

# DIGITAL MOBILE RADIO



RECYCLED PACKAGING

## USER'S MANUAL HANDHELD DIGITAL TERMINAL

## 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.

## **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.

## **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

## User Safety Information

Please read the following information in order to use this two-way radio safely and efficiently.

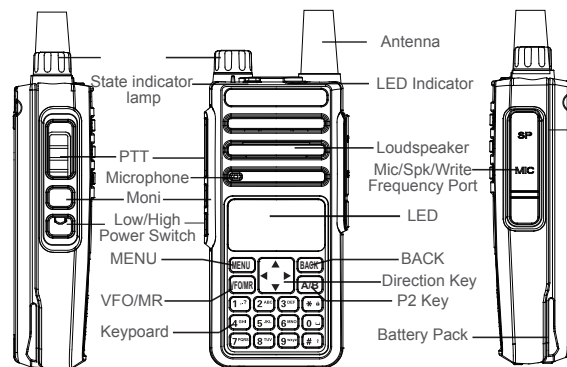
- 1.The maintenance work of the two-way radio can only be carried out by professional technical personnel; assembly/disassembly without permission is prohibited;
- 2.To avoid problems caused by electromagnetic interference and/or electromagnetic compatibility, please turn off the two-way radio in places with the sign "Please turn off two-way radio", such as hospitals and other health care facilities.
- 3.When taking airplane, please turn off the two-way radio when the crew request.
- 4.In automobile with airbags, do not place the two-way radio in the inflation area of the airbags.
- 5.Turn off the two-way radio before entering the flammable and explosive environment;
- 6.Do not replace or charge the battery in flammable and explosive environments;
- 7.Turn off the two-way radio before approaching the blasting area and detonator area;
- 8.Do not use the two-way radio if the antenna is damaged, or else it may cause minor skin burns;
- 9.Do not expose the two-way radio to direct sunlight or near the heating device.
- 10.While the portable two-way radio is transmitting, keep the radio in a vertical position and keep the microphone about 5cm from the mouth.
- 11.Keep the two-way radio at least 2.5cm from the head or body during transmitting.
- 12.If you are wearing the portable two-way radio on your body, make sure that the antenna is at least 2.5cm away from the body when the two-way radio is transmitting.
- 13.If the two-way radio has any odor or smoke, turn off the power immediately and contact your dealer.

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## Familiar with this Product

You can familiarize yourself with the external structure and the functions of programmable buttons of this product in this section.



[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 [Moni] button	Short press to check the battery voltage Press and hold it to turn on the monitor function (only support analog channels)
Side button 2 * Defaults to [POWER] button	Short press to switch high and low power Press and hold it to turn on the VOX
* Defaults to [SOS] button	Press and hold it to enter the alarm mode Short press and loosen to exit alarm mode
[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

[BACK]/[Clear] button	Clear the entered information in input state In menu mode.return to the previous menu
[VFO/MR] button	Switch the frequency mode and channel mode
[A/B]button	switch the main channel and sub-channel,and the arrow pointing channel is the main channel.
0-9 number buttons	[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. The short press is used to activate menu mode, and after entering the menu, use this key to select the items in the menu.
[▲]button	Code word A in DTMF function Move up in SMS editing interface. Move up; change the scanning direction in scanning state.
[▼]button	Code word B in DTMF function Move down in SMS editing interface.
[◀]button	Move down; change the scanning direction in scanning state. Move left in SMS editing interface.◦
[▶]button	Code word C in DTMF function Move right in SMS editing interface. Code word D in DTMF function
[*]button	Press and hold this button to lock on / off keyboard,Unlock the combo keys [MENU] and [*] Press this button to clear the data in message editing box. Code word * in DTMF function
[#]button	In the interface of input method, press this key to switch input method mode(py.123.abc.ABC) Code word # in DTMF function

[#]button	In analog mode, the DTMF dial code box pops up with a short press of #. At this time, you can manually enter the DTMF code word and press PTT to start the DTMF dial function
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Note: Four relay audio call signaling: press [PTT] + [CALL] to send 1000HZ signaling; press [PTT] + [VFO/MR] to send 1450HZ signaling; press [PTT] + [A/B] to send 1750HZ signaling; press [PTT] + [BAND] to send 2100HZ signaling.

## Programmable Buttons

In order to ease the operation, the two programmable buttons [SK1] and [SK2] can be programmed by your dealer as function shortcuts, as shown in the following table. For more information about each function, see the "Function and Operation" section.

No.	Shortcut name	Purpose
1	None	No function is assigned to the preset button.
2	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	Delete useless channels	Quickly delete useless channels from the scan list (except the selected channels).
8	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.

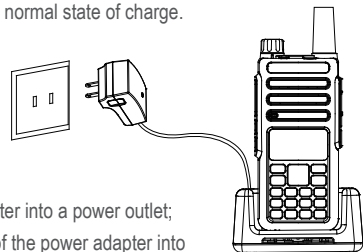
No.	Shortcut name	Purpose
9	Relay / offline	Quickly switch between relay mode and offline mode.
10	Scan on / off	Quickly turn the scan function on or off. Note: double-segment double-waiting scan does not work
11	Strict/normal squelch	Quickly switch between strict squelch and normal squelch (only for analog mode).
12	Encryption on/off	Quickly turn on/off encryption for channel (only for digital mode).
13	Voice control on/off	Quickly turn on or off the voice control function.
14	Area switching	Quickly select the area, allowing the user to switch between two areas.
15	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.
16	Individual operation switch	Quickly turn on or off individual operation function.
17	End call	Quickly end the phone call (only for digital mode).

Note: Depending on dealer setting, different functions can be achieved by pressing and pressing and holding the same button.

## Preparation before use

### Charging

Note: 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.



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

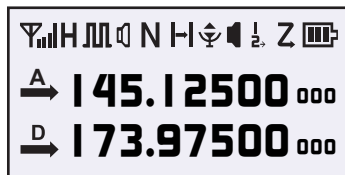
If the dealer has set the 【battery power prompt】 shortcut key for the product, you can press and hold the shortcut key to check the remaining battery power by LED indicator, tone and battery icon. Release the shortcut to cancel viewing the remaining battery power. The top right of the screen shows the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

Battery icon				
Battery power	High	Medium	Low	Insufficient










## Status indication









Description of LCD Icons

The LCD screen is used to display all the working status of the two-way radio. The corresponding function icons are displayed on the screen during operation. The screen allows you to know the meaning of the icons and how to set the functions more quickly.



## 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	<b>H</b>	The current channel transmits at high power
	<b>L</b>	The current channel transmits at low power
Digital icon		Digital mode
Analog icon		Analog mode
Direct mode slot icon		The current channel is in double slot direct mode and slot 1 is active
		The current channel is in double slot direct mode and slot 2 is active
Sub-audio icon	<b>CT</b>	The current sub-audio is CTCSS
	<b>DCS</b>	The current sub-audio is CDCSS
Speaker icon		Speaker is enabled, and reception is effective
Narrowband mode	<b>N</b>	Work in narrowband mode
Message icon		Receive a text message, or have an unread message
VOX icon		VOX has been turned on
Relay mode icon	<b>+</b>	The current transmission frequency is the reception frequency plus a frequency bias (positive bias)
	<b>-</b>	The current transmission frequency is the reception frequency minus a frequency bias (negative bias)
	<b>[-]</b>	Currently in offline state
Keyboard Lock icon		The keyboard lock is locked; Lock status. Press the combo keys [Menu] and [*] to unlock
Scrambling icon	<b>R</b>	The current reception frequency and the transmission frequency are inverted (if the reception sub-audio and transmission sub-audio are different, the sub-audio will also be inverted)
Double-waiting icon	<b>S</b>	Has been set to dual-band double-waiting function, and allows waiting on two frequency bands displayed on the screen at the same time

Icon name	Icon	Description of product status
Scan icon		The scan is on and is in normal mode
		The scan stays on priority channel 1
		The scan stays on priority channel 2
Battery power icon		The more bars, the more battery power
Pointer icon		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 
		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 
Channel number icon	001	In channel mode, the current channel number is 001 (range 001~128)

### LED Indicators

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

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

## Basic Operation

### Power on/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.

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.

### Adjusting Volume

After turning on, turn the [Power switch / volume control] knob clockwise to increase the reception volume, and turn counterclockwise to reduce the reception volume.

### Dual Mode Switch

Dual band mode can be selected through the menu; the path is 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 "Double Wait", then press [MENU] to select.
5. Press [ ▼ ] / [ ▲ ] to select the required option (Off/Double Wait/Single Wait).
6. Press [MENU] return to the previous menu.

- When " Off " is selected, the machine operates in single band mode.
- When " Single Wait " is selected the machine only works on the main channel, and the sub channel does not receive signal.
- When "Double Wait" is selected, the main channel and sub channel scan in turn. When effective reception signal is scanned, the machine locks and works; if the locked channel is not the main channel, **⇐⇒** points to the temporary working channel, and **⇐⇒** disappears when the preset time is up. If there is no temporary identification, the main channel pointed by **⇒** transmits when you press PTT.

Note: As the dual waiting mode is in main channel and sub channel scanning states, DTMF, auto scan, individual operation and ARTS auxiliary function do not work.

## (VFO) VFO Mode

VFO mode is the basic mode for changing the operating frequency. In the standby interface, press [VFO/MR] to switch to VFO mode, and press [▲]/[▼] to increase or decrease the frequency.

## Quick Frequency Input

In addition to pressing [▲]/[▼], you can also input the frequency directly. If the required operating frequency is far from the current frequency, you can use the keypad to directly input the frequency.

>Press [VFO/MR] to switch to VFO mode.

- The frequency must be entered directly in VFO mode.

>Press the number buttons ([0] to [9]) to enter the desired frequency (The first three decimal places are MHZ and the last five decimal places are KHZ).

Note: 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.

## Digital - Analog Switching

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

## Keypad Lock & Unlock

If the keypad isn't needed, you can lock into prevent misuse. You can lock or unlock the keypad in the following ways:

- Keypad Lock: Press and hold the [#] button to lock the keypad.
- Keypad Unlock: Press [MENU] and [\*] to unlock the keypad

Note: The default keypad lock range is all buttons on the panel, excluding the side buttons SK1, SK2 and PTT.

## Transmit and receive

### Selecting Zone

Zone is a channel group in which you can include channels with the same attributes (such as call type, digital mode and analog mode) in Zone, which makes it easy for you to manage existing channels. The unit supports up to 150 Zone, and each Zone contains up to 32 channels. You can select a region in two ways:

- Select from the menu: After entering the "Zone" menu, press [ ▲ ] / [ ▼ ] to select the required zone, and then press [MENU] to switch to the selected zone.
- Select through the programming button: If the dealer has set the [Zone switch] shortcut, you can press the shortcut to switch to the required zone.

### Add Zone


The Add Zone through program software.

### ID Selecting Channel, User ID & Call Group ID

In the standby interface, press [VFO/MR] to switch to MR (channel) mode, and press [ ▲ ] / [ ▼ ] to select the desired channel, user alias or ID, or call group alias or ID.


### Receive and Reply to Group call

To receive a call to a user group, the two-way radio must be configured to the call group.

1. The LED indicator light is green
2. The LCD screen displays: The first line shows Group Call, the second line shows the group alias and the third line shows the caller ID and the incoming call icon . (Only in Digital mode)
3. Press and hold the [PTT] button to reply, The LED indicator light is red.
4. Release the [PTT] button to receive.
5. If there is no voice activity for the scheduled time period, the call is terminated.
6. You will hear a short tone, the screen shows the call ended.


### Receive and Reply to Single call

Single call is a call from an individual two-way radio to another.

1. The LED indicator light is green
2. The LCD screen displays: The first line shows Single call, the second line shows the Single calls and the third line shows the caller ID and the incoming call icon . (Only in Digital mode)
3. Press and hold the [PTT] button to reply, The LED indicator light is red.
4. Release the [PTT] button to receive.
5. If there is no voice activity for the scheduled time period, the call is terminated.
6. 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.

1. LED indicator light is green.
2. The LCD screen displays: The first line shows the All call, the second line shows the user's alias or ID and the third line shows the all call icon  (Only in Digital mode)
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.

Note: 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

### 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 Switch to place a call


### Group call

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

1. In the channel mode, press the [▲] / [▼] 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.

### Single call

1. In the channel mode, press the [ ] / [ ] 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.

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

### 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. In the channel mode, press the [▲] / [▼] 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.

Note: 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

Transmit:

- In the analog channel, press and hold the [PTT] key and press the keypad number key.
- In the analog channel, long press [#] key to switch to manual dialing mode, enter the desired number, short press [PTT] key to start DTMF call.

Receive:

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

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.

### VOX

VOX refers to voice directly trigger: microphone detects voice to trigger a acoustic emission, walkie-talkie automatically launch the voice, that users do not need to hold [PTT] button can be directly in the process of speech. The LCD display icon

>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.

## 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;

Note: The alarm function is enabled for you by the dealer (program path: "Edit -> Digital Emergency Alarm System -> Emergency Alarm System -> System1").

### 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.

**Note:** 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.

Note: 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.

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

## Restart emergency mode

It can happen 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.

Note: If the radio is turned 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.

## 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.

## Menu operation

Press the [MENU] button in digital mode or digital channel to enter the digital menu; press the [MENU] button in analog modem or analog channel to enter the analog menu. The menu structure is shown in the following figure, including all the menu items of this product. You can ask the dealer to configure the menu items. You need to first press the [MENU] button to enter the main menu, and then press the [▲]/[▼] button to navigate to desired submenu or option and press the [MENU] button to confirm and complete your setting. This document only describes the order of the menu items when the menu operation is introduced. For example, the path to the contact list is "Contacts -> Contact List" . The menu has automatic reset function. If you do not do anything for the menu during preprogrammed time (configured by the dealer), the product will automatically return to the standby screen. You can ask the dealer to modify the auto reset time and cancel auto reset.

## Menu list

Level 1 menu	Level 2 menu	Level 3 menu	Options
Contacts	Contacts	Contact list	View contacts
			Quick configuration
			Delete current contact
	New contact	Enter number	xxxx
		Alias	Abcd
		Tone	OFF Tone 1~10
	Manual dialing	Enter number	Call Alert
			Radio Check
			Remote Moni
			Radio Active
			Radio remote kill
SMS	Inbox	Inbox list	List xxxx
		Delete all	es/No

Description of settings	Remark
View the contact name and number	For digital mode only
Configure number 0~9 to the contact, select idle state to turn off shortcut configuration	
Delete current contact	
Enter the contact number, up to 16777214, press the MENU button to confirm or press EXIT to delete	
Enter the name; support Chinese and English and special characters	
There are 10 tones that can be selected. When the caller chooses to enable the call prompt and the caller's number is the new contact, the unit issues this tone and the tone can be turned off if it is not necessary	
Send call prompt to a contact, and the other party can call back directly	
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.	
Remotely activate the microphone of a contact, and monitor the voice and background sound of the other party.	
Send an activation command to a contact to resume normal use of the two-way radio.	
Send a remote inhibit command to a contact, so that the radio can't be used normally. Remote inhibited two-way radio can be remotely monitored, but other functions can't be used; it only allows re-writing frequency through CPS software or activating the radio through activation instructions	
Unread  , read  ; press MENU to edit the contents, and press MENU again to reply / forward / delete	
Yes: Delete all    No: Do not delete	

Level 1 menu	Level 2 menu	Level 3 menu	Options
SMS	New message	Edit interface	
	Outbox	Outbox list	List ...
		Delete all	
	Drafts	Drafts list	List ...
		Delete all	
	Quick Text	List...	
Call logs	Outgoing call	Outgoing List	List...
		Delete all	
	Answered call	Answered List	List...
		Delete all	
	Missed call	Missed List	List...
		Delete all	
Set	Inbox	CTCSS/DCS	C CTC/DCS

Description of settings	Remark
Support Chinese and English and special characters, press the # button to switch input method, and press MENU key to send / save / clear	For digital mode only, The Software menu options are configurable
Press the MENU button to edit the content, and press MENU again to retransmit / forward / edit / delete Yes: Delete all No: Do not delete	
Press the MENU button to edit the content, and press MENU again to transmit / save / clear Yes: Delete all No: Do not delete	
Press the MENU button to edit the content, and press MENU again to transmit / save / clear	
Outgoing single calls; press MENU to view / add to Contacts/ delete, enter alias and save in contact list Yes: Delete all No: Do not delete	
Answered single calls; press MENU to view / add to Contacts/ delete, enter alias and save in contact list Yes: Delete all No: Do not delete	
Missed single calls; press MENU to view / add to Contacts/ delete, enter alias and save in contact list Yes: Delete all No: Do not delete	For digital mode only;
Change the encoding and decoding of CTCSS/DCS. Press [MENU] to enter "CTCSS/DCS", press [*] to select DCS, press [▲]/[▼] to select DCS, code, press [#] to switch the positive phase (N) and negative phase (I). ● Press [*] to select "CTCSS OFF", press [▲]/[▼] to select CTCSS. ● You can also enter CTCSS/DCS with keypad, press the [MENU] button to confirm, and press [BACK] to return.	For analog mode only

Level 1 menu	Level 2 menu	Level 3 menu	Options
Set	Radio Set	CTCSS/DCS	R CTC/DCS
			T CTC/DCS
		Squelch	Strict
			Normal
		TX Power	Low
			High
		Talkaround	On
			Off
		N/W BAND	Narrow
			Wide
		Busy Lock	Off
			Carry
			QT/CC
		TOT	OFF
			15 ~ 495S
		Vox	Off
			On
		Double Wait	Off
			Double Wait

Description of settings	Remark
Change the decoding of sub audio. Setting method is same as above	
Change the coding of sub audio. Setting method is same as above	
	The Software menu options are configurable
Low power transmission	Options can be configured
High power transmission	
ON; the function works only when "Allow offline" of current channel of the host computer is ticked	Options can be configured
Off	
Narrowband works	For analog mode only
Broadband works	
Transmit when the channel is occupied	
Press PTT to prohibit transmission when there is carrier wave	
Match CTCSS / color code forbidden	
Off, no transmission limit	
Alarm in 10 seconds before transmission, and prohibit transmission when the time is up; for example, when it is set to 60 seconds, alarm is sent for 10 seconds from the 50th second, and transmission is prohibited at the 60th second	
VOX is turned off;	Options can be configured
It is not necessary to press PTT when this option is on; you can speak to transmit directly; voice sensitivity of the host computer can be set to 1~10, level 1 is the highest sensitivity level, and level 10 is the lowest sensitivity level	
The machine works in the main channel, the sub-channel can't transmit or receive	Options can be configured
The machine works in the main channel, the sub-channel can't transmit or receive	

Level 1 menu	Level 2 menu	Level 3 menu	Options
Set	Radio Set		Single Wait
		Encrypt	Off
			On
		Power Save	Off
			On
		Beep	All Tone
			Call Permit
			Key Beep
		Backlight	Always On
			Always Off
		Keypad Lock	5/10 sec
			Manual
			5/10/15 sec
		Indicator	Off
			On

Description of settings	Remark
Scan main channel and sub-channel in turn; call is locked when the reception is effective; you can press PTT to talk with the other party	
Turn off encryption	Options can be configured; for digital mode only
Turn on encryption function, and the two sides must pair the key to make the call normally	
Turn off power saving mode	
Turn on the power saving mode; power saving ratio is 1:4	
Options: Off/On. Turn off all tones when Off is selected, but do not include emergency alarm tone	Options can be configured
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 ● Both: Enable this tone for digital channels and analog channels	
Options: Off/On. There is no prompt tone when Off is selected	
The background light is on all the time	
The background light off all the time	Options can be configured
Turn off the backlight automatically when the time is up	
Press and hold # to lock, press the MENU and * to unlock	Options can be configured
Auto lock; lock automatically at set time; press the MENU and # to unlock	
The indicator (transmission, receiving, boot, etc.) does not work when it is off	Options can be configured
Default option is on	

Level 1 menu	Level 2 menu	Level 3 menu	Options
Set	Radio Set	Passwd Lock	Enter password
		Mode	CH No.
			CH Name
			CH Freq
		Screen	Picture
			Character
		Language	English
			Chinese
	Radio info	Radio ID	12345678
		Device Info	Model info
			S/N
			CPS version
			Hardware version
			Firmware version
			DSP version
			Program Time

Description of settings	Remark
Input correct password to enter the setup menu; the password can be configured by default on host computer Options: On or Off / Changes boot password ● On or Off: Turn on if it is turned off, and turn off if it is turned on; when On is selected, you need to enter the correct password and press the MENU button to start the unit ● Change boot password: You can enter a new password not more than 6 digits; please remember after changing	Options can be configured
The channel mode is displayed by channel number	Options can be configured
The channel mode is displayed by channel name	
The channel mode is displayed by frequency mode	
Display according to the picture provided by the customer	Options can be configured
Two lines, can be edited by software	
English version, including menu, call tips, call logs and all other interfaces	
Simplified Chinese	
Digital mode displays the digital ID of the unit, up to 16777214; analog mode displays the DTMF ID of the unit, up to 99999999; this option is read only	For digital mode only
The machine model	For digital mode only
Unique alphanumeric character of the two-way radio	
Reading and writing frequency software version	
Hardware circuit board version	
The software version of the internal hardware components of the two-way radio	
DSP software version number of digital processing chip	
The date and time of the last programming of the two-way radio	



Level 1 menu	Level 2 menu	Level 3 menu	Options
Set	Radio info	Radio configuration	Reception Frequency
			Transmission Frequency
			Channel Name
			Color Code
			Slot
			Shift Frequency
			Shift Direction
			Frequency Step
			Channel Type
Zone	Zone Name		
Scan	On		
	Scan List		

Description of settings	Remark
To set reception frequency; press * to clear all, press BACK to delete one	
To set transmission frequency; press * to clear all, press BACK to delete one	
To set channel name; press * to clear all, press BACK to delete one	
Options: 0~15 optional      Valid for digital mode only	For digital mode only
Options: 1~2 optional      Valid for digital mode only	
The difference between transmission frequency and reception frequency in frequency mode, whether frequency has difference depends on frequency direction	
Options: Off / Positive / Negative >Off: Transmission frequency and reception frequency have no difference in frequency mode >Positive: In frequency mode, the transmission frequency is equal to the reception frequency plus the difference frequency >Negative: In frequency mode, the transmission frequency is equal to the reception frequency minus the difference frequency	
Options: 2.5K/5.0K/6.25K/10K/12.5K/25K/50K In the frequency mode, press [J]/[I] to adjust the frequency value in steps; scanning steps in frequency mode	
Options: Analog / Digital Switch analog and digital mode in frequency mode	
A list of regions that can support up to 150 regions	
Switch on/off; scan function can be turned on only when the PC of current channel has configured the scan list; it also can be turned on through the function button defined as "scan switch"	The Software menu options are configurable
Display the current scan list, which is read only	

## 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.

## 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.

## 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.

## 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.

## 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 up/down/left / right.

## 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


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

## Call icon

The following icons displayed on the LCD appear in the contact list or call log to indicate the ID type.

 Single call: In the contact list, it indicates the signed user alias (name) or ID (number).

 Group call: In the contact list, it indicates the group alias (name) or ID (number).

 All call: In the contact list, it indicates the group alias (name) or ID (number).

## View Contact

You can view the contact details.

## Edit Contact

You can modify the number and alias of a contact (single call contacts only) in the contact list.

## Delete Contact

You can delete a contact in the contact list.

## New Contact

This menu allows you to create a new contact (single call contacts only) to the contact list. The alias and number of all contacts must be unique, and the range of entered contact number is 1~16776415.

Note:

- When entering a contact alias, you can press the [#] button to toggle the input method.
- In addition to creating contacts through this menu, you can also save numbers in the call log to the contact list.

## Manual Dialing

In the digital mode, press the [#] button to enter manual dialing, then you can manually enter a single call number, and press PTT to transmit; you can also enter a single call number, and press the [MENU] button to perform operations such as call prompt, radio detection, remote monitor, radio activation, and remote kill.

The functional description is as follows:

Functional	Description
Call prompt	Send call prompt to a contact, and the other party can call back directly
Radio detection	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.
Remote monitoring	Remotely activate the microphone of a contact, and monitor the voice and background sound of the other party.
Radio activation	Send an activation command to a contact to resume normal use of the two-way radio.
Radio remote kill	Send a remote kill command to a contact, so that the radio can't be used normally. Remote kill two-way radio can be remotely monitored, but other functions can't be used; it only allows re-writing frequency through CPS software or activating the radio through activation instructions

## 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 extended function. Extended functions include: call prompt, radio detection, remote monitor, activation, and remote kill.

### Call prompt

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

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

### Initiate a call prompt from the communication list

1. Press [MENU] key to enter the menu mode.
2. Press [▲]/[▼] key to contact list, 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 alert" , 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 prompt, 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.

### 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 ignore the call prompt.

### 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

User menu function :

1. Press [MENU] key to enter the menu mode
2. Press [▲]/[▼] key to contact list, 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 "Radio Check" , the screen displays the radio check <User alias or ID>, and then press the [MENU] key to indicate that the call has been sent.
5. When the walkie talkie send radio detection, the LED indicator light is red.
6. If the target walkie-talkie is active in the system, a prompt is emitted and the screen briefly shows "Radio check success" .

## Remote monitor

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

### Initiate remote monitor

User menu function :

1. Press [MENU] key to enter the menu mode
2. Press [▲]/[▼] key to contact list, 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 "Remote monitor" , the screen displays the remote monitor <User alias or ID>, and then press the [MENU] key to indicate that the call has been sent.
5. When the walkie talkie send remote monitor, the LED indicator light is red.
6. "Remote moni success" displays if it is successful, and "Remote moni fail" displays if fails.

### 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.

### Radio activation and remote kill

You can activate or remote kill any walkie-talkie in the system. For example, you might want to disable a stolen walkie-talkie, prevent the thief from using it, and enable it when recovered.

### Set activation and remote kill

In frequency software, the following operations are performed:

1. Edit -> DTMF-> signaling -> decode -> response type, select activation and remote kill;
2. DTMF number -> Enter the number;
3. Select the corresponding receiving signaling system (the same system as step 2) within the channel information and check decoding X (the same number as that required in step 2).
4. When the corresponding DTMF number is received, the corresponding ctivation and remote kill function will be realized.

### 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

User menu function :

1. Press [▲]/[▼] key to enter the menu mode
2. Press [▲]/[▼] key to contact list, 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 "Radio active", then press [MENU] key to select
5. The screen displays "Radio active" <User alias or ID>, the LED indicator light is red.
6. Wait for confirmation
7. "Radio active success" displays if it is successful, and "Radio active fail" 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. User menu function :

#### Initiate remote kill

1. Press [MENU] key to enter the menu mode
2. Press [ ▲ ]/[ ▼ ] key to contact list, 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 "Radio kill" , then press [MENU] key to select
5. The screen displays "Radio kill" <User alias or ID>, the LED indicator light is red.
6. Wait for confirmation
7. "Radio kill success" displays if it is successful, and "Radio kill fail" 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.

### 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,
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 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.

### 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 "Message ", press the [MENU] button to select.
3. Press the [▲]/[▼] button, Select "New Message" , press the [MENU] button to select.
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.

• press the[\*]button to delete all contents in the editing area;Press[#] to switch input methods.

5.After finish the SMS content, press the [MENU] button to send or save or clear all.

5.After finish the SMS content, press the [MENU] button to send or save or clear all.

6.After send, press the [▲]/[▼] button to the required name or ID, then press the [MENU] button to select.

Or press the [▲]/[▼] button to Manual Dialing, then press the [MENU] button to select, input the user ID and press the [MENU] button.

7.The LCD shows the “Msg Sending” , confirm that the SMS is being sent.

8. 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 32 prefabricated SMS programmed by the agent.

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

Use the MENU function:

1. Press the [MENU] button to enter into the MENU mode.

2. Press the [▲]/[▼] button, Select “Message ”,press the [MENU] button to select.

3. Press the [▲]/[▼] button, Select “Quick Text” , press the [MENU] button to select.

4. Press the [▲]/[▼] button to select required Prefabricated SMS ,press the [MENU] button to select.

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.

• press the [\*] button to delete all contents in the editing area;Press [#] to switch input methods.

6. After finish the SMS content, press the [MENU] button to send or save or clear all.

7. After send, press the [▲]/[▼] button to the required name or ID, then press the [MENU] button to select.

Or press the [▲]/[▼] button to Manual Dialing, then press the [MENU] button to select, input the user ID and press the [MENU] button.

8. The LCD shows the “Msg Sending” , 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.

## 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.

## 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. Press[MENU] to view the message.Press the [ ▲ ]/ [ ▼ ] button to select later to view or delete messages.

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

Use the MENU function:

1. Press the[MENU] button to enter into the MENU mode.
2. Press the [ ▲ ]/ [ ▼ ] button, Select "Message ",press the[MENU] button to select.
3. Press the [ ▲ ]/ [ ▼ ] button, Select "InBox" , press the[MENU] button to select.
4. Press the [ ▲ ]/ [ ▼ ] button to select unread messages ,press the

[MENU] button to read this message

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

5. Press the [BACK] button to return to inbox.

•Or press the[MENU] button to reply/transfer/delete 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.







## Use the Menu function

1. Press the [MENU] button to enter into the MENU mode.
2. Press the [ ▲ ]/ [ ▼ ] button, Select "Message ",press the [MENU] button to select.
3. Press the [ ▲ ]/ [ ▼ ] button, Select "InBox" , press the [MENU] button to select.
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.
6. Press the [BACK] button to return to inbox.





Note:  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 "Message" ,press the [MENU] button to select.
3. Press the [] / [] button to Inbox, press the [MENU] button to select.
4. Press the [] / [] button to required SMS, then press the [MENU] button to select.

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 select.
7. Press the [] / [] button Write SMS, then press the [MENU] button to select. 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 select. 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 "Msg Sending" , 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, 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 "Message" ,press the [MENU] button to select.
3. Press the [] / [] button to Inbox, press the [MENU] button to select.
4. Press the [] / [] button to required SMS, then press the [MENU] button to select.

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 select.
7. Press the [] / [] button to "YES" when the Delete appears, then press the [MENU] button to select.
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 "Message" ,press the [MENU] button to select.
3. Press the [▲]/[▼] button to Inbox, press the [MENU] button to select.
4. Press the [▲]/[▼] button to delete all, then press the [MENU] button to select.
5. Press the [▲]/[▼] button to "YES" when the Delete appears, then press the [MENU] button to select.
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.

## 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.
- 2.2. 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 select.
2. Press the [▲]/[▼] button to required alias or ID ,press the [MENU] button to select.  
- Or press the [▲]/[▼] button to Manual Dialing, then press the [MENU] button to select, input the user ID and press the [MENU] button.
3. The LCD shows the "Msg Sending" , 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, 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.

## 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 select.
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.

- press the [ \* ] button to delete all contents in the editing area; Press [#] to switch input methods.
3. After finish the SMS content, press the [MENU] button to send or save.
  4. After send, Press [MENU] to select the contact, press the [▲]/[▼] button to the required name or ID, then press the [MENU] button to select.
  - Or press the [▲]/[▼] button to Manual Dialing, then press the [MENU] button to select, input the user ID and press the [MENU] button.
  5. The LCD shows the "Msg Sending", confirm that the SMS is being sent.
  6. 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 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 "Message", press the [MENU]

button to select.

3. Press [▲]/[▼] to send the Outbox, and then press [MENU] to select the outbox list.
4. Press the [▲]/[▼] button to required SMS, then press the [MENU] button to select.

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 select.
3. The LCD shows the "Msg Sending", 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. 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.

Note: 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-send 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.

Note: 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 "Message" ,press the [MENU] button to select.
3. Press [▲]/[▼] o the OutBox, then press [MENU] key to select.
4. Press the [▲]/[▼] button, Select "OutBox" , press the [MENU] button to select.

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.

## Drafts

This product will save the edited messages in the drafts and support up to 20 draft messages. When the Drafts are full, if a new message is saved to the drafts, the earliest messages will be overwritten automatically.

You can perform the following operation for any message in the drafts: Send, edit, and delete.

When you send the message in the drafts, this product will save this message to the Outbox and delete it from the drafts.

If you want to delete all messages in the drafts, select "SMS -> Drafts -> Delete All" .

## Preset Message

This menu has messages pre-set by the dealer. This product supports up to 32 shortcut messages. You can choose a shortcut message to send directly, or edit the message and then send.

## 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 Logs, 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.

Note: 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 Logs, 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 Logs, 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.

### Scan function

Note: The scan function must be off before it can be used.

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 31 members. Every scan list supports the mix of analog and digital channels. You can add/delete channel or prioritize channel by editing scan list.

### Scan the list

1. Use the [▲]/[▼] 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 select;
4. Press the [▲]/[▼] button to read the list, then press the [MENU] button to select;
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 select.

3. Press the [▲]/[▼] button to add channel, then press the [MENU] button to select.
4. Press the [▲]/[▼] button to choose the required add channel, then press the [MENU] button to select.
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 **Z** 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 select;
  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 select.
  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.

## Menu setting

### 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 press [MENU] to enter the radio Settings.

The setting items are as below list:

Setting options	Options and Range	Description of operation
1.Squelch	Strict	Strictly filter the useless calls or background noise
	Normal	Normally filter the useless calls or background noise
2.TX Power	Low	Low power transmission
	High	High power transmission
3.Talk around	On	ON; the function works only when “Allow offline” of current channel of the Software is ticked
	Off	OFF
4.Busy lock	Off	Transmit when the channel is occupied
	Carry	Press PTT to prohibit transmission when there is carrier wave
	QT/CC	Match sub-audio / color code forbidden
5.Transmit time-out timer (TOT)	OFF	Off, no transmission limit
	15 ~ 495S	Alarm in 10 seconds before transmission, and prohibit transmission when the time is up; for example, when it is set to 60 seconds, alarm is sent for 10 seconds from the 50th second, and transmission is prohibited at the 60th second



Setting options	Options and Range	Description of operation
6.VOX	Off	VOX is turned off;
	On	It is not necessary to press PTT when this option is on; you can speak to transmit directly; voice sensitivity of the host computer can be set to 1~10, level 1 is the highest sensitivity level, and level 10 is the lowest sensitivity level
7.Double wait	Off	Single channels mode
	Single Wait	Switch upper and lower channels through the keypad; when the machine works in the main channel, the sub-channel can't transmit or receive
	Double Wait	Scan main channel and sub-channel in turn; call is locked when the reception is effective; you can press PTT to talk with the other party
8.Encrypt	Off	Turn off encryption
	On	Turn on encryption function, and the two sides must pair the key to make the call normally
9.Power Save	ff	Turn off power saving mode
	On	Turn on the power saving mode; power saving ratio is 1:4
10.Beep	All Tone	Options: Off/On. Turn off all tones when Off is selected, but do not include emergency alarm tone
	Call Permit	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 > Digital and Analog: Enable this tone for analog channels and digital channels

Setting options	Options and Range	Description of operation
10.Beep	Key Beep	Options: Off/On. There is no prompt tone when Off is selected
11.Backlight	Always On	Always on (power saving disabled)
	Always Off	Always Off
	5/10 秒	Turn off the backlight automatically when the time is up
12.Keypad Lock	Manual	Press and hold # to lock, press MENU and * to unlock
	5/10/15 sec	Auto lock; lock automatically at set time; press MENU and * to unlock
13.LED Indicator	Off	The indicator (transmission, receiving, boot, etc.) does not work when it is off
	On	Default option is on
14.Pass-word Lock	Enter password	Input correct password to enter the setup menu; the password can be configured by default on host computer Options: On or Off / Changes boot password > On or Off: Turn on if it is turned off, and turn off if it is turned on; when On is selected, you need to enter the correct password and press the MENU button to start the unit > Change boot password: You can enter a new password not more than 6 digits; please remember after changing
15.Mode	CH NO.	The channel mode is displayed by channel number
	CH NAME	The channel mode is displayed by channel name
	CH Freq	The channel mode is displayed by frequency mode
16.Screen	Picture	Display according to the picture provided by the customer
	Character	Two lines, can be edited by Software

Setting options	Options and Range	Description of operation
17.Lan- guage	English	English version, including menu, call tips, call logs and all other interfaces
	Chinese	Simplified Chinese
18.CTCSS/ DCS	C CTC/DCS	Change the encoding and decoding of CTCSS/DCS. Press [A/B] to select "CTCSS/DCS" , press [▲]/[▼] to select CTCSS/DCS code, press # to switch the positive phase (N) and negative phase (I). ● Press [A/B] to select "CTCSS/DCS codec OFF" , press [▲]/[▼] to select analog CTCSS/DCS frequency. ● You can also enter CTCSS/DCS with keypad, press the [MENU] button to confirm, and press [BACK]to return.
	R CTC/DCS	Change the decoding of CTCSS/DCS. Setting method is same as above
	T CTC/DCS	Change the coding of CTCSS/DCS. Setting method is same as above

## Squelch

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:

8.Press [MENU] to enter menu mode.

9.Press [▲]/[▼] to set, then press [MENU] to select.

10.Press [▲]/[▼] to the radio setting, then press [MENU] to select.

11.Press [▲]/[▼] to "squelch" , then press [MENU] to select.

12.Choose "strict" or "norma" l, then press [MENU] to select.

13.Press[BACK]return to the home screen.

## TX 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 "TX 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

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

## Talk around

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 select.
3. Press the [▲] / [▼] button to radio setting, then press the [MENU] button to select.
4. Press the [▲] / [▼] button to off line, then press the [MENU] button to select.
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 select.
7. The screen indicates the off-line is turn on, the iconflash, 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.

## Busy lock

This function can be enabled by writing-frequency software to prevent interference with other users that are transmitting on the same channel.

If you press and hold the [PTT] button while other users occupy the

channel, the product will beep and display "Transmission failed, sub-audio disabled" or "Transmission failed, color code disabled" , prompting that transmission is disabled at this time. When the channel is idle, you need to press and hold the [PTT] button to transmit

The menu function operated as below:

1. Press [MENU] to enter menu mode.
2. Press [▲] / [▼] to set, then press [MENU] to select.
3. Press [▲] / [▼] to the radio set, then press [MENU] to select.
4. Press [▲] / [▼] to "Busy lock" , then press [MENU] to select.
5. The screen shows indicate Off or Carry or QT/CC, press [▲] / [▼] to the corresponding option, then press [MENU] to confirm and return to the previous menu.

## Transmit time-out timer(TOT)

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 "TOT", then press [MENU] to select.
6. The screen shows infinity, 15S, 30S... 55S 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.

Note: In the emergency alarm mode, this function is invalid.

## VOX

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.

## Double wait

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 set, then press [MENU] to select.
4. Press [▲]/[▼] to the Double wait, then press [MENU] to select.
5. The screen displays "Off /Double Wait/Single Wait". then press [MENU] to select.
6. Press [MENU] to confirm and return to the previous menu.

## Encrypt

In digital mode, Turn on encryption function, and the two sides must pair the key to make the call normally.

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 Encrypt, then press [MENU] to select.
5. Press [▲]/[▼] to the select encrypt Off or On, then press [MENU] to confirm and return to the previous menu.

## Power Save

After the power save function is on, the radio enters the power save mode after 10 seconds in standby mode to save battery power. The power saving ratio is 1:4.

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 Save, then press [MENU] to select.
5. Press [▲]/[▼] to the select power save Off or On, then press [MENU] to confirm and return to the previous menu.

## Beep

Including below options:

■ All Tones      ■ Call Permit      ■ Key Beep

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 select.
3. Press the [▲]/[▼] button to radio setting, then press the [MENU] button to select.
4. Press the [▲]/[▼] button to tone/prompt one, then press the [MENU] button to select.

5. Press the [▲]/[▼] button to "all tones", then press the [MENU] button to select.

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 to choose turn off, then all the tones and prompt tones turned off, the screen indicates "All tones cancelled"

## key Beep

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 "Key Beep", then press [MENU] to select.
  6. Press [▲]/[▼] 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"

## 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, normally off, 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.

## Keypad Lock

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.

## LED Indicator

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.

## Password Lock

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 6-bit.

## Mode

Mode setting divided into:

- Serial number display: display the channel number
- Name display: displays the channel name
- Frequency display: display the channel 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 setting, then press [MENU] to select.

4.Press [▲]/[▼] to the mode setting, then press [MENU] .

5.Press [▲]/[▼] to select “Serial numbe” “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 [VFO/MR] to switch between frequency mode and channel mode. In frequency mode, you can manually type the frequency.

## 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.Press [▲]/[▼] to select “images” or “default character” , then press [MENU] to enable the corresponding boot screen.

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

## Language

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.

## 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 "OFF" or a group of CTCSS decode number, press [▲]/[▼] to close or select CTCSS decode number .
- The keyboard can also be enter manually.
- Press [\*] key to switch to DCS, [◀]/[▶] key to select DCS code, press [#] key to switch between positive phase (N) and negative phase (I)
8. Then press [MENU] to select, which already set the corresponding CTCSS decode 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 "OFF" or a group of CTCSS decode number, press [▲]/[▼] to close or select CTCSS decode number .
- The keyboard can also be enter manually.
- Press [\*] key to switch to DCS, [◀]/[▶] key to select DCS code, press [#] key to switch between positive phase (N) and negative phase (I)
8. Then press [MENU] to select, which already set the corresponding CTCSS decode value, the screen displays CTCSS encode XX.

## Radio information query

Check the relevant information of this product, including: the radioModel information, serial number, CPS version, hardware version, firmware version, DSP version, programming time, etc information.

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. This information can only be accessed but cannot be modified



## Check radio version

Check and indicate this radio's Model information, serial number, CPS version, hardware version, firmware version, DSP version, programming time, etc 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 Model information, serial number, CPS version, hardware version, firmware version, DSP version, programming time, etc information.
- 6.Press [BACK] to return to the previous menu.

## Radio configuration

The product configuration is listed below:

Configuration	Operating instructions
1.Reception frequency	To set reception frequency; press * to clear all, press BACK to delete one
2.Transmission frequency	To set transmission frequency; press * to clear all, press BACK to delete one
3.Channel name	To set channel name; press * to clear all, press BACK to delete one
4.Color code	>Options: 0~15 optional >Valid for digital mode only
5.Time slot	>Options: 1~2 optional >Valid for digital mode only
6.Shift frequency	The difference between transmission frequency and reception frequency in frequency mode, whether frequency has difference depends on frequency direction
7..Shift frequency direction	Options: Off / Positive / Negative >Off: Transmission frequency and reception frequency have no difference in frequency mode >Positive: In frequency mode, the transmission frequency is equal to the reception frequency plus the difference frequency >Negative: In frequency mode, the transmission frequency is equal to the reception frequency minus the difference frequency
8.Frequency step	Options: 2.5K/5.0K/6.25K/10K/12.5K/25K/50K >In the frequency mode, press []/[ ]to adjust the frequency value in steps; scan in steps in frequency mode
9.Channel type	Options: Analog / Digital >Switch analog and digital mode in frequency mode

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 [MENU] 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 [ ▲ ] / [ ▼ ] , the screen shows that the channel name has been saved.

## Add Channel

Method of cooperating MENU:

Entering the menu via [MENU] button.

Press [ ▲ ] / [ ▼ ] to find SETTING, press [MENU] to confirm.

Press [ ▲ ] / [ ▼ ] to find CONFIGURATION, press [MENU] to confirm.

Input the correct configuration password (setting by programming), press [MENU] to confirm.

Press [ ▲ ] / [ ▼ ] to find Add Channel, press [MENU] to confirm.

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:

Entering the menu via [MENU] button.

Press [ ▲ ] / [ ▼ ] to find SETTING, press [MENU] to confirm.

Press [ ▲ ] / [ ▼ ] to find CONFIGURATION, press [MENU] to confirm.

Input the correct configuration password (setting by programming), press

[MENU] to confirm.

Press [ ▲ ] / [ ▼ ] to find Color code, press [MENU] to confirm.

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:

Entering the menu via [MENU] button.

Press [ ▲ ] / [ ▼ ] to find SETTING, press [MENU] to confirm.

Press [ ▲ ] / [ ▼ ] to find CONFIGURATION, press [MENU] to confirm.

Input the correct configuration password (setting by programming), press [MENU] to confirm.

Press [ ▲ ] / [ ▼ ] to find Relay Station Time Slot, press [MENU] to confirm.

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.

## Appendix

### Online Update

1. Turn off the radio, and insert the writing frequency line;
2. Press and hold the [Side button 1] and [Side button2] at the same time to turn on the radio, the green LED turns on, and the screen is black, indicating that the radio has entered the upgrade mode;
3. Start the upgrade software "Update.exe" on the computer; select the corresponding serial port;
4. Click "Browse" to select the file to be upgraded (provided by the manufacturer), for example: Dm-1801-V1.1.1.sgl;
5. Click "Download" and wait the download to complete. Remember that the power mustn't be cut off in the update process, or else the SCM will be scrapped;
6. Unplug the writing frequency line, turn off the radio or reboot.

Caution: Do not cut off the power in the update process, or else the SCM will be scrapped.

### Aging Test

In power off mode, press and hold the [Side button 1] and the number button [2] to turn on the radio and enter the aging test, the radio displays "RF Test ..." , the transmitter LED turns on and transmits 30 seconds, then the receiver LED turns on and receives for 30 seconds; the transmitter and receiver alternate until the power is used up. The radio can be turned off in the aging process, and the aging channel is the channel entered after turning on (either analog channel or digital channel).

### Initialize Defaults

In power off mode, press and hold the [Side button 1] and the number button [1] to turn on the radio, and the LCD displays "Memory Reset?" ; press the MENU button to enter initialization, and the LCD displays "Memory Reset..." ; the initialization finishes after 10 seconds and the radio turns on normally. Press other buttons to exit the initialization interface and boot normally.

Note: The power mustn't be cut off in the initialization process, or else the initialization will fail.

Main technological specification	
Frequency range	VHF : 136-174MHz UHF : 400-470MHz (Dual Band)
Memory Channel	1024
Frequency Stability	±1.0ppm
Operating Temperature	-30 °C ~+60 °C
Operating Voltage	DC 7.4V
Demission	133*62*32mm ( no including the antenna)
Weight	About 268g ( Include in battery and antenna)
Transmission	
Output power	High:5W/Low:2W
Output Consumption	Digital≤0.9A
4FSK digital modulation	12.5KHz for data:7K60FXD 12.5KHz for data and voice :7K60FXE
	<5%
Response Antenna Port	+1 ~ -3dB
Spurious Digital Protocol	9KHz-1GHz: ≤-36dBm1GHz-12.75GHz: ≤-30dBm
Vocoder type	ETSI-TS102 361-1,-2,-3
	AMBE+2 TM

Reception	
Digital receive sensitivity	-120dBm(BER≤5%) 1W
Audio power	<10%
	+1 ~ -3dB

Note: 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 tall buildings, or located in the basement	Move to open environment, restart the radio.
	Interfere by the environment or electromagnetic	Avoid the device interfering the radio

Note: 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.

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

#### FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Warning! : The portable radio generates RF

electromagnetic energy during transmit

mode. This radio is designed for and

classified as "Occupational Use Only,"

meaning it must be used only during the

course of employment by individuals aware

of the hazards and the ways to minimize such

hazards. This radio is NOT intended for use

by the "General Population" in an

uncontrolled environment.

The device complies with RF specifications

when the device is used at 25 mm from your

front face and 0mm from your body, SAR

compliance for body-worn operating

configurations is limited to the specific belt

clip/ holster/accessories tested for this

product.

Body-worn accessories that do not meet these

requirements may not comply with RF

exposure requirements and should be

avoided. Maximum SAR Value (1g): 3.118W/Kg.

**RF Specification**

Support Frequency Range:	136 MHz~174MHz, 400MHz~470MHz	
Permitted frequency range: * <sup>1</sup>	136 MHz~174MHz 400MHz~406MHz, 406.1MHz~470MHz	
Rated Output Power:	<input checked="" type="checkbox"/> High Power: 5W	<input checked="" type="checkbox"/> Low Power: 2W
Modulation Type:	Digital :	4FSK
Supported Digital Protocol: * <sup>2</sup>	DMR	
Channel Separation:	Digital :	<input type="checkbox"/> 6.25kHz <input checked="" type="checkbox"/> 12.5kHz
Emission Designator: * <sup>3</sup>	Digital:	7K60FXW, 7K60FXD
Support data rate:	9.6kbps	
Antenna Type:	External	