To users:

Thank you for your favor with our products.

We are dedicated to providing high performance and high stability radio communication products. This two-way radio is no exception. The radio is a DMR dual-slot digital walkie-talkie developed and produced by my team with 3000 memory channels, full-color LCD display and full keyboard hand-tuning function. In order to make you fully understand the various advantages of the radio performance and use and maintenance methods, please read this manual carefully.

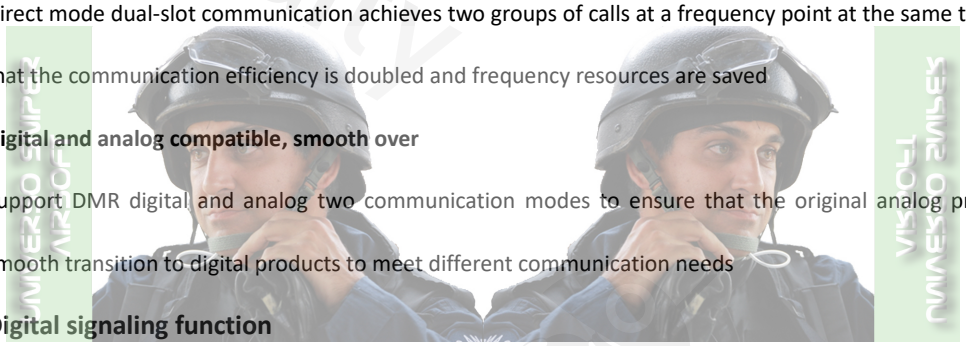
Main Features

- **Broadband walkie talkie**

  Support UV double segment, frequency range UHF400.000-480.000MHz / VHF136.000-174.000MHz

- **DMO True2-Slot dual time slot**

  Direct mode dual-slot communication achieves two groups of calls at a frequency point at the same time, so that the communication efficiency is doubled and frequency resources are saved



- **Digital and analog compatible, smooth over**

  Support DMR digital and analog two communication modes to ensure that the original analog products smooth transition to digital products to meet different communication needs

- **Digital signaling function**

  Rich calling modes that support DMR protocol, including single call, group call and all call; supports remote inhibit function and other applications

- **SMS function**

  Supports SMS, text editing and draft in 64 characters in Chinese and English, so that text messages calls can be sent when voice call is inconvenient

- **High sound quality**

  This digital two-way radio uses advanced AMBE +2TM voice processing technology to achieve high quality

- **Manual writing-frequency**

  Supports channel / frequency mode, allows manual writing-frequency in frequency mode, and writing-frequency software can be used to set the required frequency without connecting the computer

- **High/low power switch**

  Meets the power requirements of different call distances to save more energy

- **Alarm function**

  Supports general alarm and silent alarm in emergency situations

- **Digital mode supports the use of relays**

- **Side buttons can be customized without changing the user's operating habits**

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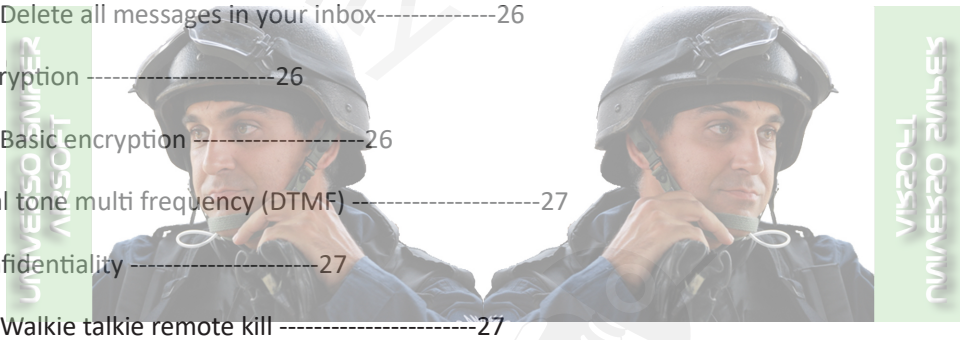
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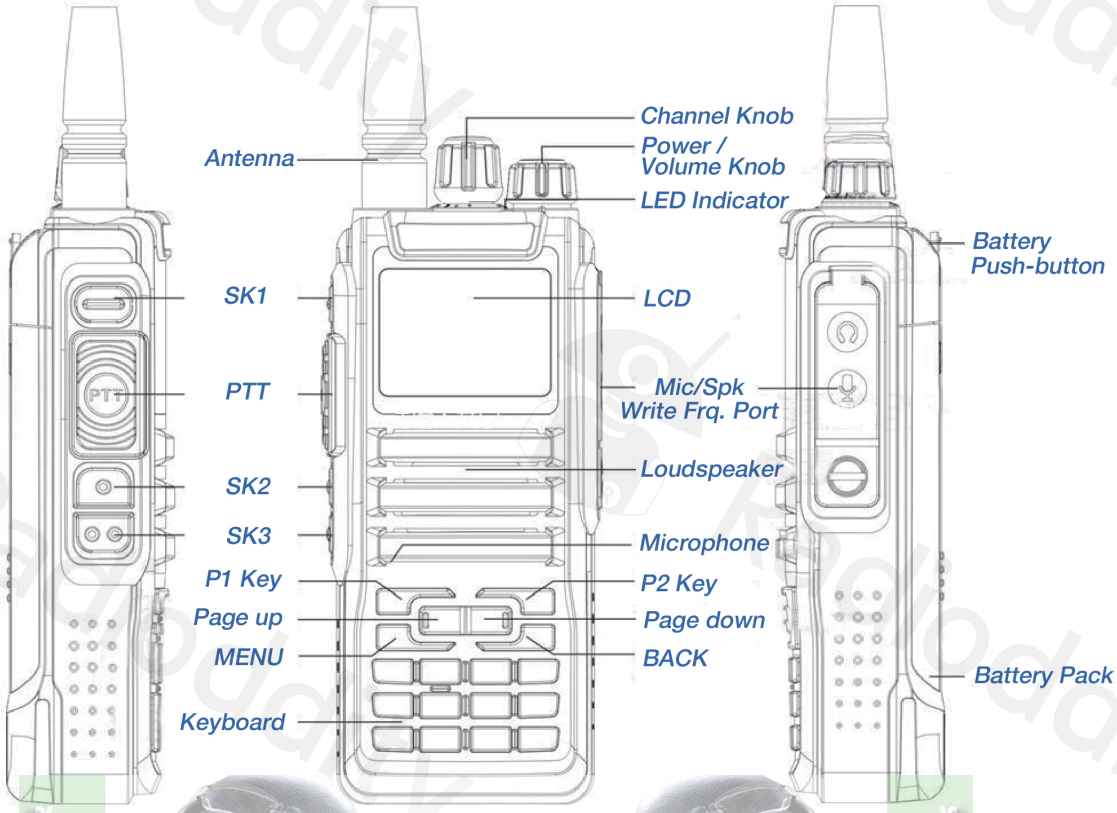
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1. Familiar with this Product



■ Description of Buttons

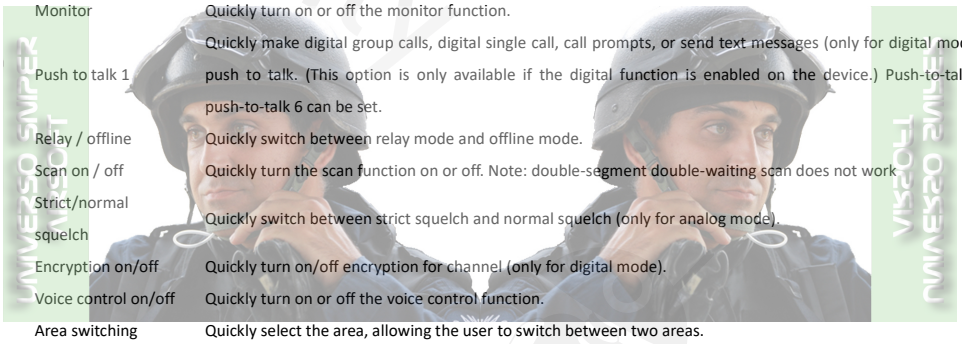
[PTT]Transmit button	Switch between transmission and reception; when transmitting, press this button and speak to the microphone; release the button to receive.
Side button 1 * Defaults to Up and down screen switch	Short press this button to quickly switch the upper and lower screen.
	Press and hold it to enter the alarm mode, press and hold it again or press briefly to exit the alarm mode. If the current channel is digital and no alarm system is configured, the alarm function can't be started.
Side button 2 * The default is to select the channel up	Short press shortcut select channel up.
	Press and hold it to turn on the monitor function (only support analog channels).
Side button 3 * The default is to select the channel down	Short press shortcut select channel down.
	Long press for the power switch, select the high and low power.
0-9 number buttons	Default: 0~9
	[0~9] code words in DTMF function
	Select punctuation marks or letters in Pinyin input method.
	If numeric shortcut function is set, you can press and hold this button to jump to the corresponding contact.
[MENU] button	Press it to activate the menu mode, enter the menu and press this button to select menu items.
	Press and hold it to enter the radio settings.
[▲]button	Move up; change the scanning direction in scanning state.
	Move left in SMS editing interface.
[▼]button	Move down; change the scanning direction in scanning state.
	Move right in SMS editing interface.
[Exit]/[Clear] button	Clear the entered information in input state.
	Press and hold this button to switch channel mode or frequency mode.

[*]button	Press and hold this button to lock on / off keyboard
	Code word * in DTMF function
[#]button	Switch the input method in input method interface.
	Code word # in DTMF function

■ Programmable Buttons

In order to improve the operational convenience, the function shortcut keys provided by this product are 【SK1】 key, 【SK2】 key, 【SK3】 key, 【P1】 key and 【P2】 key. For the specific function, please consult the distributor. For the detailed description of each function, please refer to the corresponding contents of "Function and Operation".

No.	Shortcut name	Purpose
1	None	No function is assigned to the preset button.
2	All prompt tone on/off	Quickly enable or disable all prompt tones at the same time.
3	Emergency mode on	Quickly establish an emergency call. This is the recommended option for the orange button.
4	Emergency mode off	Quickly end an emergency call initiated outward.
5	Select high/low power	Quickly switch between high power and low power.
6	Monitor	Quickly turn on or off the monitor function.
7	Push to talk 1	Quickly make digital group calls, digital single call, call prompts, or send text messages (only for digital mode) via push to talk. (This option is only available if the digital function is enabled on the device.) Push-to-talk 1 to push-to-talk 6 can be set.
8	Relay / offline	Quickly switch between relay mode and offline mode.
9	Scan on / off	Quickly turn the scan function on or off. Note: double-segment double-waiting scan does not work
10	Strict/normal squelch	Quickly switch between strict squelch and normal squelch (only for analog mode).
11	Encryption on/off	Quickly turn on/off encryption for channel (only for digital mode).
12	Voice control on/off	Quickly turn on or off the voice control function.
13	Area switching	Quickly select the area, allowing the user to switch between two areas.
14	Battery power indication	Quickly access to battery power. The user can check the battery status by LED. The battery power is sufficient if the LED is constantly in green, the battery power is still available if the LED is constantly in yellow, and the battery power is low if the LED is in red.
15	Individual operation switch	Quickly turn on or off individual operation function.
16	Recording switch	(Based on firmware) to quickly turn on/off the recording
17	Record playback	(Based on firmware) to quickly playback of recordings
18	Delete all the recordings	(Based on firmware) to quickly delete all recordings
19	1750Hz	Fast launch 1750 pilot signal
20	Up and down screen switch	Quickly switch the upper and lower screen
21	Left key	
22	Right key	



Note:

●The same button short press and long press can achieve different functions, specific by the dealer settings.

2. Security and overview

RF radiation information

This product is intended for professional applications that meet RF radiation requirements. Users must be aware of the hazards of RF radiation and take appropriate measures to meet the requirements of RF radiation limit.

Common sense in RF radiation

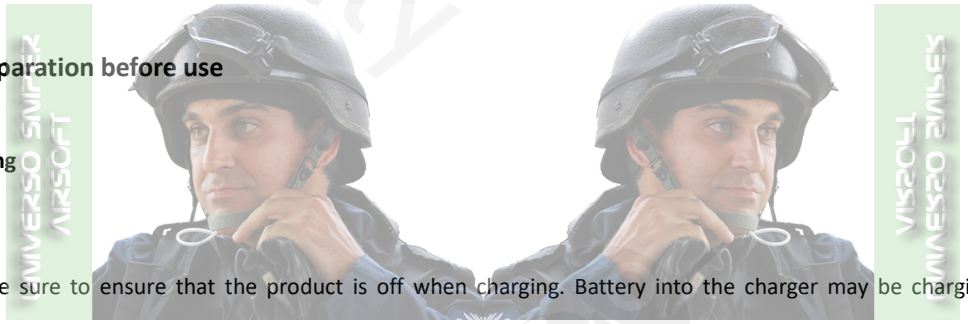
RF refers to the electromagnetic frequency that can be radiated into space. It is a technology widely used in the fields of communication, medical treatment and food processing. It will produce some RF radiation during use.

Control and operating instructions of RF radiation

In order to maximize the performance of the product and to ensure compliance with the radiation limits in the relevant occupational or controlled environment of the above criteria, the sending time shall not exceed 50% of the rated factor and shall follow the instructions below:

• RF radiation is generated only during transmission (speech) rather than reception (listening) and standby.

• The distance between the terminal and the body during transmission should be at least 2.5 cm.



3. Preparation before use

Charging

Be sure to ensure that the product is off when charging. Battery into the charger may be charging red flashing constantly flashing, this is the battery power is too low, the charger to protect the battery pre-charge process, is a normal phenomenon, Generally continue for 30 seconds to turn the red light of the normal state of charge.

Please use the charging seat specified by our company to charge the battery, the charging seat indicator shows the charging status.

1. Plug the power adapter into a power outlet;

2. Plug the other end of the power adapter into the socket on the back of the charging cradle;

3. Insert the battery or the battery-equipped product into the charging cradle correctly; the indicator light on the charging cradle shows the charging status. When the indicator light is red, it indicates the start of charging. When the indicator turns green, the charging is completed. The specific table below.

Indicator display	Current charge status
Red light flashes	Battery power is too low

Red light	In charging
Green light	The charging is completed

Note:

For best battery performance, charge for a minimum of 4 hours on first charge.

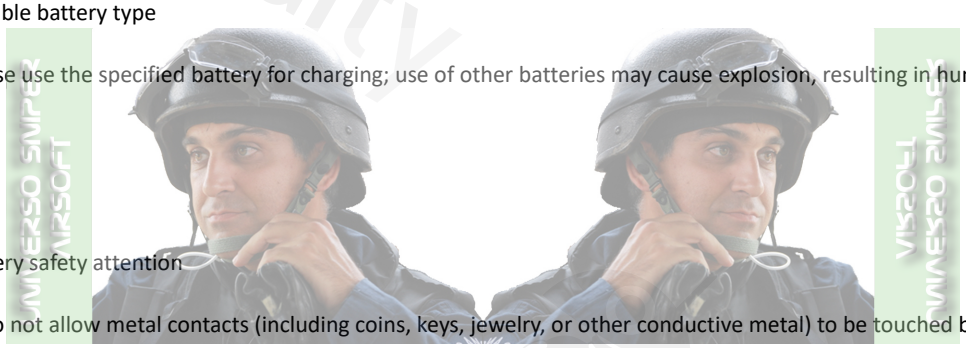
■Battery information

●The first use of the battery

Since the battery is not fully charged at the factory, please charge the new battery before use. Under normal circumstances, the battery when used for the first time, need to charge 4 hours, lithium-ion battery charging using slow charge or fast charge can be performed when charging. It is recommended that the new battery be operated as above for the first three uses. When you find the battery power is low, you need to charge the battery.

●Suitable battery type

Please use the specified battery for charging; use of other batteries may cause explosion, resulting in human injury.



●Battery safety attention

1. Do not allow metal contacts (including coins, keys, jewelry, or other conductive metal) to be touched by the battery contacts or pole pieces. Otherwise, the battery may short circuit, discharge, heat or leak, which may result in damage to the item or personal injury. Therefore, be careful when handling any battery.

2. Do not short-circuit the battery terminals or discard the battery in a fire. Do not disassemble the battery pack. When the battery is discarded, please put into a dedicated battery recycling box.

●Battery normal operation instructions

★Please charge the battery indoors, battery charging at room temperature best.

★Under normal circumstances, the charger indicator from red to green when the battery is fully charged, at this time the battery can be removed.

★You can charge when Battery installed in the walkie-talkie, but when charging is best to turn off the walkie talkie, to ensure that the battery is fully charged.

★Please do not charge the battery when the battery power is not used up (after the battery is exhausted, the voice prompt alarm will be given), which will shorten the service life of the battery.

★Do not put a fully charged battery back on the charger to "power up" again, as this operation significantly reduces the cycle life of the battery.

●Extend battery life

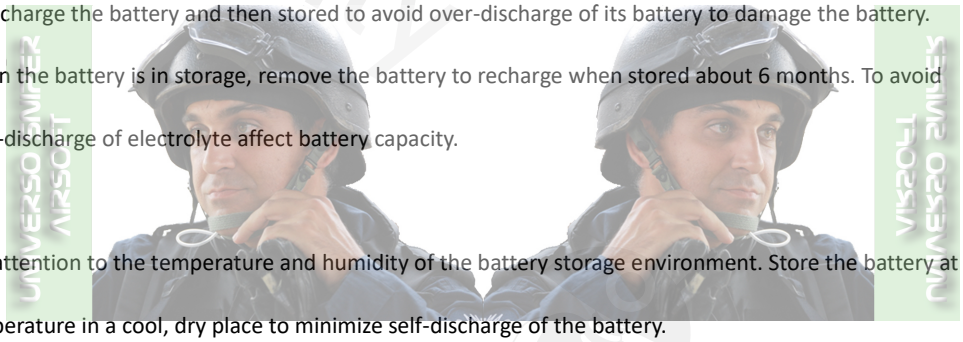
★Battery performance will reduce below -20 ℃ temperature conditions. Prepare back-up batteries for use in colder weather. Please do not throw away cold batteries that cannot work. These batteries may be used at room temperature.

★Dusting the battery contacts may affect the battery life. Please wipe the contacts with a clean, dry cloth before inserting the batteries into the walkie-talkie.

●Battery storage needs to know

1.Since the battery will have a self-discharge phenomenon, the battery when not in use for a long time, please fully charge the battery and then stored to avoid over-discharge of its battery to damage the battery.

2. When the battery is in storage, remove the battery to recharge when stored about 6 months. To avoid over-discharge of electrolyte affect battery capacity.



3. Pay attention to the temperature and humidity of the battery storage environment. Store the battery at room temperature in a cool, dry place to minimize self-discharge of the battery.

■Battery Voltage & Power Indication

If the dealer has set the 【battery power prompt】 shortcut key for the product, you can press and hold the shortcut key to check the remaining battery power by LED indicator, tone and battery icon. Release the shortcut to cancel viewing the remaining battery power. The top right of the screen shows the current battery power icon is as follows:

Battery icon	Battery power
	High
	Medium
	Low
	Insufficient

■ **Accessories installation**

1. Install / remove the antenna

Turn off the radio and insert the antenna into the mounting hole and turn clockwise. (Figure 1-1)

When removing the antenna, turn it counterclockwise to remove the antenna. (Figure 1-2)

Do not shake the top of the antenna by hand, otherwise it will reduce the working performance and service life of the antenna.

2. Install / remove the battery

●Install the battery

Align the battery with the battery holder on the back of the walkie-talkie. Push the battery firmly into the walkie-talkie and slide the battery up until it locks into place. (Figure 2-1)

●Remove the battery

To remove the battery, turn off the transceiver. Slide the battery latch into the unlocked position and hold, and then slide the battery downward and out of the battery mount.(Figure 2-2)

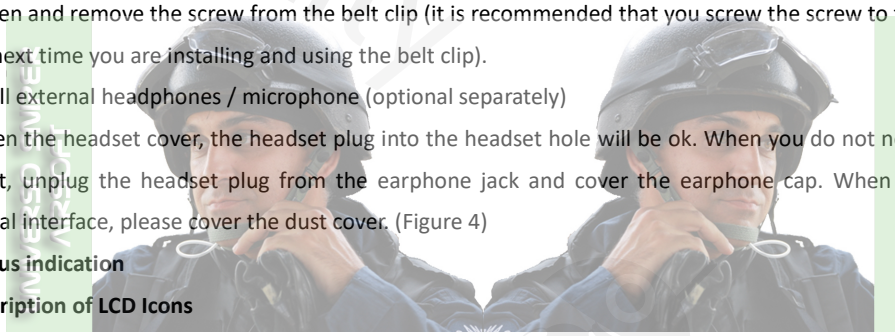
3. Install / remove the belt clip

●Unscrew the two screws on the battery. Align the two screw holes in the belt clip with the screw holes in the top of the battery, and then tighten the screws (Figure 3)

●Loosen and remove the screw from the belt clip (it is recommended that you screw the screw to the battery for the next time you are installing and using the belt clip).

4. Install external headphones / microphone (optional separately)

Open the headset cover, the headset plug into the headset hole will be ok. When you do not need to use the headset, unplug the headset plug from the earphone jack and cover the earphone cap. When not using the universal interface, please cover the dust cover. (Figure 4)



■ **Status indication**

★**Description of LCD Icons**

Icon name	Icon	Description of product status
Signal strength icon		The more signal bars, the stronger the signal is
Transmission power icon	H	The current channel transmits at high power
	M	The current channel transmits at middle power
	L	The current channel transmits at low power
Speaker icon		Speaker is enabled, and reception is effective
Relay mode icon	+	The current transmission frequency is the reception frequency plus a frequency bias (positive bias)
	−	The current transmission frequency is the reception frequency minus a frequency bias (negative bias)
		Currently in offline state
Scan icon		The scan is on and is in normal mode
Battery power icon		The more bars, the more battery power
Pointer icon	D	Currently pointing to the main digital mode; press A/B button to switch the main channel up and down. When double-waiting is turned on and works in digital sub-channel, the icon is D

Currently pointing to the main analog mode; press A/B button to switch the main channel up and down. When double-waiting is turned on and works in analog sub-channel, the icon is

★LED Indicators

This product has LED indicators so you can easily grasp the current operating state.

Indicator status	Product status
Red on	Transmitting
Green on	Receiving
Green flash	Scanning

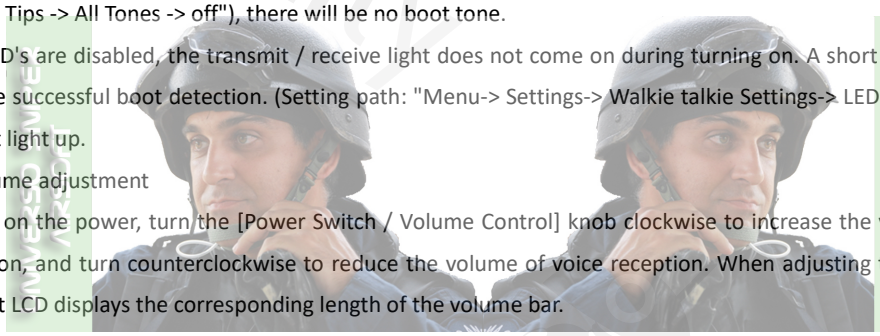
4. Basic operation

■ Power on and off

To turn on the power, turn the [Power Switch / Volume Control] knob clockwise until you hear a "click" sound and a short beep sounds. To turn off the radio, turn the knob counterclockwise until you hear a click. (English version supports channel number broadcast)

If you disable the tone function of this product (setting path: "Menu -> Settings -> Walkie talkie Settings -> Tones / Tips -> All Tones -> off"), there will be no boot tone.

If all LED's are disabled, the transmit / receive light does not come on during turning on. A short beep sounds to indicate successful boot detection. (Setting path: "Menu-> Settings-> Walkie talkie Settings-> LED-> off"), the LED will not light up.



■ Volume adjustment

Turn on the power, turn the [Power Switch / Volume Control] knob clockwise to increase the volume of voice reception, and turn counterclockwise to reduce the volume of voice reception. When adjusting the volume, the product LCD displays the corresponding length of the volume bar.

■ Transmit and receive

★Selecting Region

Region is a channel group in which you can include channels with the same attributes (such as call type, digital mode and analog mode) in a region, which makes it easy for you to manage existing channels. The unit supports up to 250 regions, and each region contains up to 64 channels. You can select a region in two ways:

- Select from the menu: “MENU-->Region-->Region list”, press [▲]/ [▼] to select the desired region, and then press [MENU] to switch to the selected region.
- Select through the programming button: If the dealer has set the [Regional switch] shortcut, you can press the shortcut to switch to the desired region.

★Add Region

If necessary, you can add a new region and set the path: "Menu-> Area-> New Area", press 【MENU】 key, input the region name in the new region, edit region name, then press 【MENU】 key Save the new area.

★Digital and analog channel switch

Each channel in this product can be configured by the dealer as either an analog channel or a digital channel. If the current region contains digital channels and analog channels, you can switch channels to analog channels or digital channels.

★VFO frequency mode frequency setting

In frequency mode, long press 【BACK】 key on the standby interface, V on the right side of the screen means that it is in manual input frequency mode. You can manually input the frequency and specify a certain frequency to transmit.

• Select via menu

Set the path: "Menu-> Settings-> Walkie talkie Settings-> Mode-> Frequency Mode" and then press the [MENU] key to set the frequency mode.

• Frequency selecting

In addition to press 【▲】or 【▼】 key, you can also choose to directly enter the frequency. If the required operating frequency is far away from the current frequency, you can use the keyboard to enter the frequency directly. Press the numeric keys ([0] to [9]) to enter the desired frequency (MHZ for the first three digits of the decimal point and KHZ for the fifth digit after the decimal point).

Write frequency software configuration path: open the write software -> Edit -> VFO mode -> VFO A -> digital / analog data -> channel mode -> select "number."

• Or set VFO B to Analog. Normally set VFO A to digital mode and VFO B to analog mode.

★Single / dual band mode switch

When the radio is standby, press 【▲】/【▼】 key to switch the primary and secondary channels.

1. The black pointer D points to the primary channel and is the digital channel; the other channel is the secondary channel.

• If the black pointer A points to the primary channel and indicates that the channel is an analog channel; the other channel is the secondary channel.

2. Press 【BACK】 to switch to dual band single standby or dual band dual standby

If the front of the sub-channel is displayed ×, it indicates that the product is working in the mode of “dual band single standby ", and the sub-channel does not receive the signal at this time.

Note: The ARTS Auxiliary function does not work because the dual keep mode is in the primary and secondary channel scanning status, DTMF, auto-scan and work alone.

★Select channel, user ID, group call ID

After power on, if you have more than one region in the radio, select the desired region and turn the Channel knob to select the desired channel, user alias or ID, or the group alias or ID.

★Receive and reply group calls

To receive a call from a user group, the transceiver must be configured to belong to the talk group.

When receiving a group call:

1. LED indicator light is green.
2. The top line of the screen displays status icons such as RSSI. In the display area below the top line: The first line shows the group alias for the talk group, the middle shows the caller ID, and the bottom shows the group call icon (digital only).
3. Hold the walkie talkie in its upright position and at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth
4. Press 【PTT】 key to reply the call, LED indicator light is red.
5. Release the [PTT] key to answer.
6. If there is no voice activity for the scheduled time period, the call is terminated.

If the walkie talkie receives a group call and is not at home at this time, it remains on the current screen

until the call is answered. Press 【BACK】 to enter the main screen and view the caller's alias before reply.

★Receive and reply single call

A single call is an individual walkie-talkie call to another individual walkie-talkie. There are two types of single call types: the first type, the walkie talkie presence test is performed before the call is ready, and the other type is ready for the call immediately.

When receiving a single call:

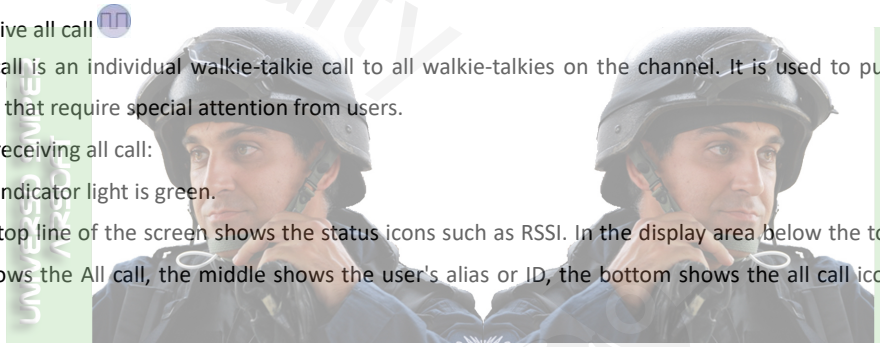
1. LED indicator light is green.
2. The top line of the screen shows the status icons such as RSSI. In the display area below the top line, the first line shows a single call with the user's alias or ID in the middle and the one-way icon at the bottom (digital mode only).
3. Hold the walkie talkie in a vertical position and keep it 1 to 2 inches (2.5 to 5.0 cm) from the mouth. If the "Channel Idle Tone" feature is enabled, when the transceiver intercepts the PTT key, you will hear a short beep indicating that the channel is free for you to answer.
4. Press 【PTT】 key to reply the call, LED indicator light is red.
5. Release the [PTT] key to answer.
6. If there is no voice activity for the scheduled time period, the call is terminated.
7. You will hear a short tone, the screen shows the call ended.

★Receive all call

All call is an individual walkie-talkie call to all walkie-talkies on the channel. It is used to publish important notices that require special attention from users.

When receiving all call:

1. LED indicator light is green.
2. The top line of the screen shows the status icons such as RSSI. In the display area below the top line: The first line shows the All call, the middle shows the user's alias or ID, the bottom shows the all call icon (digital mode only)



3. After the termination of all calls, the walkie-talkie will return to the screen before receiving the call. If "channel idle tone" is enabled, you will hear a short tone when the walkie talkie releases the [PTT] key, indicating that the channel is ready for use and you cannot reply to all calls.

When you receive an all call, if you switch to another channel, the transceiver stops receiving the full call. During a full call, you will not be able to use any of the preprogrammed keys until the call is ended.

★Start a walkie-talkie call

You can choose a channel, user ID or talk group in the following ways:

Channel knob

- Pre-programmed one-touch call button
- Address book list
- Manual Dialing (Via Contacts) - This method is suitable for single calling only and dialing using the keypad

★Use the channel knob to place a call

•Initiate group call

To initiate a call to a user group, the transceiver must be configured to belong to the talk group.

1. Rotate the channel knob to select the channel using the active talk group alias or ID.

2. Hold the walkie talkie in its upright position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.

3. Press 【PTT】 key to initiate a call, LED indicator light is red. The screen displays the talk group alias or ID, as well as the group call icon.

4. Release the [PTT] key to answer. When the target radio replies, the LED indicator will light green. The group call icon, call group alias or ID, and walkie talkie alias or ID is displayed on the screen.

5. If the Channel Idle Tone feature is enabled, when the target radio releases the PTT button, you will hear a short beep indicating that the channel is free for you to answer. Press the PTT key to answer, or if there is no voice activity for a predetermined period of time, the call is terminated.

6. The walkie talkie returns to the screen before receiving the call. You can also initiate a group call from your address book.

•Start a single call

1. Rotate the channel knob to select the channel using the active user alias or ID.

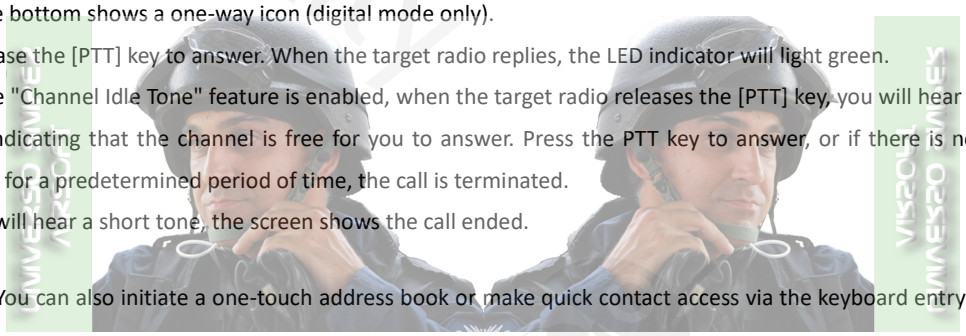
2. Hold the walkie talkie in its upright position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.

3. Press 【PTT】 key to initiate a call, LED indicator light is red. The top line of the screen shows status icons such as RSSI. In the display area below the top line, the first line shows a single call, the middle shows a user alias or ID, and the bottom shows a one-way icon (digital mode only).

4. Release the [PTT] key to answer. When the target radio replies, the LED indicator will light green.

5. If the "Channel Idle Tone" feature is enabled, when the target radio releases the [PTT] key, you will hear a short beep indicating that the channel is free for you to answer. Press the PTT key to answer, or if there is no voice activity for a predetermined period of time, the call is terminated.

6. You will hear a short tone, the screen shows the call ended.



You can also initiate a one-touch address book or make quick contact access via the keyboard entry to find the desired walkie talkie.

•Initiate all call

This feature lets you signal all users on the channel. The walkie-talkie must be programmed to allow you to use this feature.

1. Rotate the channel knob to select the channel using the active full call group alias or ID.

2. Hold the walkie talkie in its upright position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.

3. Press 【PTT】 key to initiate a call, LED indicator light is red. The screen displays the all-call group alias or ID, as well as the all-call icon.

Channel users cannot reply to all calls.

★Use the one-touch call button to initiate a group call or a single call

One-touch calling features make it easy to group calls or single calls to predefined aliases or IDs. This function can be assigned to short programming or long programming keys.

You can assign only one alias or ID to a one-touch call key, and the walkie talkie can have multiple programmed one-touch call keys.

1. Press the preprogrammed one-touch call button to initiate a group or single call to a predefined alias or ID.

2. Hold the walkie talkie in its upright position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.

3. Press【PTT】key to initiate a call, LED indicator light is red. The screen displays the talk group / user alias or ID, as well as the group call / callout icon.

4. Release the [PTT] key to answer. When the target radio replies, the LED indicator will light green.

5. If the "Channel Idle Tone" feature is enabled, when the target radio releases the [PTT] key, you will hear a short beep indicating that the channel is free for you to answer. Press the PTT key to answer, or if there is no voice activity for a predetermined period of time, the call is terminated.

6. The walkie talkie returns to the screen before receiving the call.

★Analog channel call

On the analog channel, hold down the [PTT] key and speak into the microphone, to transmit. Please release【PTT】 key to receive.

•DTMF call

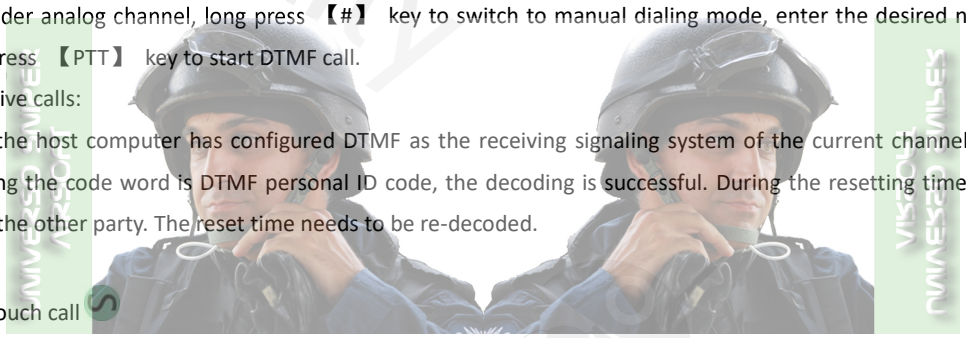
•Make a call:

•under the analog channel, press and hold the [PTT] key and press the keypad number key.

• Under analog channel, long press 【#】 key to switch to manual dialing mode, enter the desired number, short press 【PTT】 key to start DTMF call.

•Receive calls:

When the host computer has configured DTMF as the receiving signaling system of the current channel, when decoding the code word is DTMF personal ID code, the decoding is successful. During the resetting time, it can talk to the other party. The reset time needs to be re-decoded.



•One touch call

Analog mode, program the radio's one touch calls function:

1. Enter the corresponding DTMF number in DTMF Signaling -> Coding -> Coding Sequence.

2. Programmable Button -> One Touch Access -> Mode -> (Analog) -> SMS / Code -> (Select the corresponding code number)

3. (Programmable key) -> Walkie-talkie button -> Side key X -> Push to talk X -> (Select the corresponding PTT serial number)

After the above configuration, press the corresponding side button, you can achieve one touch DTMF launch.

★PTT ID call

•Make a call

In analog mode, you can program the radio to configure the DTMF on-line code and off-line code; and enable the up-down-line code on the analog channel. When enabled, the code will be sent each time the [PTT] key is pressed, and the code will be released when the [PTT] key is released.

5. Emergency alarm function

★Emergency alarm

In the event of an emergency, you can use this feature to ask your fellow or control center for help. Emergency alarm has the highest priority, you can alarm whether the walkie talkie is transmitting or receiving.

Alarm initiator to exit the alarm mode, there are two cases:

●Turn off the radio to exit the whole machine alarm.

● in other ways, when exiting alarm mode, the alarm on the current channel can only be temporarily exited. When reselecting the channel, the alarm will continue;

The alarm function is enabled for you by the dealer (program path: "Edit -> Digital Emergency Alarm System -> Emergency Alarm System -> System1"). Before using this function, you need to understand the following concepts.

★Alarm Type

The radio prompts in different modes for different alarm types, as shown in the following table.

Alarm type	Description
Disable	Turn off alarm function (alarm disabled), but it can receive alerts from other radios.
Conventional	When alarms, the radio gives an audible and visual prompt.
Silent	When alarms, the radio will not give any audible or visual prompt. At the same time, no sound is made on any received audio.
Silence with voice	When alarms, the radio will not give any audible or visual prompt. However, the radio sounds when you press and hold the PTT button to initiate a call or respond to a call.

★Alarm Mode

Except the alarm type “Disable”, other alarm types support the following alarm modes. You can ask the dealer to select one of them (Note: The following methods use “Conventional” alarm type as an example).

Alarm mode	Description
Emergency alarm	In this mode, you can press and hold the [Emergency mode on] button to send an alarm tone to your partners or control center but can’t talk to the other party.
Emergency alarm and call (alarm call)	In this mode, you can press and hold the [Emergency mode on] button to send an alarm tone to your partners or control center, and then press and hold the [PTT] button to speak to the microphone, and your voice and surrounding background sound will be sent to the receiver.
Emergency alarm and voice (emergency call)	In this mode, you can press and hold the [Emergency mode on] button to enter the alarm transmission channel. The product automatically activates the “emergency microphone” (without holding down the PTT button). You can speak to the microphone, and your voice and the surrounding background sound will be sent to receiver.

★Receive emergency alert

1. The number of alerts received when an emergency alert was received, along with the alert that was received, alternating with the sender's alias or ID.

2. A beep sounds and the LED flashes red.

3. If enabled, your transceiver will automatically acknowledge the emergency alert. When the walkie talkie receives an emergency alert, the screen displays a prompt that an emergency alert has been received, until an acknowledgment is sent and the emergency mode exits. You will not be able to receive any other prompts or show any other calls until you exit the screen for receiving an emergency alert.

Short press 【BACK】 key, and then press the pre-programmed alarm close key, clear the prompt of receiving emergency alarm and exit emergency mode.

★Reply to emergency alert

When receiving an emergency alert:

1. Press any key to stop all audible alerts that have received an emergency alert.
2. Hold the walkie talkie in its upright position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth. If the "channel idle tone" function is enabled, you will hear a short tone when the walkie talkie releases the PTT key, indicating that the channel is now ready for use.
3. Press 【PTT】 key to start and emergency call to initiate walkie talkie call. LED indicator light is red. The walkie talkie is in emergency call mode.
4. Release the PTT key to answer. When the emergency call initiates the walkie talkie reply, the LED indicator will light green. You will see group call icons, talk group IDs, and walkie talkie ID on the screen.
5. When the call is finished, press the [BACK] key briefly and then press the Preset Alarm Off key to clear all prompts for emergency calls and exit emergency mode.
6. The walkie talkie returns to the home screen.

★Send emergency alert

This feature allows you to send an emergency alert, which belongs to a non-voice signal and will trigger a prompt on another transceiver.

1. Press the preprogrammed alarm on button.
2. The screen displays Send Alert, alternating with walkie talkie ID. The LED is lit red and the emergency call icon appears on the home screen.
3. When an emergency alert confirmation is received, an emergency call tone sounds and the LED flashes green. The screen shows that the emergency alert was successful.

• Or if the walkie talkie does not receive any emergency alert confirmation and a beep sounds after all retries are exhausted, the screen displays failed emergency alert.

4. The walkie-talkie exits the emergency alert mode and returns to the home screen. If your walkie talkie is set to "silent," it will not show any voice or visual cues in emergency call mode.

★Send emergency alert with call

This feature allows you to send an emergency alert to another transceiver. After confirmation, the two walkie talkies communicate via a pre-programmed emergency channel.

1. Press the preprogrammed alarm on button.
2. The screen displays Send Alert, alternating with walkie talkie ID. The LED is lit red and the emergency call icon appears on the home screen.
3. When an emergency alert confirmation is received, an emergency call tone sounds and the LED flashes green. The screen shows that the emergency alert was successful.
4. Hold the walkie talkie in its upright position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
5. Press [PTT] key to initiate a call, the LED indicator lights up in red, and the group icon appears on the screen.
6. Release the [PTT] key to answer.
7. If the "Channel Idle Tone" feature is enabled, when the target radio releases the [PTT] key, you will hear a short beep indicating that the channel is free for you to answer. Press 【PTT】 key to answer.

Or press the pre-programmed alarm close button to exit emergency mode.

8. The walkie talkie returns to the home screen. If your transceiver is set to "Mute," it will not display any voice or visual cues in Emergency Call mode and will not receive any response (call) from the target transceiver until you press the {PTT} key to initiate the call. If your transceiver is set to mute with Voice, it will not show any voice or visual cues in emergency call mode or when you receive a call from the target radio. Only when you press the [PTT] key to initiate or respond to the call, will prompt.

★Send an emergency alert with voice follow

This feature allows you to send an emergency alert to another transceiver. After confirmation, your walkie talkie microphone is activated automatically, allowing you to communicate with other radios without pressing the [PTT] key. This activated microphone status is called "Emergency Microphone". If the [PTT] key is pressed during the preprogrammed emergency microphone launch, the transceiver ignores [PTT] press and remains in emergency mode.

If you press the [PTT] key during the emergency microphone and continue pressing the key after the duration of the emergency microphone, the transceiver continues firing until you release the [PTT] key.

1. Press the preprogrammed alarm on button.

2. The screen displays send an alert, the LED is lit red and the emergency call icon is displayed.

3. After the screen shows that the emergency alert is successful, speak clearly toward the microphone. When the emergency microphone has been activated, the transceiver automatically transmits a signal without pressing the [PTT] key until the end of the emergency microphone time.

4. While transmitting, the LED is lit red and the emergency call icon appears on the screen.

5. After the emergency microphone duration has expired, the transceiver automatically stops transmitting. To launch again, press the [PTT] key.

If your walkie talkie is set to "silent," it will not display any voice or visual cues in emergency call mode and will not receive any response from the target walkie talkie until the preprogrammed emergency microphone period has expired, and you Press 【PTT】 key. If your transceiver is set to "silent with voice", it will not display any voice when you place an emergency microphone call in emergency mode, or when the target walkie talkie responds after the preprogrammed emergency microphone interval Or visual cue. These prompts appear only when you press the [PTT] key.

If the emergency alert request fails, the walkie talkie returns to the home screen.

★Restart emergency mode

It can happened in two situations:

• When the transceiver is in emergency mode and changes channel, it will exit emergency mode. If an emergency alert is activated on the new channel, the transceiver resumes the emergency call.

• Press the preprogrammed alarm on key in the emergency call start / transmit state. This way the walkie talkie will exit the status and restart the emergency call.

★Exit emergency mode

The transceiver exits emergency mode when one of the following happened:

• Receive emergency alert confirmation (emergency alerts only), or

• The number of major attempts to send an alert has been reached, or

• Press Preprogrammed Alarm Off, or

• Press the [PTT] key.

If the radio is turn off, it will exist the emergency mode. When you turn on again, the radio won't start resume emergency mode

★ Individual Operation

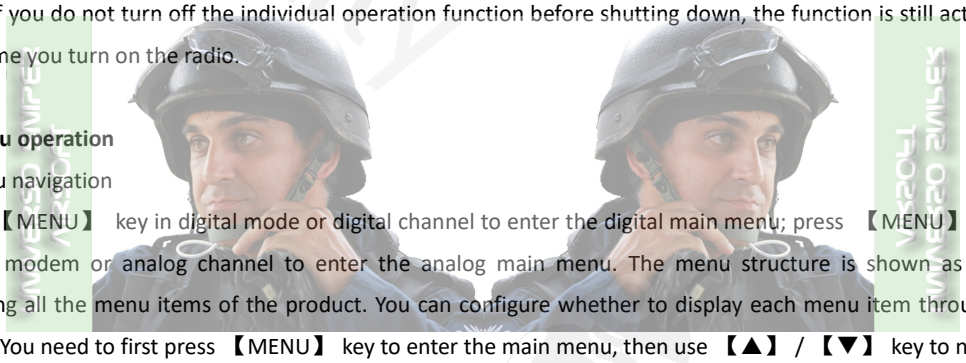
This feature is ideal for people who work alone. If you encounter unexpected situations during individual operation, you can't operate the radio in preset time. The radio will automatically send alarm to your partner or control center for help.

1. Turn on individual operation
   - Through writing frequency software, this function is turned on when the radio is started.
   - Press the preset [Individual Operation] shortcut to enable this function.

2. If you do not operate the radio in the preset response time, the radio will prompt before the response time is up (depending on the dealer settings). At this point, you can end the prompt with a valid physical operation (knob or button operation). When the response time is up, the radio will automatically turn on the alarm system of the current channel.

3. Turn off individual operation
   - Turn this function off by writing-frequency software.
   - Press the preset [Individual Operation] shortcut again to turn off this function.

Note: If you do not turn off the individual operation function before shutting down, the function is still active the next time you turn on the radio.



6. Menu operation

■ Menu navigation

Press 【MENU】 key in digital mode or digital channel to enter the digital main menu; press 【MENU】 key in analog modem or analog channel to enter the analog main menu. The menu structure is shown as below, including all the menu items of the product. You can configure whether to display each menu item through the dealer. You need to first press 【MENU】 key to enter the main menu, then use 【▲】 / 【▼】 key to navigate the desired submenu or option and press 【MENU】 key to confirm and complete the setting . This document only describes the order of menu items when the menu operation is introduced.. For example, the path to the contact list is "Contacts" -> "Contacts List". This product menu will auto reset if you do not operate on the menu during the preprogrammed time (configured by the dealer), the product automatically returns to the standby screen. You can ask dealer to modify the auto reset time and cancel auto reset.

■ Input Method

You can enter user aliases, numbers and text messages via the keypad. This product supports the English input method, Simplified Chinese Pinyin input method, and number input method.

When inputting user alias, ID or SMS, if there is no content in the editing area, press【BACK】to return to the last menu, Or if there is content in the editing area, press【BACK】will delete a character in front of the cursor until Press [BACK] to return to last menu when no editing area exists.

■ English Input Method

1. Press [#] to switch to uppercase (LCD shows ABC) or lower case (LCD shows abc) English input method.
2. Press the number buttons repeatedly until the desired letter appears. Repeat the above steps to complete the

input.

The following form shows the number of keys you have to press for the desired character.

Key	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	1	.	,	?	!	@	&	‘	%	-	:	*	#
2	a	b	c	2	A	B	C						
3	d	e	f	3	D	E	F						
4	g	h	i	4	G	H	I						
5	j	k	l	5	J	K	L						
6	m	n	o	6	M	N	O						
7	p	q	r	s	7	P	Q	R	S				
8	t	u	v	8	T	U	V						
9	w	x	y	z	9	W	X	Y	Z				
0	0	blank											
*	*												
#	To switch input mode												

■ Simplified Chinese Pinyin Input Method

1. Press [#] to switch to Pinyin input method (LCD shows PY).

2. Press number buttons to enter the pinyin, and the LCD shows the alternate pinyin and corresponding candidate Chinese characters.

3. Press [▲]/ [▼] to select the desired pinyin.

4. Press the [MENU] button to move the highlight to the Chinese character area, and press [▲]/ [▼] to select the desired Chinese character.

5. Press the [MENU] button to enter the selected Chinese character. Repeat the above steps to complete the input. Press * key to input *.

■Number Input Method

1. Press [#] to switch to number input method (LCD shows 123).

2. Press the number buttons 0~9 to enter the corresponding number. Press * key to input *.

■Input Special Characters

Press number button [1] to enter commonly used punctuation and special characters. To enter a space, press the [0] button.

Note: In the input text display area, press [▲]/ [▼] to move the cursor left / right.

■How to use the menu

1. Press 【MENU】 to enter the menu mode, then press 【▲】 / 【▼】on left or right to access the menu function;

2. Press 【MENU】 key to select a function or enter a sub-menu;

3.Press 【BACK】 to return to last menu.

The transceiver will automatically exit the menu and return to the main screen after a period of inactivity

(the hang time is set by the programming software)

■Push-to-call

You can ask the dealer to set [Push-to-call] shortcut, and press the shortcut to initiate the corresponding operation. Specific operation categories are as follows:

Business on digital channels:

» For group call contacts, you can initiate a group call or send text message.

» For single call contacts, you can initiate single call, send text message, and initiate application function. Application functions include: call prompt, radio detection, remote monitor, activation, and remote inhibit.

■Call prompt

In digital mode, you can send call prompt to a contact, and the other party can call back directly

- Initiate call prompt:

Select single call contact (enter “Menu -> Contacts ->Press [▲]/[▼] to select single call contact ->Call prompt”), or press the * button in the main interface to enter single call number, select “Call prompt”, and press the[MENU] button to start;“Call prompts successful” displays if it is successful, and “Call prompt failed” displays if fails.

- Receive call prompt:

After receiving the call prompt command, a tone rings (tone function is enabled for the caller’s contact in the contact list) and stays in the display interface. Press [EXIT] to exit.

■Radio detection

In digital mode, you can initiate radio detection to a contact without interfering with each other to confirm whether the other party has turned on the unit or uses in the current channel.

- Initiate radio detection:

Select single call contact (enter “Menu -> Contacts -> Press [▲]/[▼] to select single call contact ->Radio detection”), or press the * button in the main interface to enter single call number, select “Radio detection”, and press the [MENU] button to start; “Radio detection is successful” displays if it is successful, and “Radio detection failed” displays if fails. When the radio detection is successful, you can press PTT to call the other party.

- Receive radio detection:

Reply automatically after receiving radio detection command.

■Remote monitoring

In digital mode, you can remotely activate the microphone of a contact, and monitor the voice and background sound of the other party.

- Initiate remote monitor:

Select single call contact (enter “Menu -> Contacts -> Press [▲]/[▼] to select single call contact ->Remote monitor”), or press the * button in the main interface to enter single call number, select “Remote monitor”, and press the [MENU] button to start; “Remote monitor is successful” displays if it is successful, and “Remote monitor failed” displays if fails. When the radio detection is successful, you can monitor the background sound and voice of the other party.

- Receive remote monitor:

After receiving the remote monitor command, it automatically starts transmitting voice and surrounding environment background sound, and exits automatically when the transmission time is up.

Note: This function works only if the function is set and turned on by writing-frequency software.

■Radio activation

In digital mode, you can send an activation command to a contact to resume normal use of the two-way radio.

- Initiate radio activation:

Select single call contact (enter “Menu -> Contacts -> Press [▲]/[▼] to select single call contact ->Radio activation”), or press the * button in the main interface to enter single call number, select “Radio activation”, and press the [MENU] button to start; “Radio activations successful” displays if it is successful, and “Radio activation failed” displays if fails.

- Receive radio activation:

After receiving the radio activation command, send activation tone, re-shutdown and then boot. It can also be activated by writing frequency software.

Note: This function works only if the function is set and turned on by writing-frequency software.

■Radio remote kill

In digital mode, you can send a remote inhibit command to a contact, so that the radio can’t be used normally.

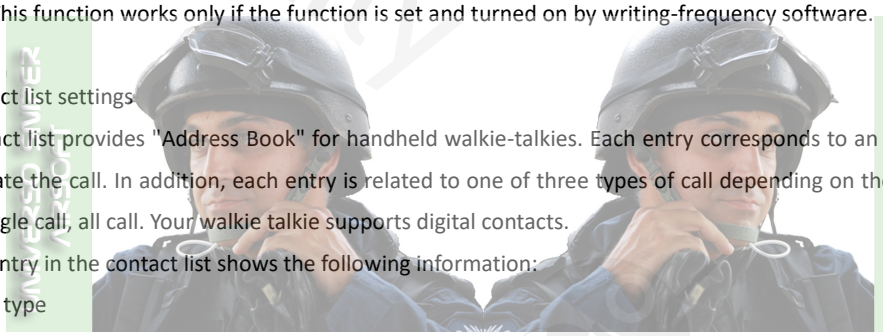
- **Initiate remote kill:**

Select single call contact (enter “Menu -> Contacts -> Press [▲]/[▼] to select single call contact ->Radio inhibit”), or press the * button in the main interface to enter single call number, select “Radio inhibit”, and press the [MENU] button to start; “Radio inhibit is successful” displays if it is successful, and “Radio inhibit failed” displays if fails.

- **Receive remote kill:**

After receiving the radio inhibit command, send inhibit prompt tone, and press the [PTT] button to display “Transmission failed and inhibited”. It can be activated by SMS writing frequency or wake-up.

Note: This function works only if the function is set and turned on by writing-frequency software.



■Contact list settings

Contact list provides "Address Book" for handheld walkie-talkies. Each entry corresponds to an alias or ID used to initiate the call. In addition, each entry is related to one of three types of call depending on the setting: group call, single call, all call. Your walkie talkie supports digital contacts.

The entry in the contact list shows the following information:

- Call type
- Call alias
- Call ID

You can add, delete, or edit contacts to your digital contact list.

■Group call from the contact lists

1. Press 【MENU】 key to enter the menu mode.
2. Press 【▲】/【▼】 key to contact list, then press 【MENU】 key to select, the items will be arranged in alphabetical order.
3. Press 【▲】/【▼】 to the desired group name or ID.
4. Hold the walkie talkie in its upright position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
5. Press 【PTT】 key to initiate a call, LED indicator light is red. The screen displays the talk group alias or ID, as well as the group call icon.
6. Release the [PTT] key to receive. When any user in the group responds, the LED will light green. You will see the group call icon user ID on the screen.
7. If the "Channel Idle Tone" feature is enabled, when the target radio releases the [PTT] key, you will hear a short beep indicating that the channel is free for you to answer. Press the call key (PTT) to answer. If there is no voice activity during the preprogrammed group call hang-up time, the call is terminated.

■Single call from your contact list

1. Press 【MENU】 key to enter the menu mode.

2. Press【▲】/【▼】key to contact list, then press【MENU】key to select, the items are arranged in alphabetical order.

3. Press 【▲】/【▼】 to the desired user alias or ID.

Or press【▲】/【▼】key to dial manually, then press【MENU】key to select. If there is a user alias or ID dialed previously, the ID is displayed with the blinking cursor and the keyboard is used to edit this ID.

Or press 【▲】/【▼】 key to dial manually, then press 【MENU】 key to select, use keyboard to input a new ID.

4. Hold the walkie talkie in its upright position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.

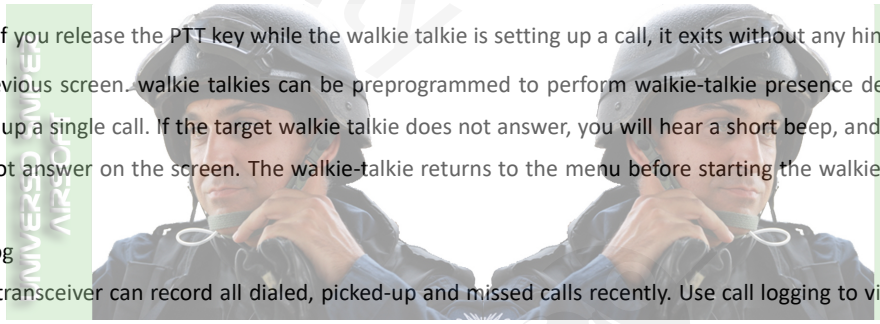
5. Press 【PTT】 key to initiate a call, LED indicator light is red. The first line shows the user's alias or ID, the second line shows the single and single call icons.

6. Release the [PTT] key to answer. When the radio responds, the radio LED lights up green and the screen displays the ID of the transmitting user.

7. If the "Channel Idle Tone" feature is enabled, when the target radio releases the [PTT] key, you will hear a short beep indicating that the channel is free for you to answer. Press the call key (PTT) to answer. If there is no voice activity during the preprogrammed single call hang-up time, the call is terminated.

8. You will hear a short tone; the screen shows the termination of the call.

If you release the PTT key while the walkie talkie is setting up a call, it exits without any hint and returns to the previous screen. walkie talkies can be preprogrammed to perform walkie-talkie presence detection prior to setting up a single call. If the target walkie talkie does not answer, you will hear a short beep, and the other party does not answer on the screen. The walkie-talkie returns to the menu before starting the walkie talkie presence test.



■Call log

Your transceiver can record all dialed, picked-up and missed calls recently. Use call logging to view and manage calls recently.

■Check the latest call number

Menu items have missed calls, received calls and dialed calls.

1. Press 【MENU】 key to enter the menu mode.

2. Press 【▲】/【▼】 key to call record, then press 【MENU】 key to select.

3. Press 【▲】/【▼】 to the desired list, then press 【MENU】 key to select.

4. The screen shows recent entries at the top of the list.

5. Press 【▲】/【▼】 key to view the list, press 【PTT】 key to start a call with the currently selected alias or ID.

■Missed call screen

Whenever a missed call is placed, the transceiver will display a missed call message, select to view or check later.

If you press the PTT key when viewing missed call numbers, the radio exits the Missed Call Screen and establishes a one-way call.

1. The screen displays Missed Calls, Missed Calls and View.

2. Press 【MENU】 key to check missed call ID, missed call record list will be displayed on the screen. Press 【MENU】 to save or delete this item; or press 【▲】/【▼】 key to check later, then press 【MENU】 key to select and return to the main screen.

■Store an alias or ID from the list of missed calls

1. Press 【MENU】 key to enter the menu mode.
2. Press 【▲】/【▼】 key to call record, then press 【MENU】 key to select.
3. Press 【▲】/【▼】key to missed call, then press 【MENU】 key to select.
4. Press 【▲】/【▼】 key to the missed call alias or ID, then press 【MENU】 key to select.
5. Press【▲】/【▼】key to save, then press 【MENU】 key to select.
6. A blinking cursor appears, enter the ID's alias if needed, and then press the {MENU} key.
7. The screen shows that the contact has been saved.

You can also enter an alias ID.

■Delete the call in the call list

1. Press 【MENU】 key to enter the menu mode.
2. Press 【▲】/【▼】 key to call record, then press 【MENU】 key to select.
3. Press 【▲】/【▼】 key to the desired list, then press 【MENU】 key to select.
4. Press 【▲】/【▼】 key to the desired alias or ID, then press 【MENU】 key to select.
5. Press 【▲】/【▼】 to delete the entry? , Then press 【MENU】 key to select whether to delete the item.
6. Select "Yes" to delete the entry by pressing the [MENU] key. The entry appears on the screen. Or, select "No" and press the [MENU] key to return to the previous screen.

When you select a call list but there is no entry in it, the screen will display a blank list. At this moment, if the keyboard tone is on, a bass tone sounds.

■Calling prompt operation

Call Alert Allows you to prompt a specific walkie talkie user to call you back when possible.

This feature is only available for user aliases or IDs, and can be accessed via the menu via Contacts or Manual Dialing.

■Receive and confirm call prompt

When you receive a call alert, the screen displays a call alert, alternating with the alias or ID of the calling walkie-talkie.

1. You will hear a repeat tone. The LED flashes red.
2. Press and release the [PTT] key to confirm the prompt, or press the [MENU] key to select "Ignore?" To ignored the call prompt.

■Initiate a call alert from the communication list

1. Press 【MENU】 key to enter the menu mode.
2. Press 【▲】/【▼】 key to address book, then press 【MENU】 key to select.
3. Press 【▲】/【▼】 key to the desired user alias or ID, then press 【MENU】 key to select.

Or press 【▲】/【▼】 key to manually dial, then press 【MENU】 key to select, flashing cursor appears, input the user ID you want to call, then press 【MENU】 key.

4. Press【▲】/【▼】 key to call the prompt, the screen displays the call prompt: <User alias or ID>, and then press the [MENU] key to indicate that the call has been sent.
5. When the walkie talkie send a call alert, the LED indicator light is red.
6. If you receive a call confirmation, a tone sounds and a call alert appears.

   Or if no call alert confirmation is received, a beep sounds and the screen displays a call alert failure.

■ SMS Function

This product supports DMR data function, and allows sending and receiving messages; the maximum length of each message is 144 characters. And SMS lines cannot be more than 50 lines.

■ Edit and Send Messages

Use the MENU function:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button, Select “SMS “,press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button, Select “Write SMS”, press the【MENU】button to make a choice.

4.When blinking cursor appears, input the SMS by the keyboard, press the【▲】button to move to left one, press the【▼】button to move to right one.

press【BACK】button to delete any useless character when there are contents in the edit area, or else it will return to the upper menu when there is no content in the edit area.

5.After finish the SMS content, press the【MENU】button to send or save.

6.When editing the SMS content, by pressing the【MENU】button to clear the options and clear all the edited contents, can return to the upper menu firstly.

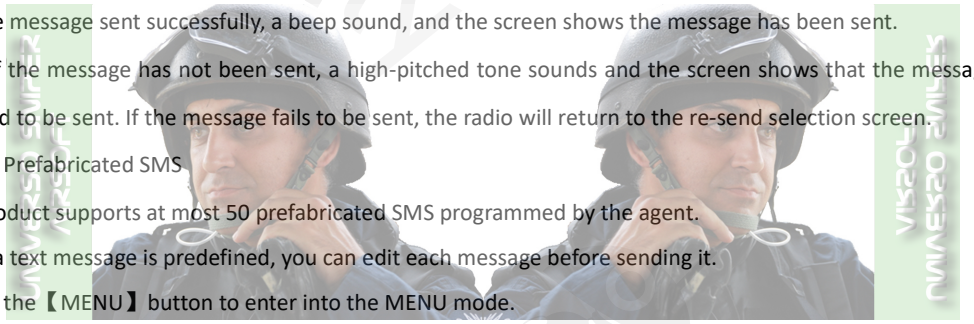
7.After send, press the【▲】/【▼】button to the required name or ID, then press the【MENU】button to make a choice.

Or press the【▲】/【▼】button to Manual Dialing, then press the【MENU】button to make a choice, input the user ID and press the【MENU】button.

8. The LCD shows the SMS :< User/Call group alias or ID>, confirm that the SMS is being sent.

9. If the message sent successfully, a beep sound, and the screen shows the message has been sent.

Or if the message has not been sent, a high-pitched tone sounds and the screen shows that the message has failed to be sent. If the message fails to be sent, the radio will return to the re-send selection screen.



■ Send Prefabricated SMS

This product supports at most 50 prefabricated SMS programmed by the agent.

When a text message is predefined, you can edit each message before sending it.

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button to select “SMS”, press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button to select “Prefabricated SMS”, press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to select required Prefabricated SMS ,press the【MENU】button to make a choice.

5. When blinking cursor appears, input the SMS by the keyboard, press the [◁] button to move to left one, press the[▷]button to move to right one. press【BACK】button to delete any useless character when there are contents in the edit area, or else it will return to the upper menu when there is no content in the edit area.

6.After finish the SMS content, press the【MENU】button to send or save.

7.When editing the SMS content, by pressing the【MENU】button to clear the options and clear all the edited contents, can return to the upper menu firstly.

8.After send, press the【▲】/【▼】button to the required name or ID, then press the【MENU】button to make a choice. Or press the【▲】/【▼】button to Manual Dialing, then press the【MENU】button to make a choice, input the user ID and press the【MENU】button.

9. The LCD shows the SMS :< User/Call group alias or ID>, confirm that the SMS is being sent.

10. If the message sent successfully, a beep sound, and the screen shows the message has been sent.

Or if the message has not been sent, a high-pitched tone sounds and the screen shows that the message has failed to be sent. If the message fails to be sent, the radio will return to the re-send selection screen.

■ Use the one-touch call button to send prefabricated SMS

1. Press the pre-programmed one-touch call; send a prefabricated SMS to a predefined alias or ID.

2. The LCD shows the SMS :< User/Call group alias or ID>, confirm that the SMS is being sent.

3. If the message sent successfully, a beep sound, and the screen shows the message has been sent.

Or if the message has not been sent, the screen shows that the message has failed to be sent. If the message fails to be sent, the radio will return to the re-send selection screen.

Manage the failed SMS

In the re-send selection screen, you can choose below options:

• Re-send

• Forward

• Edit

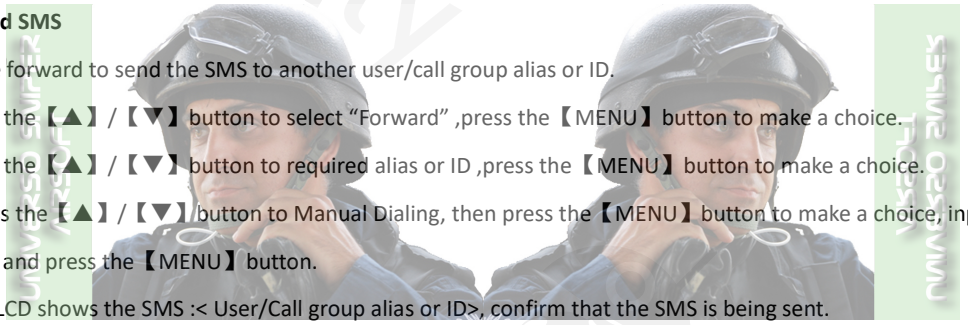
Re-send SMS

1.Press the【MENU】button to re-send the same SMS to the same user/call group alias or ID.

2. If the message sent successfully, a beep sound, and the screen shows the message has been sent.

Or if the message has not been sent, the screen shows that the message has failed to be sent.

Forward SMS



Choose forward to send the SMS to another user/call group alias or ID.

1.Press the【▲】/【▼】button to select "Forward" ,press the【MENU】button to make a choice.

2.Press the【▲】/【▼】button to required alias or ID ,press the【MENU】button to make a choice.

Or press the【▲】/【▼】button to Manual Dialing, then press the【MENU】button to make a choice, input the user ID and press the【MENU】button.

3. The LCD shows the SMS :< User/Call group alias or ID>, confirm that the SMS is being sent.

4. If the message sent successfully, a beep sound, and the screen shows the message has been sent.

Or if the message has not been sent, a high-pitched tone sounds and the screen shows that the message has failed to be sent.

Edit SMS

Choose Edit to write SMS before send it out.

If there is a subject line (as to the SMS received from the Email program), then you can't edit to this subject line.

1.Press the【▲】/【▼】button to Edit, then press the【MENU】button to make a choice.

2.When blinking cursor appears, input the SMS by the keyboard, press the【▲】button to move to left one, press the【▼】button to move to right one.

press【BACK】button to delete any useless character when there are contents in the edit area, or else it will return to the upper menu when there is no content in the edit area.

3.After finish the SMS content, press the【MENU】button to send or save.

4.When editing the SMS content, by pressing the 【MENU】button to clear the options and clear all the edited contents, can return to the upper menu firstly.

5.After send, press the【▲】/【▼】button to the required name or ID, then press the【MENU】button to make a choice.

Or press the【▲】/【▼】button to Manual Dialing, then press the【MENU】button to make a choice, input the user ID and press the【MENU】button.

6. The LCD shows the SMS :< User/Call group alias or ID>, confirm that the SMS is being sent.

7. If the message sent successfully, a beep sound, and the screen shows the message has been sent.

Or if the message has not been sent, a high-pitched tone sounds and the screen shows that the message has failed to be sent.

Manage the already sent SMS

The SMS was sent to another radio, it will be saved to “Sent item” file. The sent SMS will be always added to the top list of “Sent item”. The “Sent item” file can store at most 50 SMS sent recently. When the file is full, the next sent SMS will automatically update the SMS record.

Press the【BACK】button to return to the previous screen at any time.

Read the already sent SMS

Use the Menu function:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button, Select “SMS” ,press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button, Select “Sent SMS”, press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to required SMS, then press the【MENU】button to make a choice.

If the SMS was sent by Email program, it will appear a subject line, the icon at the top right of the screen indicates the state of the SMS.

Send the already sent SMS

When read the already sent SMS, you can choose below options:

- Re-send
- Forward
- Edit
- Delete

1.When reading the SMS, press the【MENU】button again.

2.Press the【▲】/【▼】button, Select “Re-send”, press the【MENU】button to make a choice.

3. The LCD shows the SMS :< User/Call group alias or ID>, confirm that the same SMS is being sent to the same radio.

4. If the message sent successfully, a beep sound, and the screen shows the message has been sent.

Or if the message has not been sent, a high-pitched tone sounds and the screen shows that the message has failed to be sent.

If the message fails to be sent, the radio will return to the re-send selection screen. Press the【MENU】button to re-send to the same user/call group alias or ID.

Besides press the【MENU】button and the【▲】/【▼】button, you can return to this SMS by changing the

volume or pressing any other button.

The radio will exit the re-sent selection screen when you press the【MENU】 button to make a individual call or group call or when you response to group call. And you receive SMS/telemetry message/an emergency call or an alarm. Or you receive a call alert; the radio will also exit the re-sent selection screen. The screen list will return to the re-sent selection mode when you press the 【MENU】button to response to individual call(except when the radio indicates the call screen is not received), or when the group call finished. By pressing the【▲】/【▼】button, enter into the transfer/edit/delete selection screen.

• Choose Transfer; send the selected SMS to other group call/user alias or ID.

• Choose Edit, edit the SMS before send it out.

• Choose Delete, delete the selected SMS.

If you exit the SMS sent screen when you send the SMS, the radio will update the SMS state in the "Already sent item" file, and will not show the reminder or any beep. If the radio mode changed or out of power before the "Already sent item" updated, the radio will not handle the sending SMS, and will show a icon indicated sent failed. Our radio will solve 5 SMS at the same time. And the radio can't send new SMS and will automatically show a icon indicated sent failed at this stage.

Delete the already sent SMS in "Already sent item" file

Use the Menu function:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button, Select "SMS ",press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button, Select "Sent SMS", press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to "Delete ALL", then press the【MENU】button to make a choice.

5.Press the【MENU】button when delete SMS. And choose "YES", the screen will indicate the entire sent item is cleared.

Or Press the【▲】/【▼】button to "NO" when delete SMS, and press the【MENU】button to return to the previous screen.

When you choose "Already sent item" and find there is no SMS, the screen will indicate there is empty in the list, and if the key tone is opened, a low tone beep sounds.

Receive SMS

When your radio is receiving a SMS, the screen displays the sender's alias or ID and a text message icon on the left.

When receive SMS, you can choose below options:

• Read

• Read later

• Delete

If you press the【PTT】button while the radio is displaying the prompt screen, the radio will exit the SMS prompt screen and establishes a individual call or group call.

Check the SMS

1.Press the【▲】/【▼】button to Read, then press the【MENU】button to make a choice.

2. When the chosen SMS opened in the inbox and this SMS was sent from Email program, and then it will appear a subject line.

3.Press the【MENU】button to return to the inbox.

Or press the【MENU】button to reply/transfer/delete SMS.

Press the【▲】/【▼】button to enter into the "Read Later" or delete selection screen.

• Choose "Read Later" and back to the screen before receive SMS.

• Choose delete the received SMS.

Manage the received SMS

This product will save the received message in the Inbox and can store up to 50 received messages.

Support below SMS options:

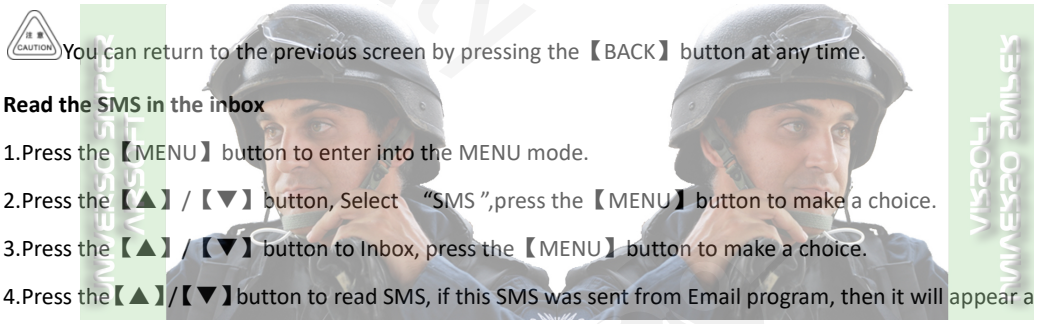
• Reply

• Transfer

• Delete

• Delete All

Store messages in your inbox according to the most recently received in sequence.



You can return to the previous screen by pressing the【BACK】button at any time.

Read the SMS in the inbox

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button, Select "SMS ",press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button to Inbox, press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to read SMS, if this SMS was sent from Email program, then it will appear a subject line.

5.Press the【MENU】button to the current SMS, then press the【MENU】button again to reply/delete/forward this SMS.

•  Indicates unread message.  Indicates read message.

Reply the SMS in the inbox

Use the Menu function:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button, Select "SMS ",press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button to Inbox, press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to required SMS, then press the【MENU】button to make a choice.

if this SMS was sent from Email program, then it will appear a subject line.

5.Press the【MENU】button again to enter into the sub-menu.

6.Press the【▲】/【▼】button to reply, then press the【MENU】button to make a choice.

7.Press the【▲】/【▼】button Write SMS, then press the【MENU】button to make a choice.

When a blinking cursor appears, edit text messages by the keyboard.

Or press the【▲】/【▼】button to the prefabricated SMS, then press the【MENU】button to make a choice. After choose the required SMS, a blinking cursor will appear when press the【MENU】button, and you can edit your SMS by keyboard if necessary.

8.After finish the edit, press the【MENU】button.

9. The LCD shows the SMS :< User/Call group alias or ID>, confirm that the same SMS is being sent.

10. If the message sent successfully, a beep sound, and the screen shows the message has been sent.

Or if the message has not been sent, the screen shows that the message has failed to be sent.

- If the message fails to be sent, the radio will return to the re-send selection screen.

Delete the SMS in the inbox

Use the Menu function:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button, Select "SMS ",press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button to Inbox, press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to required SMS, then press the【MENU】button to make a choice.

if this SMS was sent from Email program, then it will appear a subject line.

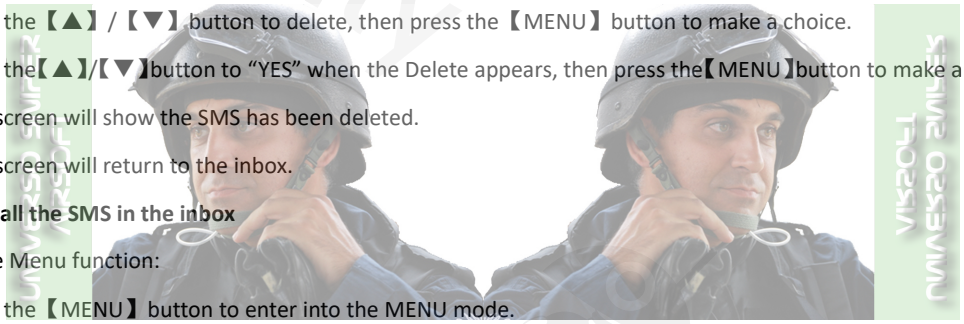
5.Press the【MENU】button again to enter into the sub-menu.

6.Press the【▲】/【▼】button to delete, then press the【MENU】button to make a choice.

7.Press the【▲】/【▼】button to "YES" when the Delete appears, then press the【MENU】button to make a choice.

8. The screen will show the SMS has been deleted.

9. The screen will return to the inbox.



Delete all the SMS in the inbox

Use the Menu function:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button, Select "SMS ",press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button to Inbox, press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to delete all, then press the【MENU】button to make a choice.

5.Press the【▲】/【▼】button to "YES" when the Delete appears, then press the【MENU】button to make a choice.

6. The screen will show the inbox was emptied.

When you choose"Inbox" and find there is no SMS, the screen will indicate there is empty in the list, and if the key tone is opened, a low tone beep sounds.

Encryption

Enabling encryption helps prevent unauthorized access to eavesdropping by other users who are on the channel and use the software encryption method. The transmitted signal and user identification parts are not encrypted. Your radio must have been encrypted on the channel to enable to send encrypted transmissions, even when it is not necessarily required to receive transmissions.

Basic Encryption

The radio can only be assigned one of the above encryption types. To decrypt an encrypted call or data transmission, the radio which need to be pre-programmed and the transmission radio must have the same "Encryption Key" (for Basic Encryption).

If your radio receives encrypted calls with different encryption keys or different key values and key IDs, you will hear the chaotic transmission sound (basic encryption).

Press the Pre-programmed Encryption button to turn on or turn off the encryption.

ANI ID code display

Under the Analog mode, you can set PTT ID by the program software.

The program software operation route: Channel information-> Analog data-> Display PTT ID, tick this option, the LCD will display the ANI ID code when receive the DTMF signal.

Confidentiality

You can active or remote kill any radio in the system. For example, you maybe want to stop using a stolen radio to avoid the radio being used by the thief, and you want to re-start it when you get back.

Performing radio remote kill and activation is limited to active the radios with these functions.

Activate or remote kill function of the host computer settings

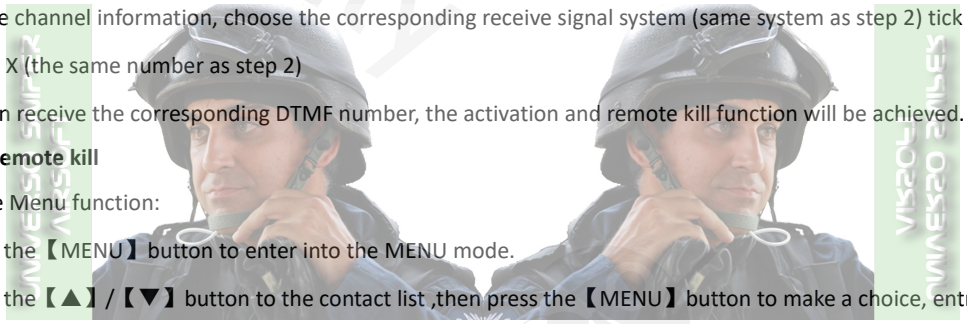
In the program software, perform as below steps:

1. Edit-> DTMF-> Signal ->Decode ->Response style, chose activation/remote kill.

2. DTMF number-> input corresponding number.

3. In the channel information, choose the corresponding receive signal system (same system as step 2) tick the decode X (the same number as step 2)

4. When receive the corresponding DTMF number, the activation and remote kill function will be achieved.



Radio remote kill

Use the Menu function:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button to the contact list ,then press the【MENU】button to make a choice, entries are in alphabetical order.

3.Press the【▲】/【▼】button to the required alias or ID, then press the【MENU】button to make a choice. Or press the【▲】/【▼】button to manual dialing, then press the【MENU】button twice to input the user alias or ID, and then press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to radio remote kill, then press the【MENU】button to make a choice.

5. The LCD shows the radio remote kill: <User alias or ID> and the red LED light flash.

6. Wait for confirmation.

7. If success, a beep sound, and the screen indicate the radio successfully remote killed.

- Or if failed, a beep sound, and the screen indicates it is failed to remote kill.
- During the remote kill period, please don't press the【BACK】button, because you will not receive the confirmation information any more.

Radio Activation

Use the Menu function:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button to the contact list ,then press the【MENU】button to make a choice, entries are in alphabetical order.

3.Press the【▲】/【▼】button to the required alias or ID, then press the【MENU】button to make a choice.

Or press the【▲】/【▼】button to manual dialing, then press the【MENU】button twice to input the user alias or ID, and then press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to radio activation, then press the【MENU】button to make a choice.

5. The LCD shows the radio activated: <User alias or ID> and the red LED light flash.

6. Wait for confirmation.

7. If success, a beep sound, and the screen indicate the radio successfully activated.

- Or if failed, a beep sound, and the screen indicates it is failed to activate.
- During the radio activation, please don't press the【BACK】button, because you will not receive the confirmation information any more.

Scan the list

The scan function helps you to receive the communication activity from other channels or groups call, further to know the current activity of the relative team members. The radio can support up to 250 scan lists with a maximum of 32 members. Every scan list supports the mix of analog and digital channels. You can add/delete channel or prioritize channel by editing scan list.

Read the scan list

1. Use the channel knob to choose a channel with pre-programmed scan list;

2.Press the【MENU】button to enter into the MENU mode;

3.Press the【▲】/【▼】button to scan, then press the【MENU】button to make a choice;

4.Press the【▲】/【▼】button to read the list, then press the【MENU】button to make a choice;

5.Use the【▲】/【▼】button to read every member in the list.

- If you set the priority, the priority icon will be displayed to the left of member alias, that means this member is priority 1 channel  or priority 2 channels  , and if the priority is set as  , the icon will not displayed. Several priority 1 channel or priority 2 channels is not allowed in one scan list.
- Or Select to delete a channel in the current scan list, but you cannot delete the first channel in the scan list.

Add scan channel

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button to scan, then press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button to add channel, then press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to choose the required add channel, then press the【MENU】button to make a choice.

5. The screen indicates "Success to add channel" and back to the upper menu automatically.

Scan instruction and method

The radio will check if there are any voice activities to the current channel by pre-program the scan list cycling.

The red LED indicator light flash and the scan icon  will appear in the screen.

During the duplex mode scan period, if you are on a digital channel and your radio locks an analog channel,

the digital mode will be automatically switched to analog mode during the entire duration call.

There are two ways to scan:

- Manual scan: start to scan by pre-programming the scan turn on/turn off button or the menu function, when start to scan, the radio will detect all the channels/group calls pre-set in the scan list.
- Automatically scan: when you choose a channel/group calls which have been activated, the radio will start to scan from the automatically scanned channel.

Start and stop scan

Press the pre-programmed scan turn on/turn off button or enter into the scan menu function

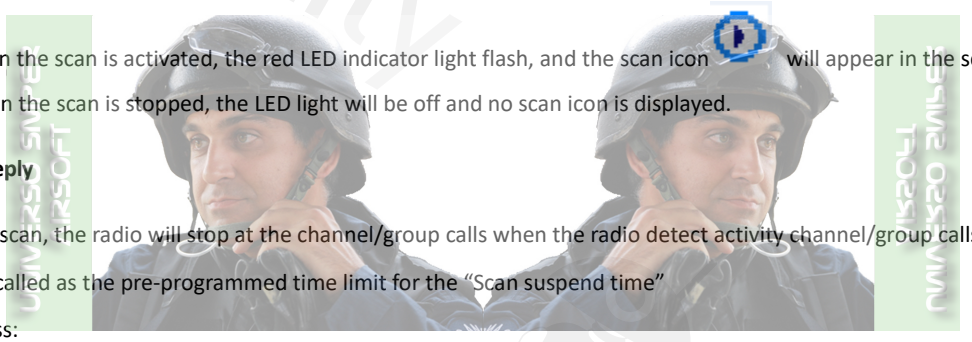
1. Use the channel knob to choose a channel with pre-programmed scan list;

2.Press the【MENU】button to enter into the MENU mode;

3.Press the【▲】/【▼】button to scan, then press the【MENU】button to make a choice;

4. If the scan was stopped, the screen will indicate to open, or if the scan is activated, the screen will indicate to close.

5.Use the【MENU】button to make a choice.



6. When the scan is activated, the red LED indicator light flash, and the scan icon will appear in the screen; Or when the scan is stopped, the LED light will be off and no scan icon is displayed.

Scan Reply

During scan, the radio will stop at the channel/group calls when the radio detect activity channel/group calls, This is called as the pre-programmed time limit for the "Scan suspend time"

Progress:

1. Hold the radio in a vertical position and keep it 1-2 inches (2.5-5.0cm) from your mouth. If the function of "Free channel beep" enabled. you will hear a short beep sound when release the 【PTT】button, this indicates the channel is free and wait for your reply.

2.Press the【PTT】button during the suspend time. The LED light is red.

3.Release the【PTT】button to receive.

4.If you don't response during the suspend time, the radio will go on scanning.

7. Menu setting

Menu setting including:

- Radio setting
- Radio information
- Radio configuration

■ **Radio setting**

You can make the following settings according to your own preferences and actual needs, so as to maximize their

performance.

The setting method: Enter into the menu “Setting ->Radio setting”, select the corresponding setting to set.

The setting items are as below list:

Setting options	Options and Range	Description of operation
Offline	ON	ON; the function works only when “Allow offline” of current channel of the host computer is ticked
	OFF	OFF
Tone/Prompt tone	All tones	Options: Off/On. Turn off all tones when Off is selected, but do not include emergency alarm tone
	Call permission	Options: Off / Digital / Analog. Pressing the PTT button will transmit the signal through the channel and will sound a tone that prompts the user to start speaking. ● OFF: Turn off this function ● Digital: Enable this tone only for digital channels ● Analog: Enable this tone only for analog channels
	Touch-tone	Options: Off/On. There is no prompt tone when Off is selected
Transmission power	Low	Low power transmission
	High	High power transmission
Backlight	Normally on	Always on (power saving disabled)
	5~15 sec	Turn off the backlight automatically when the time is up
Squelch Level	Normally	Normally filter the useless calls or background noise
	Strictly	Strictly filter the useless calls or background noise
Boot interface	Picture	Display according to the picture provided by the customer
	Preset characters	Two lines, can be edited by host computer
Keypad lock and unlock	Manual	Press and hold # to lock, press and hold it again to unlock
	5/10/15 sec	Auto lock; lock automatically at set time; press and hold # to unlock
Language selection	English	English version, including menu, call tips, call logs and all other interfaces
	Chinese	Simplified Chinese
LED Indicator	OFF	The indicator (transmission, receiving, boot, etc.) does not work when it is off
	ON	Default option is on
Voice control	OFF	VOX is turned off;
	ON	It is not necessary to press PTT when this option is on
Power on password	Enter password	Input correct password to enter the setup menu; the password can be configured by default on host computer
O’clock	Time	Set Hour/Minutes/Seconds
	Date	Set Year/Month/Date
	Time zone	choose time zone
Mode selection	Channel display	The channel mode is displayed by channel name
	Frequency display	The channel mode is displayed by frequency
Single call match		
Group call match		

Off line

In case of the repeater failure or beyond the coverage of the repeater station, but both terminals are in the other's communication range, at this time, you can press the【Off】 shortcut button to switch to the direct mode, further to achieve directly communication between two terminals.

Press the pre-programmed 【Repeater / Off】 shortcut button to open the offline function; press this button again to turn off this function.

The menu function operated as below:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button to setting, then press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button to radio setting, then press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to off line, then press the【MENU】button to make a choice.

5. If the radio is in the repeater station mode, the screen indicates “turn off”, or if the radio is under off-line mode, the screen indicates “turn off”.

6. Press the【MENU】button to make a choice.

7. The screen indicates the off-line is turn on, the icon flash, or the screen indicates off-line is turn off.

8. The screen back to the upper menu automatically.

- Even when the radio is turn off, the radio is kept off-line situation.



Radio tone/Prompt tone

Including below options:

- All tones
- Call permission
- Keyboard tones

All tones

If necessary, you can start or stop all the radio tones and prompt tones (except the emergency tones)

Turn on or turn off all the radio tones according to the all tones on/off by pre-programmed.

The menu function operated as below:

1.Press the【MENU】button to enter into the MENU mode.

2.Press the【▲】/【▼】button to setting, then press the【MENU】button to make a choice.

3.Press the【▲】/【▼】button to radio setting, then press the【MENU】button to make a choice.

4.Press the【▲】/【▼】button to tone/prompt one, then press the【MENU】button to make a choice.

5.Press the【▲】/【▼】button to all tones, then press the【MENU】button to make a choice.

6.Press the【MENU】button to choose turn on, then all the tones and prompt tones started, the screen indicates” All tones applied”

- Or press the 【MENU】button the choose turn off, then all the tones and prompt tones turned off, the screen indicates “All tones cancelled”

- **Turn on or off the keyboard sound**

If needed, you can activate and deactivate keyboard sounds of keystrokes. The menu functions as follows:

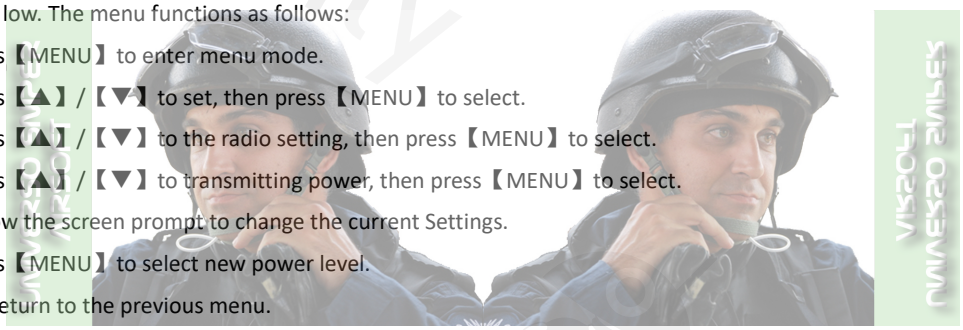
1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to tone/hint, then press【MENU】to select.
5. Press【▲】/【▼】to keyboard sound, then press【MENU】to select.
6. Press【MENU】and select open, then turn on keyboard sounds, and screen will display "keyboard sound application".

• Press【MENU】and select close, then turn off keyboard sounds, and screen will display "keyboard sound cancellation"

- **Setting transmitting Power**

This function can achieve quick switch of high/medium/low power. When communication distance meets your requirements, low power can be selected to save power. When low power does not enable you to communicate with other walkie-talkies away from distance, and then please choose high power.

According to the preprogrammed [Power Level Adjustment] shortcut keys, switch transmitting power of the current channel between high, medium and low. You can set the transmitting power level of each channel to be high or low. The menu functions as follows:



1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to transmitting power, then press【MENU】to select.
5. Follow the screen prompt to change the current Settings.
6. Press【MENU】to select new power level.
7. Return to the previous menu.

Press【BACK】return to the home screen, and screen displays the power level icon

An H above the screen indicates the current high power; M indicates the current medium power; L indicates the current low power.

- **Setting screen backlight**

You can turn on or off the screen backlight of the walkie-talkie if needed. This setting will also affect the back light of the menu and numeric keyboard.

According to the pre-programmed backlight automatic on-off key, switches backlight Settings. The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to backlight, then press【MENU】to select.
5. The screen indicates normally open, 5S, 10S, 15S options, press【MENU】to select normally open, then screen backlight is always open and light.

• Or if select 5S, 10S, 15S, the screen will turn off the screen backlight without any operation after the corresponding time.

- **Setting squelch level**

You can adjust the squelch level of walkie talkie, filters unusable calls of low signal strength or channels of background noise that higher than normal value.

Normally it is default value (that is regular filtering); strictly filter unwanted calls or background noise, in the same time, calls from remote locations can also be filtered out.

Press preprogrammed strict/normal squelch key to switch the squelch level between normal and strict.

The menu functions as follows:

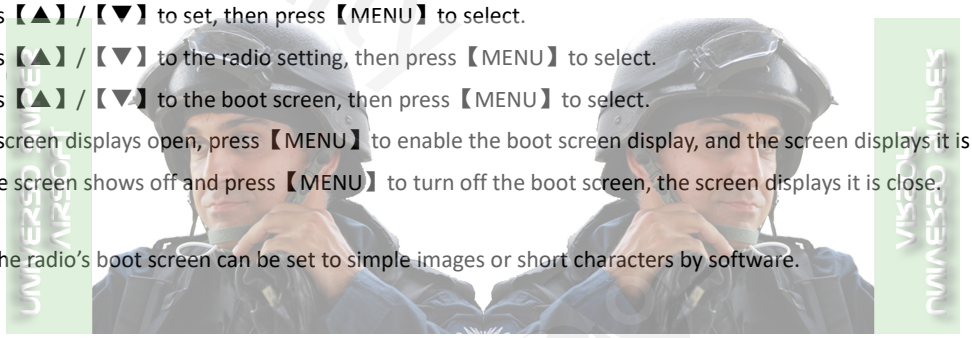
1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to squelch, then press【MENU】to select.
5. Choose strict or normal, then press【MENU】to select.
6. Press【BACK】return to the home screen.

- **Turn on or off the boot screen**

If needed, you can enable and disable the boot screen display. The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to the boot screen, then press【MENU】to select.
5. The screen displays open, press【MENU】to enable the boot screen display, and the screen displays it is open.

• Or the screen shows off and press【MENU】to turn off the boot screen, the screen displays it is close.



The radio's boot screen can be set to simple images or short characters by software.

- **Key locks and unlock**

You can lock the radio keyboard to prevent accidental keystrokes. Methods include manual keyboard locking and automatic keyboard locking; among them the automatic keyboard locking includes 5S, 10S, 15S three time options. The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to the keypad lock, then press【MENU】to select.
5. Press【▲】/【▼】to manual option, then press【MENU】to select, the screen displays manual selection. The keyboard needs to be long pressed【*】on the main screen to lock the keyboard.
6. Press【▲】/【▼】to 5S,10S,15S, the screen displays the corresponding time. Then, when the user does not have keyboard operation in the corresponding time, the screen shows lock and returns to the home screen.
7. To unlock the keyboard, press【MENU】first ,then press【*】
8. The screen shows the keyboard unlocking and returns to the home screen.

- **Language selection**

This radio supports both Chinese and English language. The menu functions as follows:

1. Press【MENU】to enter menu mode.

2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to language selection, then press【MENU】to select.
5. Press【▲】/【▼】to select the corresponding language, then press【MENU】to select.
6. The screen shows the language selected and returns to the main screen.

- **Turn on or off the LED indicator light**

If needed, you can enable and disable the LED indicator light. The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to the LED indicator light, then press【MENU】to select.
5. The screen displays open, press【MENU】to enable the LED indicator light, and the screen displays it is open.

• Or the screen shows off and press【MENU】to turn off the LED indicator light, the screen displays it is close.

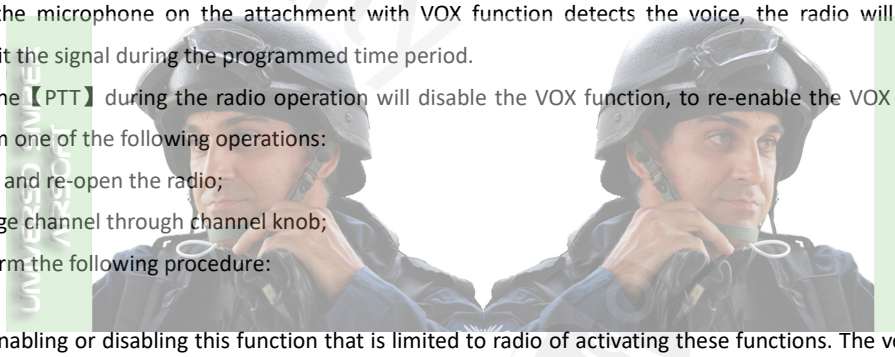
If disable the LED indicator light, Keypad and backlight automatically close.

- **Turn on or off VOX function**

This function allows you to initiate voice activation for hands-free calls on programmed channels. Regardless of when the microphone on the attachment with VOX function detects the voice, the radio will automatically transmit the signal during the programmed time period.

Press the【PTT】during the radio operation will disable the VOX function, to re-enable the VOX function need perform one of the following operations:

• Close and re-open the radio;
• Change channel through channel knob;
• Perform the following procedure:



Enabling or disabling this function that is limited to radio of activating these functions. The voice sensitivity of VOX is set in the radio configuration.

To turn on or off this function by pre-programmed VOX open/close key.

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to the VOX, then press【MENU】to select.
5. The screen displays open, press【MENU】to enable the VOX function.

• Or the screen shows off and press【MENU】to turn off the VOX function.

- **Power-on password**

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to the power-on password, then press【MENU】to select.
5. Type the correct 8-bit password (can preset with the software), then press【MENU】to select.

6. If the password is incorrect, the screen displays the wrong password. Display options if the password is correct.

7. If the first line indicates open, press【MENU】 to display the power-on password application, and then you need to type the correct password to start the radio at the next boot. If the first line indicates close, press【MENU】 to display the boot password cancellation, and start the radio directly at the next boot.

8. Press【▲】/【▼】to change power-on password, then press【MENU】to select.

9. Type the new 8-bit password, then press【MENU】to select.

10. Type the new 8-bit password again, then press【MENU】to select.

11. Display password change successfully.

The power-on password must be set to 8-bit.

- **Clock**

Clock setting divided into:

• Time

• Date

• Time zone

- **Time**

The menu functions as follows:

1. Press【MENU】to enter menu mode.

2. Press【▲】/【▼】to set, then press【MENU】to select.

3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.

4. Press【▲】/【▼】to the clock, then press【MENU】.

5. Press【▲】/【▼】to the time, then press【MENU】to select, which indicates the current time.

6. Press【MENU】to enter time setting mode.

7. Press【▲】/【▼】to move and choose the number that needs to be changed, the selected number will be displayed in reverse, then type the corresponding number to change time through numeric keypad.

8. Press【MENU】to save, screen display time saved.

- **Date**

The menu functions as follows:

1. Press【MENU】to enter menu mode.

2. Press【▲】/【▼】to set, then press【MENU】to select.

3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.

4. Press【▲】/【▼】to the clock, then press【MENU】.

5. Press【▲】/【▼】to the date, then press【MENU】to select, which indicates the current date.

6. Press【MENU】to enter time setting mode.

7. Press【▲】/【▼】to move and choose the number that needs to be changed, the selected number will be displayed in reverse, then type the corresponding number to change date through numeric keypad.

8. Press【MENU】to save, screen display date saved.

- **Time zone**

The menu functions as follows:

1. Press【MENU】to enter menu mode.

2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to the clock, then press【MENU】.
5. Press【▲】/【▼】to the time zone, then press【MENU】to select, which indicates the current time zone.
6. Press【▲】/【▼】to move and choose the time zone that needs to be changed,
7. Press【MENU】to save, screen display date saved.

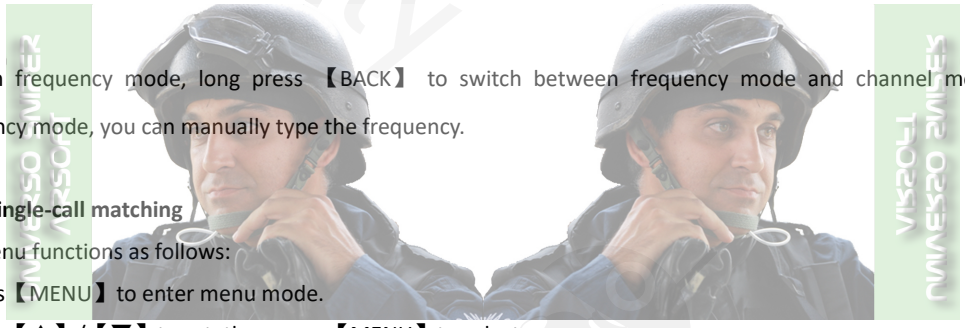
- **VFO/MR Mode**

Mode setting divided into:

• Channel mode

• Frequency mode

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to the mode setting, then press【MENU】.
5. Press【▲】/【▼】to select channel mode or frequency mode, then press【MENU】to select the corresponding mode, the screen display the mode is selected.
6. The main interface will display the channel name or frequency (receiving frequency) according to the selected mode.



In frequency mode, long press 【BACK】 to switch between frequency mode and channel mode. In frequency mode, you can manually type the frequency.

- **Single-call matching**

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to single-call matching, then press【MENU】to select.
5. The screen displays open, press【MENU】to enable the single-call matching.

• Or the screen shows off and press【MENU】to turn off the single-call matching.

Once the single-call matching function has been closed, you will no longer need to match all single-call ID, enabling direct calls.

- **Group-call matching**

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to group-call matching, then press【MENU】to select.
5. The screen displays open, press【MENU】to enable the group-call matching.

• Or the screen shows off and press【MENU】to turn off the group-call matching.

Once the group-call matching function has been closed, you will no longer need to match all group-call ID,

enabling direct calls.

- **Call-interruption function**

1. Use software to check "allow interruption" that are set in the channel parameter.

2. If the radio is in a state of transmitting, when received the channel parameter setting "call-interruption permitted transmitting conditions" for "call-interruption " of another transmitter signals, automatically switch to the receiving state.

■ **Radio information query**

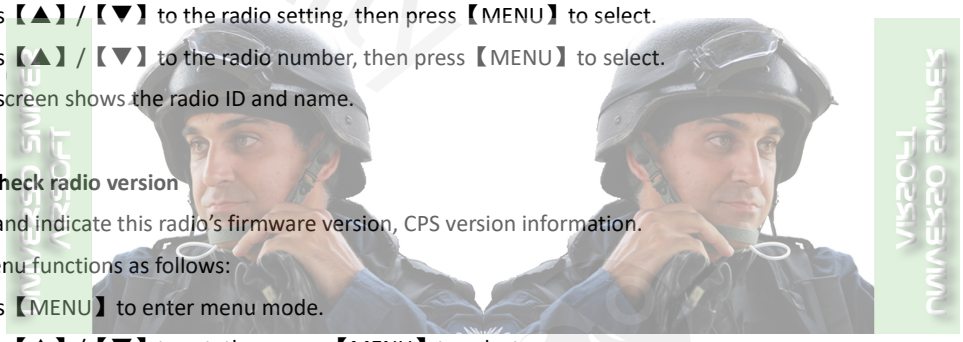
Check the relevant information of this product, including: the radio number (name of the owner and the serial number of the radio) and the radio version (firmware version, CPS version, programming time), etc

CAUTION You can go back to the previous screen at any time by pressing【BACK】.

- **Check radio ID**

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio setting, then press【MENU】to select.
4. Press【▲】/【▼】to the radio number, then press【MENU】to select.
5. The screen shows the radio ID and name.



- **Check radio version**

Check and indicate this radio's firmware version, CPS version information.

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio information, then press【MENU】to select.
4. Press【▲】/【▼】to the radio version, then press【MENU】to select.
5. The screen shows the current firmware version, CPS version.

■ **Radio configuration**

The radio configuration is mainly to edit the channel content.

Configure paths: enter the Settings -> radio configuration menu, and select the corresponding configuration items to configure.

- **Receiving frequency**

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio configuration, then press【MENU】to select.
4. Use the keyboard to type the correct radio configuration password (software Settings), then press【MENU】to select.
5. Press【▲】/【▼】to receiving frequency, then press【MENU】to select.
6. The screen shows the receiving frequency of the current channel, then press【MENU】to select.
7. Press the keyboard to type the corresponding number, press【▲】to delete the last number, press【BACK】to

return to the previous menu.

8. After the changes, press【MENU】, the screen shows that the receiving frequency has been saved.

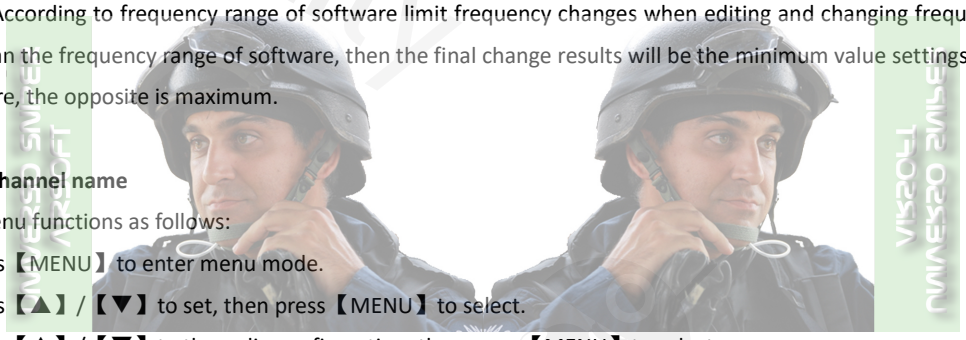
Note: According to frequency range of software limit frequency changes when editing and changing frequency, if less than the frequency range of software, then the final change results will be the minimum value settings on the software, the opposite is maximum.

- **Transmitting frequency**

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio configuration, then press【MENU】to select.
4. Use the keyboard to type the correct radio configuration password (software Settings), then press【MENU】to select.
5. Press【▲】/【▼】to transmitting frequency, then press【MENU】to select.
6. The screen shows the transmitting frequency of the current channel, then press【MENU】to select.
7. Press the keyboard to type the corresponding number, press【▲】to delete the last number, press【BACK】to return to the previous menu.
8. After the changes, press【MENU】, the screen shows that the transmitting frequency has been saved.

Note: According to frequency range of software limit frequency changes when editing and changing frequency, if less than the frequency range of software, then the final change results will be the minimum value settings on the software, the opposite is maximum.



- **Channel name**

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio configuration, then press【MENU】to select.
4. Use the keyboard to type the correct radio configuration password (software Settings), then press【MENU】to select.
5. Press【▲】/【▼】to channel name, then press【MENU】to select.
6. The screen shows the current channel name, then press【#】to switch input method to type the related letters, numbers, or Chinese characters, and input methods are same as SMS editing.
7. After the changes, press【MENU】, the screen shows that the channel name has been saved.

- **Transmit time-out timer**

The setting of the time-out timer function prevents the user from occupying the channel for a long time. If the continuous transmitting time exceeds the time set by the distributor, the radio will stop transmit and make the warning sound. If want to stop the warning sound, please loose【PTT】. If you need to transmit again, please press the PTT button again after a period of time (specifically set by the dealer)

The menu functions as follows:

1. Press【MENU】to enter menu mode.
2. Press【▲】/【▼】to set, then press【MENU】to select.
3. Press【▲】/【▼】to the radio configuration, then press【MENU】to select.
4. Use the keyboard to type the correct radio configuration password (software Settings), then press【MENU】to

select.

5. Press【▲】/【▼】to time-out timer, then press【MENU】to select.

6. The screen shows infinity, 15S, 30S... 555S option (additive increase in the range of 15S), press【▲】/【▼】 to the corresponding option, then press 【MENU】to select, if you select to infinity, then the screen display turn off the time-out timer, if you select others, the screen display xxS has been selected.

In the emergency alarm mode, this function is invalid.

- **CTCSS**

CTCSS can be set only under the simulated channel, includes:

• CTCSS encode

• CTCSS decode

- **CTCSS encode**

The menu functions as follows:

1. Press【MENU】to enter menu mode.

2. Press【▲】/【▼】to set, then press【MENU】to select.

3. Press【▲】/【▼】to the radio configuration, then press【MENU】to select.

4. Use the keyboard to type the correct radio configuration password (software Settings), then press【MENU】to select.

5. Press【▲】/【▼】to CTCSS, then press【MENU】to select.

6. Press【▲】/【▼】to CTCSS encode, then press【MENU】to select.

7. The screen shows turn off a group of CTCSS encode number, press【▲】/【▼】to close, then press【▲】/【▼】to select, there is no CTCSS encode value, the screen shows CTCSS encode is closed;

• Press【▲】/【▼】to CTCSS encode value, then press【MENU】to select, which already set the corresponding CTCSS encode value, the screen displays CTCSS encode XX.

- **CTCSS decode**

The menu functions as follows:

1. Press【MENU】to enter menu mode.

2. Press【▲】/【▼】to set, then press【MENU】to select.

3. Press【▲】/【▼】to the radio configuration, then press【MENU】to select.

4. Use the keyboard to type the correct radio configuration password (software Settings), then press【MENU】to select.

5. Press【▲】/【▼】to CTCSS, then press【MENU】to select.

6. Press【▲】/【▼】to CTCSS decode, then press【MENU】to select.

7. The screen shows turn off a group of CTCSS decode number, press【▲】/【▼】to close, then press【▲】/【▼】to select, there is no CTCSS decode value, the screen shows CTCSS decode is closed;

• Press【▲】/【▼】to CTCSS decode value, then press 【MENU】to select, which already set the corresponding CTCSS decode value, the screen displays CTCSS encode XX.

- **Add Channel**

Method of cooperating MENU:

1. Entering the menu via [MENU] button.
2. Press【▲】/【▼】to find SETTING, press [MENU] to confirm.
3. Press【▲】/【▼】to find CONFIGURATION, press [MENU] to confirm.

4. Input the correct configuration password (setting by programming), press [MENU] to confirm.
5. Press【▲】/【▼】to find Add Channel, press [MENU] to confirm.
6. Press【▲】/【▼】to select the channel, then press [MENU] to enter the relevant channel and add the parameters.

- **Color code**

Color code refers to a system. The same color code is necessary for the terminals communicating with each other. The frequency is the integer within 0~15. The color code only can be set in the digital model. Color code can mark a system, and the terminals that communicate with each other must set the same color code. Method of cooperating MENU:

1. Entering the menu via [MENU] button.
2. Press【▲】/【▼】to find SETTING, press [MENU] to confirm.
3. Press【▲】/【▼】to find CONFIGURATION, press [MENU] to confirm.
4. Input the correct configuration password (setting by programming), press [MENU] to confirm.
5. Press【▲】/【▼】to find Color code, press [MENU] to confirm.
6. Press【▲】/【▼】to select the color code, then press [MENU] to confirm. The color code selected will be in the display.

- **Relay Station Time Slot**

The relay time slot refers to the slot for voice communication or data transmission, which only can be modified within the digital channels. Method of cooperating MENU:

1. Entering the menu via [MENU] button.
2. Press【▲】/【▼】to find SETTING, press [MENU] to confirm.
3. Press【▲】/【▼】to find CONFIGURATION, press [MENU] to confirm.
4. Input the correct configuration password (setting by programming), press [MENU] to confirm.
5. Press【▲】/【▼】to find Relay Station Time Slot, press [MENU] to confirm.
6. Press【▲】/【▼】to select the relay station time slot , then press [MENU] to confirm. The time slot selected will be in the display.

The digital channel of host computer can be configured to dual capacity direct mode. This mode supports parallel direct mode transmission of two two-way radios transmitting on 12.5KHz channel bandwidth. The radios in the same communication group must use the same time slot, and the group using slot 1 will not interfere with the group using slot 2.

- **VOX**

The higher the level of VOX is, the lower the sensitivity is, and the louder the sound to trigger the VOX function is. Method of cooperating MENU:

1. Entering the menu via [MENU] button.
2. Press【▲】/【▼】to find SETTING, press [MENU] to confirm.
3. Press【▲】/【▼】to find CONFIGURATION, press [MENU] to confirm.
4. Input the correct configuration password (setting by programming), press [MENU] to confirm.
5. Press【▲】/【▼】to find Color code, press [MENU] to confirm.
6. Press【▲】/【▼】to select the color code, then press [MENU] to confirm. The color code selected will be in the display.

Please adjust the voice gain level correctly according to the current environment and normal speaking

volume, so as to avoid frequent accidental triggering (sensitivity too high) or difficult to trigger voice control (sensitivity too low).

The sensitivity of voice control transmission can be modified by writing-frequency software, level 1 is the highest sensitivity level, and level 10 is the lowest sensitivity level.

Transmitting contacts

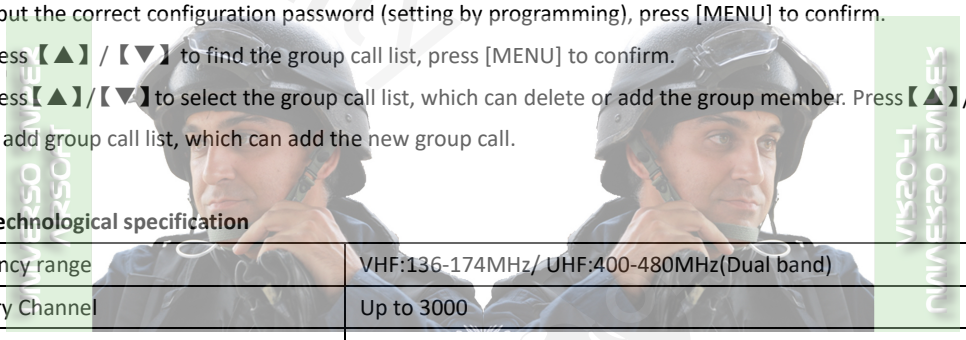
Transmitting contactor only can be modified within the digital channels. Method of cooperating MENU:

1. Entering the menu via [MENU] button.
2. Press【▲】/【▼】to find SETTING, press [MENU] to confirm.
3. Press【▲】/【▼】to find CONFIGURATION, press [MENU] to confirm.
4. Input the correct configuration password (setting by programming), press [MENU] to confirm.
5. Press【▲】/【▼】to find transmitting contactor, press [MENU] to confirm.
6. Press【▲】/【▼】to select the contactor, then press [MENU] to confirm. The contactor selected will be in the display.

- **Group Call List**

The group call list only can be modified within the digital channels. Method of cooperating MENU:

1. Entering the menu via [MENU] button.
2. Press【▲】/【▼】to find SETTING, press [MENU] to confirm.
3. Press【▲】/【▼】to find CONFIGURATION, press [MENU] to confirm.
4. Input the correct configuration password (setting by programming), press [MENU] to confirm.
5. Press【▲】/【▼】to find the group call list, press [MENU] to confirm.
6. Press【▲】/【▼】to select the group call list, which can delete or add the group member. Press【▲】/【▼】to add group call list, which can add the new group call.



Main technological specification

Frequency range	VHF:136-174MHz/ UHF:400-480MHz(Dual band)
Memory Channel	Up to 3000
Frequency Stability	±1.0ppm
Operating Temperature	-30℃~+60℃
Operating Voltage	DC 7.4V
Demission	133*62*36mm (no including the antenna)
Weight	

Transmission

Output power	High:5W Low:1W
Output Consumption	Analog≤1.6A Digital≤0.9A
Consumption	≤0.18A
FM modulation	16K¢F3E@25KHz 141K¢F3E@20KHz 11K¢F3E@12.5KHz
4FSK digital modulation	12.5KHz for data:7K60FXD 12.5KHz for data and voice :7K60FXE
Modulation Distortion	≤5%
Signal-to-noise(wide/narrow)	≥45dB@25KHz ≥40dB@12.5KHz
Adjacent Channel power	≤-65dB ≤-60dB
Audio Response	+1~3dB
Antenna Port Spurious	9KHz-1GHz: ≤-36dBm 1GHz-12.75GHz: ≤-30dBm

Digital Protocol	ETSI-TS102 361-1,-2,-3
Vocoder type	AMBE+2 ™

Reception

Analog receive sensitivity	-122dBm (12dB SINAD)
Digital receive sensitivity	-120dBm (BER≤5%)
Audio power	1W
Audio distortion	<10%
Audio response	+1～-3dB
Signal imitation	≥70dB
Intermediation (Wide/ narrow)	≥62dB/≥58dB
Adjacent channel selectivity	≥65dB/≥60dB
Receive Current	≤380mA
PM noise	≥45dB@25KHz /≥40dB @12.5KHz

CAUTION All specifications may be modified without prior notice or liability.

Troubleshooting:

Problem	Reason	Solution
The radio doesn't start.	The battery doesn't be installed correctly.	Remove and re-install the battery.
	The battery runs out.	Charging or change a new battery.
	The battery is poor contact causing by damaged or dirty.	Clearing the contact. Please get contact with our distributor to repair, if you cannot solve it.
The sound is small/ intermittent, or on sound when receiving the signal.	Battery voltage is low.	Charging or change a new battery.
	The voice is too small.	Turn up the sound.
	The antenna is loose.	Turn off the radio and re-install the antenna.
	The speaker is damaged or dirty.	Clear the speaker. Please get contact with our distributor to repair, if you cannot solve it.
Cannot talk with the members in the same group	The frequency is different with other members.	Resetting the same frequency with them.
	In the different digital or analog channels	Correct to the same channel.
	Too far away from each other	Get close with each other
Single call or group call does not work in the digital channel	Be different in the frequency/channel/color code/ time slot	Setting the same frequency/channel/color code/ time slot
Other sound in the channel, which is not from the members	Interference from the same frequency	Change to new frequency, or correct the squelch
	The signal is not set yet.	Set the signal for all radio in the group
The loud noise	Be too away from other members.	Get close with other members.
	Poor location, such as blocked by	Move to open environment, restart the

	tall buildings, or located in the basement	radio.
	Interfere by the environment or electromagnetic	Avoid the device interfering the radio

As above method still cannot solve your problem, or you meet other problem, please get contact with local distributor to get the technological support.

- **Maintenance and clean**

To keep the performance and extend the service life, please note the content below for maintain the clear the radio.

- **Maintenance**

◆Do not store the radio in an environment containing a corrosive electronic circuit material.

◆Do not directly lift an antenna or an external microphone in the course of carrying or using a radio.

◆Cover the appendage interface cover, when attachments are not used.

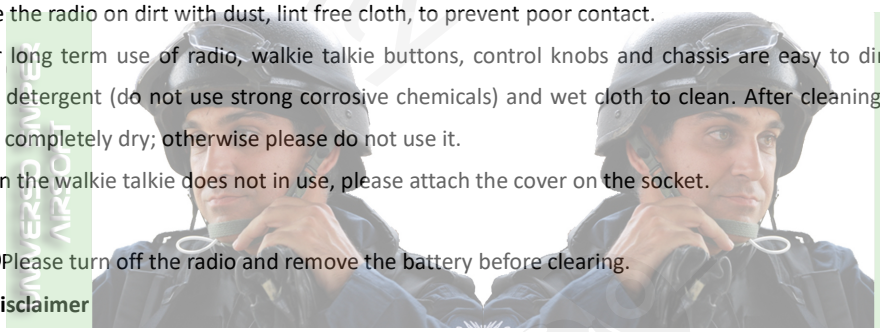
- **Clean**

◆Please use clean, dry cloth or brush to wipe off the surface of the walkie talkie and the dust attached to the charging pole on a regular basis.

◆Wipe the radio on dirt with dust, lint free cloth, to prevent poor contact.

◆After long term use of radio, walkie talkie buttons, control knobs and chassis are easy to dirty. You can use neutral detergent (do not use strong corrosive chemicals) and wet cloth to clean. After cleaning, make sure the radio is completely dry; otherwise please do not use it.

◆When the walkie talkie does not in use, please attach the cover on the socket.



Please turn off the radio and remove the battery before clearing.

- **Disclaimer**

The accuracy and completeness of the contents are sought in the process of compilation, but we do not bear any responsibility for the possible errors or omissions. With the continuous development of technology, we reserve the right to change the design and specification of the product without notice. No copy, modification, translation and dissemination of this handbook may be made in any form without the prior written authorization of our department.

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