press the ▲ key or the ▼ key to choose an index
 Levels 1-5, each level corresponding to 30-minuts.
 OFF: Deactivate automatic power-off → MENU → EXIT P46

- 35 Single-tone pulse frequency**
 MENU → 3 QT/OT → 5 H/L → ALERT⁰³⁵ → MENU → Press the ▲ key or the ▼ key to choose an index
 There are 4 single-tone pulse frequency options: 1750Hz; 2100Hz; 1000Hz; 1450Hz → MENU → EXIT P46-47
- 36 Compand**
 MENU → 3 QT/OT → 6 W/MR → COMPAND⁰³⁶ → MENU → Press the ▲ key or the ▼ key to choose an index
 ON: Activate compand
 OFF: Deactivate compand → MENU → EXIT P47
- 37 Overheating detection**
 MENU → 3 QT/OT → 7 SET-D → AUTO-FAN⁰³⁷ → MENU → Press the ▲ key or the ▼ key to choose an index
 ON: Activate overheating detection
 OFF: Deactivate overheating detection → MENU → EXIT P47-48
- 38 Voltage testing**
 MENU → 3 QT/OT → 8 TOR → LOW-U⁰³⁸ → MENU → Press the ▲ key or the ▼ key to choose an index
 ON: Activate voltage testing
 OFF: Deactivate voltage testing → MENU → EXIT P48
- 39 Voice scrambler**
 MENU → 3 QT/OT → 9 SQL → SCRAM⁰³⁹ → MENU → Press the ▲ key or the ▼ key to choose an index
 1-8: There are 8 voice scrambler groups
 OFF: Cancel voice scrambler → MENU → EXIT P48-49
- 40 CTCSS / DCS scanner**
 MENU → 4 MEMCH → 0 SCRAM → SC-RT⁰⁴⁰ → MENU → Press the ▲ key or the ▼ key to choose an index
 ALL: Save both RX and TX CTCSS / DCS
 Decoder: Save RX CTCSS / DCS
 Encoder: Save TX CTCSS / DCS → MENU → EXIT P49
- 41 Noise reduction settings**
 MENU → 4 MEMCH → 1 BAND → RNS⁰⁴¹ → MENU → Press the ▲ key or the ▼ key to choose an index
 Normal: Normal noise reduction function
 Strong: Strong noise reduction function
 OFF: Turn off noise reduction function → MENU → EXIT P49
- 42 Scan group settings**
 MENU → 4 MEMCH → 2 MHz → SC-GROUP⁰⁴² → MENU → Press the ▲ key or the ▼ key to choose an index
 ALL: Scan all
 Group 1, Group 2, Group 3, Group 4 → MENU → EXIT P49-50
- 43 FM radio function**
 MENU → 4 MEMCH → 3 QT/OT → FM-RADIO⁰⁴³ → MENU → Press the ▲ key or the ▼ key to choose an index
 ON: Enter FM radio function
 OFF: Cancel → MENU → EXIT P50
- 44 Reset settings**
 MENU → 4 MEMCH → 4 MEMCH → RESET⁰⁴⁴ → MENU → Press the ▲ key or the ▼ key to choose an index
 VFO: Reset menu functional parameters
 ALL: Reset all of the transceiver's functional parameters → MENU → EXIT P50

I. The vehicle transceiver has multiple functions:

(1) Work mode of transceiver

(2) Cross-band repeater work mode

(3) Repeater receiver and repeater transmitter operating mode.

Note: Can be set through Menu 32 (See P44 instructions).

(1) The vehicle transceiver control panel LED is divided into two display settings, A and B, displaying the two vehicle transceiver operating frequencies.

The master frequency will be indicated by “▼”. This icon is very important. All operating instructions are all concerning the master frequency indicated by this icon. If the frequency does not have the “▼” icon, it will be called a secondary frequency.

The master and secondary frequency will be separated by a vertical bar on the display device.

(2) While the vehicle transceiver is in operating mode, only one channel can be set to the FM receiver (65-108MHz) function.

(3) The vehicle transceiver's two operating channels parameters can be set. Before changing the parameter settings, first set the desired channel to the master frequency.

(Master frequency settings see P29 “Master frequency settings”)

(4) When the vehicle transceiver is operating in cross-band repeater mode, or repeater reception/ repeater transmission mode, some Transceiver functions will be prohibited.

II. Hotkey function guide.

The settings menu is divided into quick start and operating menu settings, and aside from their shared operating settings, all of the functional operations of work areas A and B are oriented at the master frequency.

Special Reminder

» The vehicle transceiver operating frequency parameters can be separately set. (Example: STEP step frequency, W/N Wide/narrow bandwidth frequency, VFO/MR display mode, OFF-SET frequency, BCL busy channel lockout, SP-MUTE mode operations). As well as system parameters (Example: RX-LED receiver backlight color function etc.) are AB's two operational channels. When setting the main frequency it will change the system parameters.

■ Rapid search function

When using the device or setting any functional parameters you can search the data above or below it by pressing the or keys.

(I) Quick operation


(0) Voice scrambler function key (Optional)

When the transceiver is standby, press the key to enter voice scrambling settings, then press the / key or a number from 1-8 to choose a voice scrambling group, and press the key to confirm, exit settings and return to standby. Voice scrambling has a total of 1 – 8 groups, OFF Shuts down the voice scrambling function. If the vehicle transceiver does not come with this option, pressing this key will be of no effect!

NOTE

» The voice scrambler function is ineffective in Cross-band repeat or repeater reception mode / transmission mode.


(1) Master frequency settings hotkey

When the transceiver is standby, press the  key on the handset or transceiver to switch between master frequency and secondary frequency.

Special Reminder

» When the A or B Areas or the display screen display an "▼" icon, this indicates that that area is the master frequency, and the other areas are secondary frequency, this icon is very important, all of the functional operations are oriented at the master frequency.


(2) Frequency or channel selection hotkey

■ When the transceiver is standby (in frequency mode), press the  key to enter frequency settings, and 8 whiffletrees will appear, please input another 6 values from the keyboard, which the frequency will automatically confirm. The standards for automatic recognition are:

(1) When the 6th digit is 0 or 5, the final frequency's, 7th and 8th digits are 0.

(2) When the 6th digit is not 0 or 5, then it will automatically adjust

the frequency together with the 5th digit according to 6.25k step frequency, the final frequency's 7th and 8th digits are 25, 50 and 75. If any keys other than 0-9 are pressed when inputting the 6-digit number, the frequency settings will be exited.

■ When the transceiver is standby (channel mode), press the  key on the transceiver or handset to enter selective channel calling settings, at which point the LCD screen will display "CH-XXX" (the code of the present channel), and the channel will blink. Enter the required selective channel to make a selective call to this channel; if the input channel has not been set up, you will be returned to the previously-set channel.

(3) CTCSS / DCS scanning key

This key has two functions, when the transceiver is in standby mode it is an CTCSS / DCS encoder and decoder function, and when the transceiver is in RX mode it is an CTCSS / DCS scanner. (The CTCSS / DCS scanning function is only effective in Transceiver operation






mode, in Cross-band repeat or repeater reception mode / transmission mode it is ineffective).

A. CTCSS / DCS encoding and decoding settings



The CTCSS / DCS encoding and decoding settings simultaneously set the channel RX CTCSS / DCS (decoding) and TX CTCSS / DCS (encoding) settings.




To set the encoding and decoding functions separately see MENU 26-29 operating instructions.

In standby mode, press  key to select CTCSS or DCS, the LCD will display: 

Press  key to enter CTCSS settings / press the  key to enter DT (DCS) settings. After entering the settings, press the  /  keys to choose the needed value, press the  key to confirm.

B. CTCSS / DCS scanner function

When the vehicle transceiver is in RX mode, press the  key to enter select the CTCSS or DCS scanning function, the LCD will then display: 

Press the  key to choose the CTCSS scanner / press the  key to choose the DCS scanner, once the scanner is set correctly, the CTCSS will remain displayed on the LCD screen, press the  key to save the channel to the corresponding CTCSS parameters. Save the parameters according to Menu 40 instructions.

(4) Save channel hotkey

When the transceiver is in channel mode (MR), save all parameters of the channel besides that of the channel name and channel scan added. When the transceiver is in Frequency mode (VFO) you can set different off-set frequencies (for off-set frequency settings see Menu functions 4), frequency shift direction (for frequency shift direction settings see hotkey operations 7) as well as saving other channel parameters. This way you can set up same-band or different-band channels with different TX & RX frequencies.

In standby mode, press the  key to enter saved channel at this time the LCD will display: 

Enter the Hundredths place tenths, place and single place of the desired channel in sequence to save the channel. Press the  to confirm.

E.g.: Store RX 450.025MHz, RX CTCSS 67.0Hz, TX 460.025MHz to Channel 10.

Hotkey function guide

1. In frequency mode, enter 450.025MHz, then set the RX CTCSS to 67.0Hz via **MENU** **2** **MHz** **6** **VFO/MR**.
2. The TX frequency is 10.000MHz higher than RX frequency. Set the Off-set frequency to 10.000MHz via **MENU** **4** **Offset**. And set the offset frequency direction to + via **7** **ST-1** key.
3. Press **4** **MEMO** key, and select channel number 10, then press **MENU** to store, and then return to standby mode.

NOTE

» The save channel function is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

(5) **5** **H/L** Output power settings switch key

H/L function key, is an output power switch hotkey

When the transceiver is standby, the **5** **H/L** key will quickly switch power; every time **5** **H/L** the key is pressed, the power will shift in the following direction: High power (H) → Medium power (M) → Low power (L)

Medium output power has two levels. for detailed functions see Menu 3 “two medium level output power” instructions

(6) **6** **VFO/MR** Frequency / Channel switch hotkey

The vehicle transceiver operating channel can be set as VFO Frequency mode and MR channel mode, Amongst those MR channel mode has three different display types.

A. Channel number mode B. Channel frequency+Channel number display mode C. Channel name display mode. The VFO Frequency mode and MR channel mode sometimes are setup with passcode limitations; they need a correct password in order to be able to switch between the two. However the MR channel mode does not need a passcode to switch between the 3 different display modes.

VFO/MR(Frequency / Channel switch) switching is shown below:

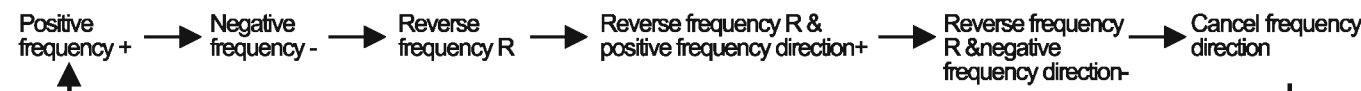


When the setup is setup with a switch passcode,press the **5** **H/L** key, The LCD will display: -----

At this time enter a 6 digit passcode, if the passcode is correct the mode will switch successfully, If the passcode is incorrect the mode switch will be ineffective, a double tone will follow and you will exit the program. The only way to set up the passcode is through our companies supplied software. If 6 0's are entered this will turn off the password function.

(7) **7** **ST-1** frequency shift direction switch hotkey

● In FM mode, press the **7** **ST-1** key to rapidly switch direction rapidly as shown below:



When rapidly switching frequencies, the frequency direction will be skipped automatically if the frequency direction results in frequency error.

● In channel mode, press the **7** **ST-1** key this will only set “reverse frequency R” or “turn off reverse frequency R” function.

This function can be prohibited while the vehicle transceiver is in cross-band repeater or repeater receiver or repeater transmitter mode.

(8) **8** **TR** Single or dual display switch hotkey

When in standby, press the **8** **TR** key, and you can switch between single and dual display.

This function can be prohibited while the vehicle transceiver is in cross-band repeater or repeater receiver or repeater transmitter mode.

(9) **9** **SQL** Squelch level settings hotkey

The SQL function rapidly switches between squelching settings.

When in standby, press the **9** **SQL** key and the muting level in the area will be displayed on the screen, then press **▲** / **▼** or directly press 0-9 to choose the desired level of muting, press **MENU** to confirm, after saved, it will return to standby mode.

(10) **+** **SCAN** Scanner key

In standby mode, press the handheld microphone **+** **SCAN** key or the panel **+** **SCAN** key, to start scanning. Frequency mode will start scanning by “step frequency” in intervals, channel mode will start scanning in the current channel, press the **▲** / **▼** keys while scanning to change the scanning direction (higher or lower), press any key to stop scanning. Please see menu 10 SC-REV Scan settings for details of scan types.t

Menu operations

This function can be prohibited while the vehicle transceiver is in cross-band repeater or repeater receiver or repeater transmitter mode.

(11) Keypad lock key.

When the transceiver is standby, press the **LOCK** key locks the keyboard. When the keyboard is locked, the master frequency area is locked, both the keypad on the handset and the keypad on the front panel are locked except the **1 BAND** key, which can change to the secondary frequency area.

(12) Up key

- In frequency mode, press the **▲** key to set a new frequency: "current frequency" - "step frequency".
- In channel mode, press the **▲** key to designate one channel as the working channel.

(13) Down key

- In frequency mode, press the **▼** key to set a new frequency: "current frequency" + "step frequency".
- In channel mode, press the **▼** key to designate one channel as the working channel.

(14) MENU confirmation key

MENU key is a confirmation key, as well as a key to enter Menu function setup hotkey.

Menu Operations

Step frequency settings (STEP) - Menu 1

When the transceiver is standby, press the **MENU** + **1 BAND** keys and the screen will display:

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** key to select the required step frequency type, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

This transceiver has 10 types of step frequency: 2.5KHz, 5KHz, 6.25K, 10KHz, 12.5KHz, 20KHz, 25KHz, 30KHz, 50KHz, 100KHz.

Wide/Narrow bandwidth settings (W/N) - Menu 2

When the transceiver is standby, press the **MENU** + **2 MHz** keys and the screen will display:

Press the **MENU** key, then Press the **▲** / **▼** keys to choose the desired wide/narrow bandwidth set up and press the **MENU** key to confirm. Press the **EXIT** key to return to standby mode.

This transceiver's bandwidth settings are divided into: wide bandwidth (25KHz) and narrow bandwidth (12.5K).

Two medium level power settings (MPOWSET) - Menu 3

When the transceiver is standby, press the **MENU** + **3 OFF** keys and the screen will display:

Press the **MENU** key, then press the **▲** / **▼** to choose the required output level, and press the **MENU** key to confirm. Press the **EXIT** key to return to standby mode.

This transceiver has to medium level power set ups separated as MPOW-1:20W ; MPOW-2:10W.

Special Reminder

» Medium output power settings is a system setting, after changing these settings, the vehicle transceivers two operating frequencies medium output power settings will simultaneously be set.

Off-set frequency settings (OFF-SET) - Menu 4

When the transceiver is standby, press the **MENU** + **4 WIND** keys and the screen will display:

Press the **MENU** key to access the menu, and the screen will display:

And the first digit will simultaneously flash, after inputting the required offset frequency or pressing the **▲** / **▼** keys to increase or reduce the offset frequency, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

The transceiver's frequency range is from 0-599.99500MHz, and the 7th, 8th digit of input offset frequency will be automatically confirmed by step frequency.

NOTE

» This function can be prohibited while the vehicle transceiver is in cross-band repeater or repeater receiver or repeater transmitter mode.

Transmssion prompt settings (ROGER) - Menu 5

When the transceiver is standby, press the **MENU** + **5 W/L** keys and the screen will display:

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to choose the required prompt mode, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

The transceiver features 4 kinds of prompt: BOT (beginning of transmission), EOT (end of transmission), BOTH (beginning and end of transmission),

Menu operations

and OFF (prompts deactivated).

ROGER Dual tone prompt method, can be set through the supplied programming software. It can be set through (at most 6 digit number) as well as remaining mode or in intervals. (See programming software for help)

Beep prompt settings (BEEP) - Menu 6

When the transceiver is standby, press the **MENU** + **6** keys and the screen will display:



Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to choose the required voice prompt to confirm, press the **EXIT** key to return to standby mode.

The transceiver has 2 Beep Prompt modes: ON or OFF

Voice prompt settings (VOICE) - Menu 7

When the transceiver is standby, press the **MENU** + **7** keys and the screen will display:



Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to choose the required prompt mode, press the **MENU** key to confirm, or the **EXIT** key to return to standby.

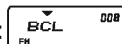
This transceiver has 3 voice prompt settings: CHINESE, ENGLISH, and OFF.

Special Reminder

» If you need to turn all prompts off, you must turn off both the setting of voice prompt (Menu 7) and the beep prompt (Menu 6).

Busy channel lock-out (BCL) - Menu 8

When the transceiver is standby, press the **MENU** + **8** keys and the screen will display:



Press **MENU** the key to access the menu, and after pressing the **▲** / **▼** keys to choose the required prompt mode, press the **MENU** key to confirm, or the **EXIT** key to return to standby.

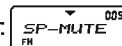
The transceiver has 2 BCL modes: ON (activate) and OFF (deactivate).

NOTE

» The BCL function is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

Mute settings (SP-MUTE) - Menu 9

When the transceiver is standby, press the **MENU** + **9** keys and the screen will display:



Press **MENU** the key to access the menu, and after pressing the **▲** / **▼** keys to choose the required prompt mode, press the **MENU** key to confirm, or the **EXIT** key to return to standby.

Squelch settings: set the conditions which determine when the speaker shall be turned on, these settings are used during selective calling, group calling and all calling.

The Transceiver's mute mode include:

QT: when the transceiver is set to this mode, all signals on the same CTCSS frequency will activate the speaker.

QT+DTMF: only those signals which both satisfy the requirements of CTCSS mode and whose dual-tone multi-frequency carrier wave signal also match the transceiver will activate the speaker in this mode.

QT*DTMF: When this mode is active, only those signals which either meet QT requirements or DTMF requirements will activate the speaker.

Scan mode settings (SC-REV) - Menu 10

When the transceiver is standby, press the **MENU** + **1** + **SCAN** keys and the screen will display:



Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required setting, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

The transceiver has 3 scan modes: TO, CO, and SE:

TO: after finding a carrier wave signal, scanning will continue if no operations are carried out within 5 seconds.

CO: scanning will stop when a carrier wave signal has been found, and scanning will continue if the carrier wave signal is lost for 3 seconds.

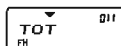
SE: scanning will stop when a carrier wave signal is found.

NOTE

» The Scan mode settings function is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

Transmission time-out timer (TOT) - Menu 11

When the transceiver is standby, press the **MENU** + **1 BAND** + **1 BAND** keys and the screen will display:

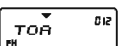


Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required time, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

The TOT can be set for up to 60 minutes, 1 level of the setting corresponding to 1 minute.

Transmission overtime alarm (TOA) - Menu 12

When the transceiver is standby, press the **MENU** + **1 BAND** + **2 BAND** keys and the screen will display:



Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required time, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

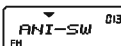
The TOA has a maximum length of 10 seconds, each level corresponding to 1 second. OFF: Deactivate TOA.

Special Reminder

- » When the transmission time exceeds the "Time-out timer" set time, an error tone will prompt and stop transmitting. Press PTT, it cannot transmit, and an error tone will prompt. After 10 seconds, the transmission function will be restored (Transmission time-out punishment).

Caller ID transmission settings (ANI-SW) - Menu 13

When the transceiver is standby, press the **MENU** + **1 BAND** + **3 BAND** keys and the screen will display:

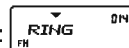


Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required setting, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

Caller ID transmission: ON activate, OFF deactivate.

Ring time (RING) — Menu 14

When the transceiver is standby, press the **MENU** + **1 BAND** + **4 BAND** keys and the screen will display:



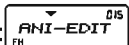
Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required time, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

The transceiver has 10 levels of ring time, each corresponding to 1 second. OFF: ring deactivated.

Editing caller ID (ANI-EDIT) - Menu 15

The transceiver's caller ID is composed of the Arabic numerals 0-9: the first digit cannot be 0, and ID numbers can be as short as 3 digits and as long as 6.

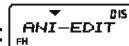
When the transceiver is standby, press the **MENU** + **1 BAND** + **5 BAND** keys and the screen will display:



Press the **MENU** key to access the settings menu, and after inputting the required digits, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

Example 1: editing a 6-digit caller ID number (901285)

When the transceiver is standby, press the **MENU** + **1 BAND** + **5 BAND** keys and the screen will display:

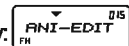


After pressing the **MENU** key, the first digit will flash, then input the required value **9** **0** **1** **2** **8** **5**

Press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

Example 2: editing a 3-digit caller ID number (901)

When the transceiver is standby, press the **MENU** + **1 BAND** + **5 BAND** keys and the screen will display:



After pressing **MENU** the key, if a caller ID number has already been input, it will be displayed, and the first digit will flash. If no caller ID number has been input, 101 will be displayed, and the first digit will flash, input **9** **0** **1**, and after the third digit has been input, the symbol "<" will flash in the 4th digit, press the **MENU** key to confirm, and the **EXIT** to return to standby.

Special Reminder

- » Each transceiver can have only one caller ID number, which is shared by Areas A and B.

DTMF sidetone settings (DTMFST) - Menu 16

When the transceiver is standby, press the **MENU** + **1 BAND** + **6 RTM** keys and the screen will display:

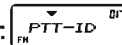


Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required setting, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

The transceiver has the following DTMF modes; 1. DT-ST: Keypad sidetone will be activated when transmitting; 2. ANI-ST: caller ID sidetone will be activated when transmitting; 3. DT+ANI: keypad and caller ID sidetone are both activated when transmitting.

Caller ID transmission mode (PTT-ID)- Menu 17

When the transceiver is standby, press the **MENU** + **1 BAND** + **7 RTD** keys and the screen will display:

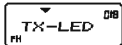


Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required setting, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

The transceiver features 3 kinds of ID transmission: BOT (beginning of transmission), EOT (end of transmission), BOTH (beginning and end of transmission).

Transmission backlight (TX-LED)- Menu 18

When the transceiver is standby, press the **MENU** + **1 BAND** + **8 TR** keys and the screen will display:



Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required backlight color, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

The transceiver has 3 backlight colors: BLUE; GREEN; WHITE; OFF: Deactivate.

Standby backlight (WT-LED) - Menu 19

When the transceiver is standby, press the **MENU** + **1 BAND** + **9 TR** keys and the screen will display:

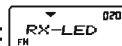


Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required backlight color, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

The transceiver has 3 backlight colors: BLUE; GREEN; WHITE; OFF: Deactivate.

Receiving backlight (RX-LED) - Menu 20

When the transceiver is standby, press the **MENU** + **2 MRZ** + **0 SCAN** keys and the screen will display:

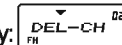


Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the required backlight color, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

The transceiver has 3 backlight colors: BLUE; GREEN; WHITE; OFF: Deactivate.

Deleting a channel (DEL-CH) - Menu 21

When the transceiver is standby, press the **MENU** + **2 MRZ** + **1 BRAND** keys and the screen will display:



Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** to select the channel you wish to delete or manually inputting the channel code, press the **MENU** key to confirm and the **EXIT** key to return to standby.

Special Reminder

>> The 1st, 2nd and the priority channels are fixed, which cannot be deleted.

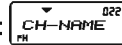
NOTE

>> The Deleting a channel is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

Editing a channel name (CH-NAME) - Menu 22

Channel names can only be edited in channel mode, and only the name of the present channel can be edited- this operation is ineffective in frequency mode.

When the transceiver is standby, press the **MENU** + **2 MRZ** + **2 MRZ** keys and the screen will display:



Press the **MENU** key to access the menu, and the first digit will flash (which indicates that this digit is being edited)

Press the **▲** key to switch character sets (this switches between special characters, upper-case letters, lower-case letters, and numbers), press the **▲** key to choose the required character, press **▼** to edit the next character, and press **☐** to clear the character you are currently editing.

When you have finished editing the name, press **MENU** to confirm, and press **EXIT** to exit the editing screen.

NOTE

- » 1.Channel names can be a maximum of 8 characters long, and the first character may not be 0.
- » 2.When all 8 characters are empty, the channel will be displayed on the screen as CH-*** (** being the current channel number).

Priority channel switch (PRICH-SW) - Menu 23

When the transceiver is standby, press the **MENU** + **2 MRZ** + **5 0/1** keys and the screen will display: 

Press the **MENU** key to access the settings, and after pressing the **▲** / **▼** key to activate or deactivate the speaker, press the **MENU** to confirm, and press the **EXIT** key to return to standby

The priority channel switch can be set to ON or OFF.

Special Reminder

- » While in frequency mode or channel mode, you only need to turn on the priority channel, and the priority channel will scan in 3 second intervals. The priority channel is only used for receiving, if you need to transmit, please set the priority channel as the present channel.
- » The priority channel can be set via the programming software supplied by our company.

NOTE

- » The Priority channel switch is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

Speaker settings (SPK-CONT) - Menu 24

When the transceiver is standby, press the **MENU** + **2 MRZ** + **4 0/1** keys and the screen will display:

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the desired setting, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

There are 3 speakers on the transceiver, 2 are for the transceiver that is separated by Area A/B and 1 is for hand microphone. You can activate the hand microphone as the only one speaker. You can also both activate the speaker of transceiver and hand microphone.

SPK1: only the transceiver unit speaker is activate.

SPK2: only the hand microphone is activate.

SPK1+SPK2: the transceiver-mounted speaker and the hand microphone are both activate.

Keypad autoLock (AUTOLOCK) - Menu 25

When the transceiver is standby, press the **MENU** + **2 MRZ** + **5 0/1** keys and the screen will display: 

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select ON or OFF, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

Receiving CTCSS settings (RX-CTC) — Menu 26

When the transceiver is standby, press the **MENU** + **2 MRZ** + **5 0/1** keys and the screen will display: 

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** key to select the CTCSS you desire, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

The CTCSS has a total of 50 groups , OFF: Deactivate

Receiving DCS settings (RX-DCS) - Menu 27

When the transceiver is standby, press the **MENU** + **2 MRZ** + **7 0/1** keys and the screen will display: 

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** key to select the DCS you desire, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

DCS: 105 groups of positive code, 105 groups of negative code; OFF: Deactivate.

Transmitting CTCSS settings (TX-CTC) - Menu 28

When the transceiver is standby, press the **MENU** + **2 MRZ** + **8 0/1** keys and the screen will display: 

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** key to select the CTCSS you desire, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

CTCSS has a total of 5 groups; OFF: Deactivate.

Transmitting DCS settings (TX-DCS) - menu 29

When the transceiver is standby, press the **MENU** + **2 MRZ** + **9 0/1** keys and the screen will display: 

Menu operations

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** key to select the DCS you desire, press the **MENU** key to confirm, and press the **EXIT** key to return to standby.

DCS: 105 groups of positive code, 105 groups negative code; OFF: Deactivate.

positive code									
1	67.0	11	94.8	21	131.8	31	171.3	41	203.5
2	69.3	12	97.4	22	136.5	32	173.8	42	206.5
3	71.9	13	100.0	23	141.3	33	177.3	43	210.7
4	74.4	14	103.5	24	146.2	34	179.9	44	218.1
5	77.0	15	107.2	25	151.4	35	183.5	45	225.7
6	79.7	16	110.9	26	156.7	36	186.2	46	229.1
7	82.5	17	114.8	27	159.8	37	189.9	47	233.6
8	85.4	18	118.8	28	162.2	38	192.8	48	241.8
9	88.5	19	123.0	29	165.5	39	196.6	49	250.3
10	91.5	20	127.3	30	167.9	40	199.5	50	254.1

negative code													
1	D023N	16	D074N	31	D165N	46	D261N	61	D356N	76	D462N	91	D627N
2	D025N	17	D114N	32	D172N	47	D263N	62	D364N	77	D464N	92	D631N
3	D026N	18	D115N	33	D174N	48	D265N	63	D365N	78	D465N	93	D632N
4	D031N	19	D116N	34	D205N	49	D266N	64	D371N	79	D466N	94	D645N
5	D032N	20	D122N	35	D212N	50	D271N	65	D411N	80	D503N	95	D654N
6	D036N	21	D125N	36	D223N	51	D274N	66	D412N	81	D506N	96	D662N
7	D043N	22	D131N	37	D225N	52	D306N	67	D413N	82	D516N	97	D664N
8	D047N	23	D132N	38	D226N	53	D311N	68	D423N	83	D523N	98	D703N
9	D051N	24	D134N	39	D243N	54	D315N	69	D431N	84	D526N	99	D712N
10	D053N	25	D143N	40	D244N	55	D325N	70	D432N	85	D532N	100	D723N
11	D054N	26	D145N	41	D245N	56	D331N	71	D445N	86	D546N	101	D731N
12	D065N	27	D152N	42	D246N	57	D332N	72	D446N	87	D565N	102	D732N
13	D071N	28	D155N	43	D251N	58	D343N	73	D452N	88	D606N	103	D734N
14	D072N	29	D156N	44	D252N	59	D346N	74	D454N	89	D612N	104	D743N
15	D073N	30	D162N	45	D255N	60	D351N	75	D455N	90	D624N	105	D754N

Repeater speaker switch (RPT-SPK) - Menu 30

When the transceiver is standby, press the **MENU** + **EXIT** + **PH** keys and the screen will display: 

Press the **MENU** key to access the settings, and after pressing the **▲** / **▼** key to activate or deactivate the speaker, press the **MENU** to confirm, and press the **EXIT** key to return to standby.

During repeating, you can select the following options for the speaker key: ON (active) OFF (inactive)

Repeater PTT switch (RPT-PTT)- Menu 31

When the transceiver is standby, press the **MENU** + **EXIT** + **MND** keys and the screen will display: 

Press the **MENU** key to access the settings, and after pressing the **▲** / **▼** key to activate or deactivate this function, press the **MENU** to confirm, and press the **EXIT** key to return to standby.

During repeating, you can select the following options for the PTT transmission key: ON (active) OFF (inactive)

Repeater settings (RPT-SET) - Menu 32

There are 5 modes in the repeater settings menu: RADIO transceiver mode, X-DIRPT cross band directional repeat mode, X-TWRPT twin cross band repeat mode, CRPT-RX repeater reception mode and CRPT-TX repeater transmission mode.

■ When the transceiver is in transceiver mode, you can either directly enter the cross band repeat or repeat mode or return to transceiver mode from cross band repeat or repeat mode by setting the menu.

■ The conditions set to directional or twin directional cross-band repeat:

The two working channels of the transceiver must be two different bands frequencies or channels. For example, the RX frequency for area A is at UHF frequency while the B is at VHF frequency. And vice versa.

■ Directional cross-band repeater: the master frequency is set to the repeater receiver, the secondary frequency is set to the repeater transmitter, the receiver is only responsible for receiving, the transmitter is only responsible for transmission.

■ Twin cross-band repeater: when the transceiver is standby the master and secondary frequency are both repeater receiver. If the master frequency first receives an effective carrier wave signal, the secondary frequency will automatically be set to the cross-band repeat transmitter and vice versa.

The twin cross-band repeat receiver and transmitter are not fixed. The first received is receiver and relatively the other one is transmitter.

■ Cross-band repeat RX / TX frequency and CTCSS / DCS encoding and decoding settings:

- 1.VFO mode is RX / TX frequency that receive the RX frequency as the cross band repeat;
- 2.MR mode is RX / TX frequency that receive the RX frequency of current channel as the cross-band repeat;
- 3.Cross band repeat RX CTCSS / DCS (decoding) is based on the receiver CTCSS / DCS (decoding) as cross-band repeat.

■ Cross-band repeater or repeater settings can be set through Menu 30 (RPT-SPK) and Menu 31 (RPT-PTT). Selecting repeater/relay repeater receiver tone whether the transceiver speakers are on or whether the [PTT] key is being pressed on the repeater or relay transmission. But when the PTT is transmitting, the repeater or the relay signal will be temporarily interrupted.

When the transceiver is standby, press the **MENU** + **EXIT** + **PH** keys and the screen will display: 

Press the **MENU** key to enter settings, press the **▲** / **▼** key to select the required type, and press the **EXIT** key to confirm.

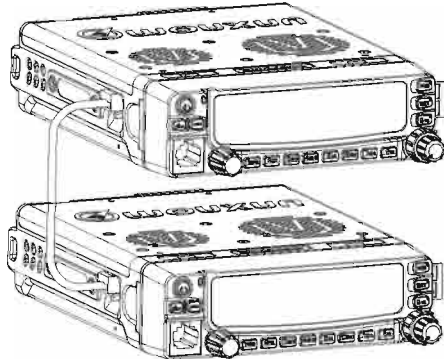
Special Reminder

» In cross-band repeater mode, the middle of the screen will display . When relay transceiver is in transmitter/receiver mode, the screen will display .

Connecting the relay receiver and transmitter:

Through MENU 32 (RPT-SET) settings, we can separately set the two transceivers as relay receiver and transmitter. To create a relay station, connect two transceivers marked as PC facet block by using an 8-core facet cable separately.

The 8-core facet cable is an optional accessory.



Special Reminder

» The connection way is same with the front panel and base station connection. See page 10 for details.

Scan add (SCAN-ADD) - Menu 33

Scan add determines whether a given channel is added to scan. As a result, this function can only be used in channel mode, can only be used with the present channel, and is ineffective in frequency mode.

When the transceiver is in channel mode, press the **MENU** +  +  keys and the screen will display: 

Press the **MENU** key to access the menu, and after pressing the  /  keys to select the required parameter, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

Scan Add has 2 parameters: ON (add), OFF (cancel).

NOTE

» The Scan add function is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

Automatic power-off (APO-TIME) - Menu 34

When the transceiver is standby, press the **MENU** +  +  keys and the screen will display: 

Press the **MENU** key to access the settings menu, and after pressing the  /  keys to select the desired parameters, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

If the transceiver undertakes no operations, and does not receive or transmit any signals within a set period of time, the Automatic Power off function will automatically power the transceiver off.

There are 5 kinds of automatic power off in total: 30 minutes, 60 minutes, 90 minutes, 120 minutes, and 150 minutes. OFF: Turning off the automatic power off function.

NOTE

» The Automatic power-off function is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

Single-tone pulse frequency (ALERT) - Menu 35

Some of the relay systems used for single-tone pulse transmission need a single-tone pulse signal to activate, if a repeater is already active, however, this signal is not needed. The following pulse signal frequencies can be selected: 1750Hz, 2100Hz, 1000Hz, 1450Hz.

When the transceiver is standby, press the **MENU** +  +  keys and the screen will display: 

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the desired parameter, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

NOTE

» When in transmitting mode, you can send the single-tone pulse frequency you've selected by pressing key " **1** **EMG** " on the panel.

Compand (Compand) - Menu 36

The compand function effectively minimizes noise, and its results are especially evident when transmitting over long distances.

When the transceiver is standby, press the **MENU** + **9** **OFF** + **5** **12.5dB** keys and the screen will display: 

Press the **MENU** key to access the menu, and after pressing the **▲** / **▼** keys to select the desired parameter, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

There are two kinds of compand: ON (activate), OFF (deactivate).

NOTE

» The Compand function is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

Overheating detection (AUTO-FAN) - Menu 37

Overheating detection: the transceiver has a built-in temperature detection system that will activate a cooling fan whenever the temperature reaches a pre-set amount depending on if this mode is activated. ON: The transceiver will automatically turn on a cooling fan when the temperature reaches a set amount, and will stop once it has cooled down. Off: turns off this setting

Special Reminder

» When the transceiver is in transmitter mode, the fan will automatically cool the transceiver even if you did not set this function ON.

When the transceiver is standby, press the **MENU** + **9** **OFF** + **7** **OFF** keys and the screen will display: 

Press the **MENU** key to access the settings menu, and after pressing **▲** / **▼** keys to select the required parameters, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

Voltage testing (LOW-V) - Menu 38

When the transceiver is installed in a car or another unstable power source (such as a car battery, etc), please activate this function in order to prevent the transceiver from consuming electricity over an extended period, rendering the equipment unable to supply electricity for regular work.

The lowest voltage can be set internally by the transceiver

When the transceiver is standby, press the **MENU** + **9** **OFF** + **8** **10V** keys and the screen will display:

Press the **MENU** key to access the settings menu, and after pressing **▲** / **▼** keys to select the required parameters, press the **MENU** key to confirm, and the **EXIT** key to return to standby. ON (activate) or OFF (deactivate)

Special Reminder

» When the voltage is too low, a voice prompt will sound every 10 seconds, and if Voltage Testing is active, the transceiver will automatically power off when the voltage is insufficient. If the voltage is found to be too high, transmission will be blocked.

Voice scrambler (SCRAM) - Menu 39

This function is a kind of special speech handling, activating voice scrambling avoids the user's speech being overheard by users of transceivers who are not using the scrambling function.

Press the **MENU** + **9** **OFF** + **8** **10V** keys, and the screen will display: 

Press the **MENU** key to access the settings menu, and after pressing **▲** / **▼** keys to select the desired setting, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

There are 8 voice scrambling groups (1-8) selectable, and OFF deactivates.

Special Reminder

» The voice scrambler is optional.

NOTE 

» The Voice scrambler function is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

CTCSS / DCS scanner saving types (SC-QT) - Menu 40

The transceiver is in CTCSS / DCS scanning, at the time when scanning on the others, there will be 3 saving types to choose from:

1. Save the current transceivers as decoder and encoder (All)
2. Save the current transceivers as encoder (Encoder)
3. Save the current transceivers as decoder (Decoder)

When the transceiver is standby, press the **MENU** + **4** (MEMO) + **0** (SCAN) keys and the screen will display: . Press **▲** or **▼** to select, press the **MENU** to confirm, and press the **EXIT** key to exit.

NOTE 

» The CTCSS/DCS scanner saving type is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

Noise reduction settings (ANS) - Menu 41

When there is an environmental noise, using this function can effectively reduce the environmental noise interference and clearly receive transmission.


There are 3 selections to reduce the noise: the normal noise reduction (NORMAL), the strong noise reduction (STRONG), and OFF.

When the transceiver is standby, press the **MENU** + **4** (MEMO) + **1** (BAND) keys and the screen will display: . Press **▲** or **▼** to choose, press **MENU** to confirm and press the **EXIT** key to exit.

Scan group settings (SC-GROUP) - Menu 42

The scan group settings are the way that a transceiver can divide the programmed channels into different scan groups. It will scan all channels in this group.

Scan group settings have: ALL channel, as well as 1-4 individual scanning groups.


When the transceiver is standby, press the **MENU** + **4** (MEMO) + **2** (MRZ) keys and the screen will display: . Press **▲** or **▼** to select, press **MENU** to confirm, and press the **EXIT** key to return.

NOTE 

» The Scan group setting is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

FM radio function (FM-Radio) - Menu 43

You can enter the FM radio function by using this function.

When the transceiver is standby, press the **MENU** + **4** (MEMO) + **3** (VFO) keys and the screen will display: . Press the **▲** or **▼** keys to select, when select ON, press the **MENU** key to enter FM radio, when select OFF, press **MENU** to return to standby mode.

NOTE 

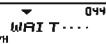
» The FM-Radio function is ineffective in Cross-band repeat or repeater reception mode / transmission mode.

Reset settings (Reset)- Menu 44

Functional Parameter Reset (VFO): resets all functional settings to factory default values, but channel parameters are not reset.

Total Parameter Reset (ALL): resets all of the transceiver's functional settings and channel parameters to factory values.

When the transceiver is standby, press the **MENU** + **4** (MEMO) + **4** (MEMO) keys and the screen will display: . Press the **MENU** key to access the settings menu, and after pressing the **▲** or **▼** keys to select the desired parameter, press **MENU** and the screen

will display: .

After the transceiver resets (VFO / ALL), it will restart and return to standby mode.

How to Operate the FM Radio

1. Turning ON

When the transceiver is standby, press the **MENU** + **4 BAND** + **3 OFF** key, select "on", and press **MENU** to enter FM Radio.

2. Selecting and scanning radio stations

When in FM radio mode, press the **FM** key to enter frequency settings, at this time the screen will display: -----

Now, input the desired frequency (4 digits), and if the input frequency is within the scope of the transceiver's range, it will be successfully established.

If the input frequency is beyond the transceiver's range, the setup will fail and the transceiver will revert to the last set frequency.

Example 1: Setting FM Waveband 105.9MHz

When the transceiver is standby, press the **FM** key to access the FM radio function, (at this point the screen will display the default frequency or the one previously used, and the screen will display "FM" on the top-right of the screen).

Press the **FM** key to access frequency settings, and the screen will display 8 horizontal lines; press **1 BAND** **0 SCAN** **5 FM** **4 BAND** in order, and the screen will display 105.9MHz, and frequency setup is complete.

Example 2: Setting FM Waveband 90.4MHz

When the transceiver is standby, press the **FM** key to access the FM radio function, press **FM** to access FM settings, and 8 horizontal lines will be displayed on the screen; press **0 SCAN** **4 BAND** in order, and the screen will display 90.4MHz, and frequency setup will complete.

In FM radio mode, press **3 SW** to scan the radio stations, it will stop scanning once searched a station. During scanning, press any key except **▲** / **▼** to stop scanning.

3. Storing and calling out the radio stations

The transceiver can store 20 FM radio channels.

Saving an FM Reception Channel:

When in FM Waveband mode, press the **MENU** key, and the screen will display: FM MEMCHO1

After pressing the **▲** / **▼** key, select the channel number you wish to save, press **MENU** to confirm, and the transceiver will automatically return to

the FM waveband frequency display interface.

Example: when in FM waveband mode, save the displayed frequency to channel "5" while in FM waveband mode, press the **MENU** key, and the screen will display: FM MEMCHO1

Press **▲** / **▼** or the **FM** key, and the LCD screen will display: FM MEMCHO5

Press the **MENU** key to confirm, and the car platform will automatically return to the FM waveband frequency display interface.

Calling out a stored radio station:

When in FM Waveband mode, press **LOC** key, and the screen will display: FM CALCH 01

Press **▲** / **▼** key to select the desired radio channel, and then press **MENU** to confirm. The transceiver will automatically return to the radio channel you selected and display on the screen.

4. Exiting the FM Radio Mode

When in receiver mode, press the **EXIT** key, and the screen will display: FM RADIOFF?

Press the **MENU** key to exit the FM radio mode.

Repeater usage

1. "RPT-SPK" repeater PTT selection

When the transceiver is standby, press the **MENU** + **9** (PTT) + **1** (MND) keys and the screen will display: 

Press the **MENU** key to access the settings menu, and after pressing **▲** / **▼** keys to select ON, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

2. "RPT-SPK" Repeater SPK selection

When the transceiver is standby, press the **MENU** + **9** (PTT) + **0** (SCRM) keys and the screen will display: 

Press the **MENU** key to access the settings menu, and after pressing **▲** / **▼** keys to select ON, press the **MENU** key to confirm, and the **EXIT** key to return to standby.

3. Two-way cross-band repeater entry and exit

When the transceiver is standby, press the **MENU** + **9** (PTT) + **2** (MRZ) keys and the screen will display: 

Press the **MENU** key to access, press **▲** / **▼** to select X-TWRPT, press **MENU** to confirm.

At this time the transceiver will enter the two-way cross-band repeat mode.

In two-way cross-band repeater mode, press **MENU** + **9** (PTT) + **2** (MRZ) keys and the screen will display: 

Press the **MENU** key to access, press **▲** / **▼** to select transceiver (RADIO) mode, press **MENU** to confirm.

At this time the transceiver will exit the two-way cross-band repeat mode and enter to the transceiver mode.

When two-way cross-band repeater "RPT-PTT" repeater PTT is ON, you only need to press the [PTT] to stop repeater transmission and reception. When this happens you can directly transmit through the directional frequency using the transmitter to transmit, Release the [PTT] key to switch to two-way cross-band repeater mode.

When the two-way cross-band repeater "RPT-SPK" repeater SPK is ON, if the twin direction repeat receives an effective carrier wave signal, the speakers will emit a tone, and simultaneously send out the received signal out into space on another frequency.

Hand microphone encoding function

DTMF Encoding (Hand Microphone)

This device features DTMF encoding; press the number pad or other keys on the handset when transmitting to activate dual-tone multifrequency encoding.

The number pad corresponds to DTMF encoding code as follows:

MENU	▲	▼	EXIT	→	A	B	C	D
1 MAND	2 MRZ	3 PTT	+ SCAN	→	1	2	3	*
4 MEMO	5 RL	6 MUTE	0 SCAM	→	4	5	6	0
7 SET-D	8 TDR	9 DEL	# LOCK	→	7	8	9	#

The transceiver encoding function usage:

When pressing the [PTT] key under transmission mode*press the key on the hand microphone and it will transmit dual tone multi-frequency (DTMF) encoding.

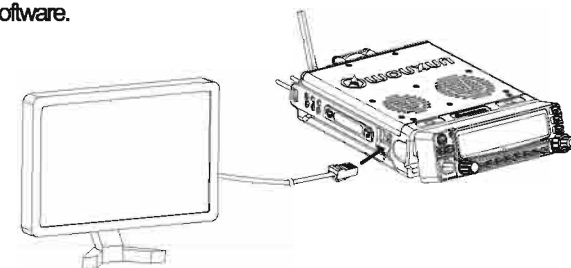
Remote Control Function

To use the remote control function you must first activate it, at the same time you must set the transceivers I.D number, and master control number.

These settings can only be set using the programming software.

1. Open the KG-LV920R-A programming software.

2. Connect the transceiver to your PC (Computer)



Remote control function

I Remote control activation

The remote control function can only be set through the programming software.

Master Controller Settings:

ANI-EDIT	<input type="text" value="123456"/>	RC POWER	<input checked="" type="radio"/> RC STOP	<input type="radio"/> RC OPEN
MCC-EDIT	<input type="text" value="654321"/>			
SCC-EDIT	<input type="text" value="000000"/>			
Kill	<input type="text" value="AB"/>	Monitoring	<input type="text" value="DA"/>	RC SW-CODE <input type="text" value="BB"/>
Stun	<input type="text" value="CB"/>	Inspection	<input type="text" value="DB"/>	

e.g. ANI-EDIT (ANI ID) of the Master Controller is 123456, the MCC-EDIT (Controller ID) is 654321, the SCC-EDIT (Controlled ID) can be any value (of 3-6 digits) (if the device is not being controlled, the 3 or 6-digit color ID is comprised entirely of 0)

Controlled Device Settings:

ANI-EDIT	<input type="text" value="123456"/>	RC POWER	<input checked="" type="radio"/> RC STOP	<input type="radio"/> RC OPEN
MCC-EDIT	<input type="text" value="000000"/>			
SCC-EDIT	<input type="text" value="654321"/>			
Kill	<input type="text" value="AB"/>	Monitoring	<input type="text" value="DA"/>	RC SW-CODE <input type="text" value="BB"/>
Stun	<input type="text" value="CB"/>	Inspection	<input type="text" value="DB"/>	

e.g.: ANI-EDIT (ANI ID) of the Controlled Device is 123456, the SCC-EDIT (Controlled ID) is 654321, the MCC-EDIT (Controller ID) can be any value (of 3-6 digits) (if the device is not being controlled, the 3 or 6-digit color ID is comprised entirely of 0)

(1) Stun

1. After inputting the above settings, press PTT + (remote STUN), the Master Controller will then send out its Controller ID (654321) + CB (the fixed code for Stun) + ANI ID Code (123456) to the Controlled Device. The Controlled Device will identify each code received from the Master Controller, if the Controller ID (654321) sent by the Master Controller is the same with the Controlled Device's controlled ID (654321), and the ANI ID (123456) of the two devices is the same, it will activate the STUN function.

Note: The Controlled Device will not be controlled while in repeater mode.

(2) Kill

1. After inputting the above settings, press PTT + (remote KILL), the Master Controller will then send out its Controller ID (654321) + AB (the fixed code for Kill) + ANI ID Code (123456) to the Controlled Device. The Controlled Device will identify each code received from the Master Controller, if the Controller ID (654321) set by the Master Controller is the same with the Controlled Device's controlled ID (654321) of the two devices is the same, it will activate the KILL function.

Note: The Controlled Device will not be controlled while in repeater mode.

(3) Monitoring

1. After inputting the above settings, press PTT + (remote MONITORING), the Master Controller will then send out its Controller ID (654321) + DA (the fixed code for Monitoring) + ANI ID Code (123456) to the Controlled Device. The Controlled Device will identify each code received from the Master Controller, if the Controller ID (654321) sent by the Master Controller is the same with the Controlled Device's controlled ID (654321), and the ANI ID (123456) of the two devices is the same, it will activate the MONITORING function (monitoring time is 15 seconds)

Note: The Controlled Device will not be controlled while in repeater mode.

(4) Inspection

1. After inputting the above settings, press PTT + (remote INSPECTION), the Master Controller will then send out its Controller ID (654321) + DB (the fixed code for Inspection) + ANI ID Code (123456) to the Controlled Device. The Controlled Device will identify each code received from the Master Controller,

Remote control function

If the Controller ID (654321) sent by the Master Controller is the same with the Controlled Device's controlled ID (654321), and the ANI ID (123456) of the two devices is the same, it will activate the INSPECTION function.

Note: The Controlled Device will not be controlled while in repeater mode.

■ Remote control power on / off:

Controlled Device Settings:

ANI-EDIT	<input type="text" value="123456"/>	RC POWER	<input type="radio"/> RC STOP	<input checked="" type="radio"/> RC OPEN
MCC-EDIT	<input type="text" value="000000"/>			
SCC-EDIT	<input type="text" value="654321"/>			
Kill	<input type="text" value="AB"/>	Monitoring	<input type="text" value="DA"/>	RC SW-CODE <input type="text" value="BB"/>
Stun	<input type="text" value="CB"/>	Inspection	<input type="text" value="DB"/>	

e.g.: SCC-EDIT (Controlled ID) of the Controlled Device is 654321, RC POWER (remote control power off) + choose RC OPEN

Special Reminder

➤ When manually sending code, if the ANI ID/Master controller ID/Controlled device ID is less than 6 digits, the last digit will be #, otherwise, it will show the complete ID number. For example: 654# + BB + 123#

(1) Remote Power OFF

The Controlled Device can be turned OFF by manually sending 654321 (the controlled device's Controlled ID) + BB (the fixed code for Remote Control Power) + 123456 (the controlled device ANI ID code) on the Master controller device.

Note: After remote powered OFF by the master controller, the standby orange indicator of the controlled device is ON.

2) Remote Power ON

The Controlled Device can be turned OFF by manually sending 654321 (the controlled device's Controlled ID) + BB (the fixed code for Remote Control Power) + 123456 (the controlled device ANI ID code) on the Master controller device.

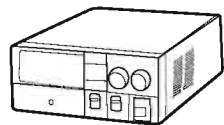
Note: After remote powered OFF by the master controller, if you want to manually turn on the controlled device, you can press the front panel  key twice.

Wire-clone Function

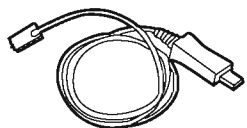
Connect the two transceivers with the connection cable on the PC Jack, press  key of the source transceiver, the two transceivers' screen will display CommUtain Data, it starts copying.

After finishing the copying, the two transceivers will reboot, if failed copying, they will return to standby mode.

Optional accessories



Switching Power Supply (30A)



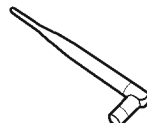
USB Programming Cable



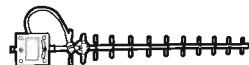
Mobile Speaker / Mic



Mobile Antenna



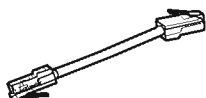
Omni-antenna



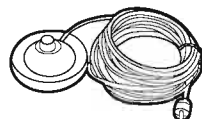
Directional Antenna



Clamps Install Mount



Connection Cable




Strong Magnetic Mount

Troubleshooting

Before assuming your transceiver is broken, please check your transceiver according to the following table; if the problem persists, you can reset the transceiver, which sometimes resolves problems with settings.

Fault	Solution
Reception prompt remains but speaker is silent	<ul style="list-style-type: none"> » Check that the volume knob has been set to maximum. » Please reset sub-audio settings to check whether different channels from other group members have been set. » Check whether squelch settings are correct.
Keypad is unresponsive	<ul style="list-style-type: none"> » Check whether keypad has been locked. » Check whether other keys have been pressed.
Other voices (not from group members) appear in the channel.	<ul style="list-style-type: none"> » Please change the CTCSS / DCS code.
Receive regular voice pause (About 3 second intervals)	<ul style="list-style-type: none"> » Please see if the "PRICH-SW" (Priority scanning switch) is turned on.
Can not enter scanning mode	<ul style="list-style-type: none"> » Please see if the scan group channel, Scan Add function is turned on.
Transceiver automated activation/deactivation switch	<ul style="list-style-type: none"> » Please make sure all used power sources are under 11.5V, or if the "APO" switch is on.
When pressing the transceiver PTT key to transmit, there is no output power and no reception	<ul style="list-style-type: none"> » See if it has been stunned or killed.
Cannot set up the cross-band repeater	<ul style="list-style-type: none"> » Please make sure A/B area is on the cross-band repeaters operating frequency.
Cannot transmit in repeat mode	<ul style="list-style-type: none"> » Please check to see if the receivers squelch and CTCSS / DCS settings are correct.

Announcement

 **Wouxun** endeavors to achieve the accuracy and completeness of this manual, but it is still not perfect for any possible omissions or printing errors. All the above is subject to be updated without prior notice.

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