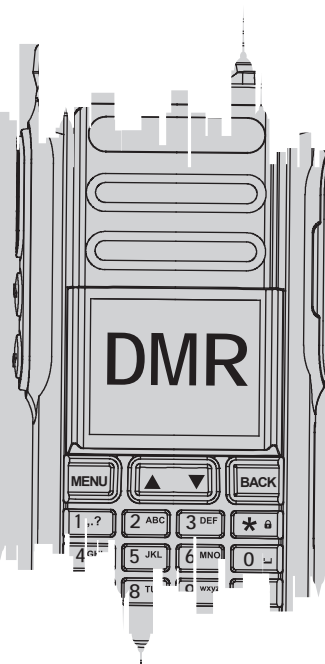




RECYCLED PACKAGING



True2-Slot

USER'S MANUAL

DMR DIGITAL RADIO

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 1024 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.

PROGRAMMING NOTES

When programming the radio, start by reading the factory software data, and then rewrite this data with your frequency etc., to a new saved code plug, otherwise errors may occur. You can use the programming cable with a PC to program the frequency, channel type, power etc. your programming must comply with your FCC (or other country) license certification. European Users should note that operation of this unit in Transmit mode requires the operator to have a valid Amateur Radio Licence from their respective Countries Amateur Radio Licencing Authority for the Frequencies and Transmitter Power levels that this Radio transmits on. Failure to comply may be unlawful and liable for prosecution. At this subject, refer to the "EU" specification guide 2014/53/EU.

SECURITY OVERVIEW

FCC Regulations

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

RF Radiation Information

This product must be restricted to operations in an occupational/controlled RF exposure environment. Users must be fully aware of the hazards of the exposure and able to exercise control over their RF exposure to qualify for the higher exposure limits.

RF Radiation Profile

Radio Frequency (RF) is a frequency of electromagnetic radiation in the range at which radio signals are transmitted. RF technology is widely used in communication, medicine, food processing and other fields. It may generate radiation during use.

RF Radiation Safety

In order to ensure user health, experts from relevant industries including science, engineering, medicine and health work with international organizations to develop

standards for safe exposure to RF radiation. These standards consist of:

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J;
- American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992;
- Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1999;
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998.

Operational Instructions and Training Guidelines

To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits in the above standards and guidelines, users should transmit no more than 50% of the time and always adhere to the following procedures:

- (1) RF energy will be generated only when the radio is transmitting.
- (2) The radio must be at least 2.5 centimeters away from human body when transmitting.

EU Regulatory Conformance

As certified by the qualified laboratory, the product is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC.

Please note that the above information is applicable to EU countries only.

MAIN FEATURES

● **Broadband radios**

Support UV double segment, frequency range
UHF400.000-470.000MHz / 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 Private call, Group call and All call; supports remote inhibit function and other applications

● **Messages function**

Supports SMS, text editing and draft in 250 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 programming 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 keys can be customized without changing the user's operating habits**

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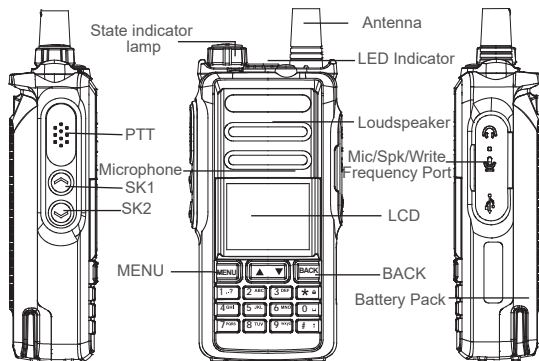
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ITEMS IN THE PACKAGE

Please unpack carefully and check if all items listed below are received.
If any item is missing or damaged, please contact your dealer.

Item	Quantity (PCS)
Radio	1
Battery Pack	1
Battery Charger	1
Power Adapter	1
Antenna	1
Belt Clip	1
Hand Strap	1
Programming Cable	1
User' s Manual	1

RADIO OVERVIEW



1. Status Indication

1.1. 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

1.2. Description of LCD Icons

Icon name	Icon	Description of product status
Signal strength icon		The more signal bars, the stronger the signal is
Transmission power icon	H	The current channel transmits at high power
power icon	L	The current channel transmits at low power
Direct mode slot icon	CT	The current sub-audio is CTCSS
	DCS	The current sub-audio is CDCSS
Speaker icon		Speaker is enabled, and reception is effective
Relay mode icon	+	The current transmission frequency is the reception frequency plus a frequency bias (positive bias)
	-	The current transmission frequency is the reception frequency minus a frequency bias (negative bias)
		Currently in offline state
Scan icon		The scan is on and is in normal mode
Non-priority channel		Scan stays on non-priority channel
Priority channel 1	P1	Scan stays on priority channel 1
Priority channel 2	P2	Scan stays on priority channel 2
Battery power icon		The more bars, the more battery power
VOX icon		Voice control is turned on
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

2. Description of Key

[PTT] Transmit key	Switch between transmission and reception; when transmitting, press this key and speak to the microphone; release the key to receive.
Side key SK1	Short press is the monitor function (only analog channels are supported). Switch to the monitor squelch mode when this key is pressed, and return to the receive squelch mode when the key is pressed again.
	Long press for the power switch, select the high and low power.
Side key SK2	Short press this key to quickly switch between the upper and lower screens and switch between the A screen and the B screen.
	Long press this key to enter the digital contact.
Top key *Default is the alarm key	Short press this key to end the emergency alarm mode.
	Press and hold this key to activate the emergency alarm mode to quickly establish an emergency call.
0-9 number keys	Default: 0~9
	[0~9] code words in DTMF function
	Select punctuation marks or letters in Pinyin input method.
	If numeric shortcut function is set, you can press and hold this key to jump to the corresponding contact.
[MENU] key	Press it to activate the menu mode, enter the menu and press this key to select menu items.
	Press and hold it to enter the radio settings.
[▲] key	Channel mode, changing the channel backwards.
	Move left in SMS editing interface.

[▼]key	Channel mode, changing the channel forward. Move right in SMS editing interface.
[Exit]/[Clear] key	In standby mode, short press to switch between dual-segment single-standby or dual-segment dual-standby mode.
	Clear the entered information in input state.
	Press and hold this key to switch channel mode or frequency mode.
[*]key	Press and hold this key to lock on / off keyboard
	Code word * in DTMF function
[#]key	Switch the input method in input method interface.

3. Programmed Key

In order to improve the operational convenience, the function shortcut keys provided by this product are [SK1] key, [SK2]key, [TK1] key. For the specific function, please consult the distributor. For the detailed description of each function, please refer to the corresponding contents of "Function and Operation".

No.	Shortcut name	Purpose
1	None	No function is assigned to the preset key.
2	Adjust Power Level	Quickly switch between high power and low power.
3	Emergency on	Quickly establish an emergency call. This is the recommended option for the orange key.
4	Emergency off	Quickly end an emergency call initiated outward.
5	Talk Around	Press this key to toggle the host between pass-through mode and transit mode.
6	Encrypt	Quickly turn on/off encryption for channel (only for digital mode).
7	VOX	Quickly turn on or off the voice control function.
8	One Touch Call 1	Call shortcuts, after pressing a one-click call, send the corresponding call, SMS or other application function.
9	Contact	Press this key to enter the digital contact list to initiate a call or call related services.
10	Zone Down	Press this key to switch to the previous zone.
11	Zone Up	Press this key to switch to the next zone.
12	Zone Change	Quickly select zones that allow users to switch between the two zones.
13	Keypad Lock	Quickly lock the numeric keypad (not including the [PTT] key).

14	Monitor	Switch to the monitor squelch mode when this key is pressed, and return to the receive squelch mode when the key is pressed again.
15	Battery Power Indication	Quick access to battery power. The voice broadcast has a high power, and the power is low
16	Scan	Quickly turn the scan function on or off. Note: double-segment double-waiting scan does not work
17	Scan Back	Press this key
18	Record	(Based on firmware) to quickly turn on/off the recording
19	Previous Record	(Based on firmware) to quickly play back the previous recording.
20	Next Record	(Based on firmware) to quickly play back the next recording.
21	Dispatch (1750Hz pilot)	Fast launch 1750 pilot signal
22	Nuisance Temporary Delete	When the scan is paused, pressing this key temporarily deletes the temporarily unwanted noise channel. The channel is not detected during the next scan detection. When the host restarts scanning, the channel will be restored in the scan list.
23	Time	Press this key to broadcast the current time.
24	Flashlight	Press this key to turn on the flashlight and press it again to turn off the flashlight.
25	Up and Down Screen	Quickly switch the upper and lower screen

Note:

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

PREPARATION BEFORE USE

1. Accessories installation

1.1 Install and Remove the Antenna

Turn off the radio and insert the antenna into the mounting hole and turn clockwise.

When removing the antenna, turn it counterclockwise to remove the antenna.

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

1.2 Install and Remove the Battery

1) Install the battery

- Align the battery with the battery holder on the back of the radios. Push the battery firmly into the radios and slide the battery up until it locks into place.

2) Remove the battery

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

1.3 Install and Remove the Belt Clip

- Unscrew the two screws on the battery. Align the two screw holes in the belt clip with the screw holes in the top of the battery, and then tighten the screws
- Loosen and remove the screw from the belt clip (it is recommended that you screw the screw to the battery for the next time you are installing and using the belt clip).

1.4 Install external Headphones and Microphone (Optional Separately)

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

2. Charging

Be sure to ensure that the product is off when charging.

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

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

- 1) Plug the power adapter into a power outlet;
- 2) Plug the other end of the power adapter into the socket on the back of the charging cradle;
- 3) Insert the battery or the battery-equipped product into the charging cradle correctly; The indicator light on the charging cradle shows the charging status. When the indicator light is red, it indicates the start of charging. When the indicator turns green, the charging is completed. The specific table below.

Indicator display	Current charge status
Red light	In charging
Green light	The charging is completed

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

3. Battery information

3.1. 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.

3.2. Suitable battery type

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

3.3. 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.

3) 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 radios, but when charging is best to turn off the radios, 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.

3.4. Extend battery life

1) 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.





2) Dusting the battery contacts may affect the battery life. Please wipe the contacts with a clean, dry cloth before inserting the batteries into the radios.

3.5. 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.

4. Battery Voltage & Power Indication

If the dealer has set the **【Battery Power Indication】** shortcut key for this radios, you can press this shortcut button to have a voice broadcast " Battery High" or "Battery Middle" or "Battery Low". The current battery level is displayed at the top right of the screen. The battery icon is as follows:

Battery icon				
Battery power	High	Medium	Low	Insufficient

BASIC OPERATION

1. Power on the Radio

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. In English language, if voice announcement is enabled, the channel is broadcast when the terminal is powered on or when switching channels.

Note: If you disable the tone function of this product, 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.

2. Volume Adjustment

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

3. Select a 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 a zone, which makes it easy for you to manage existing channels.

The unit supports up to 250 zones, and each zone contains up to 64 channels.

You can select a zone in two ways:

3.1 Select by programming key:

If the dealer has set the [Zone Up] and [Zone Down] shortcuts key for you, press this shortcut to switch to the desired zone.

3.2 Select through the menu:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Zone, and then Press [MENU] key to select the entry zone list.
- 3) The current zone is displayed on the screen and displayed as the zone name.
- 4) Press [▲] / [▼] key to enter the desired zone, and then Press [MENU] key to select.
- 5) The screen immediately displays the selected zone and returns to the selected zone screen.

Note: The radios must retain at least one zone, and each zone retains at least one channel.

4. Digital and Analog Channel Switch

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

5. Single/Dual Band Mode Switch

If the dealer has set the [Up and Down Screen] shortcut key (Namely [A/B] key) for you, press this shortcut key to switch the upper screen or the lower screen.

When the radio is standby, press [Up and Down Screen] key to switch the primary and secondary channels.

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

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

2) Press [BACK] to switch to dual band single standby or dual band dual standby.

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

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

6. Select Channel, User ID, Group Call ID

Power on and in channel mode, if you have more than one zone in the radio, select the desired zone and press [▲] / [▼] key to select the desired channel, user alias or ID, or the group alias or ID.

7. Receive and Reply Group Calls

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

When receiving a group call:

- 1) LED indicator light is green.

- 2) The top line of the screen displays status icons such as RSSI. In the display area below the top line: the first line shows the group alias, the group call icon is displayed in the middle and the received target band (CH A or CH B) is indicated, and the caller ID is displayed at the bottom (digital mode only).
- 3) Hold the radios in its upright position and at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth. If the "Channel Free Tone" function is enabled, when the transmitting radio releases the [PTT] key, you will hear a short beep indicating that the channel is idle and waiting for your answer.
- 4) Press [PTT] key during the call hold time to reply to the call and the LED indicator lights up in red.
- 5) Release the [PTT] key to answer.
- 6) If there is no voice activity for the scheduled time period, the call is terminated.

Note: If the radios receives a group call and is not at home at this time, it remains on the current screen until the call is answered.

8. Receive and Reply Private Call

A Private Call is an individual radios call to another individual radios. There are two types of Private Call types: the first type, the radios presence test is performed before the call is ready, and the other type is ready for the call immediately.

When receiving a Private Call:

- 1) LED indicator light is green.

- 2) The top line of the screen shows the status icons such as RSSI. In the display area below the top line, The first line shows a Private Call, the Private Call icon is displayed in the middle and the received target band (CH A or CH B) is indicated, and the user alias or ID is displayed at the bottom (digital mode only).
- 3) Hold the radios in a vertical position and keep it 1 to 2 inches (2.5 to 5.0 cm) from the mouth. If the "Channel Idle Tone" feature is enabled, when the transceiver intercepts the [PTT] key, you will hear a short beep indicating that the channel is free for you to answer.
- 4) Press [PTT] key during the call hold time to reply to the call and the LED indicator lights up in red.
- 5) Release the [PTT] key to answer.
- 6) If there is no voice activity for the scheduled time period, the call is terminated.

9. Receive All Calls

All calls are an individual radios call to all radios on the channel. It is used to publish important notices that require special attention from users.

When receiving all call:

- 1) LED indicator light is green.
- 2) The top line of the screen shows the status icons such as RSSI. In the display area below the top line: The first line displays the full call, the full call icon is displayed in the middle and the received target band (CH A or CH B) is indicated, and the user alias or ID is displayed at the bottom (digital mode only).

3) After the termination of all calls, the radios will return to the screen before receiving the call. If "channel idle tone" is enabled, you will hear a short tone when the radios 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.

10. Making a Call

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

- Channel mode Press [▲] / [▼] to select the channel
- Pre-programmed One-Touch call key
- Contacts list

10.1 Initiate Group Call

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

- 1) Channel mode Press [▲] / [▼] to select the channel using the activated talk group alias or ID.
- 2) Hold the radios 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 radios alias or ID is displayed on the screen.

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 [PTT] key to answer, or if there is no voice activity for a predetermined period of time, the call is terminated.

6. The radios return to the screen before receiving the call. You can also initiate a group call from your address book.

10.2 Start a Private Call

- 1) Channel mode Press [▲] / [▼] to select the channel using the activated private call alias or ID.
- 2) Hold the radios 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 Private Call, the Private Call icon is displayed in the middle, and the user alias or ID is displayed at the bottom (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 [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 Private Call via digital contacts and manual dialing in your contacts, or make quick contact access via a keyboard entry to find the desired target radios.

10.3 Initiate All Calls

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

- 1) Channel mode Press [▲] / [▼] to select the channel using the activated all-call group alias or ID.
- 2) Hold the radios 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.

10.4 One-Touch Call

One-Touch calling features make it easy to group calls or Private 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 radios can have multiple programmed one-touch call keys.

- 1) Press preprogrammed one-touch call key to initiate a group or Private Call to a predefined alias or ID.
- 2) Hold the radios 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 [PTT] key to answer, or if there is no voice activity for a predetermined period of time, the call is terminated.
- 6) The radios return to the screen before receiving the call.

11. 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.

11.1 DTMF Call

- 1) Making a Call

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

2) Receive Calls

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

11.2 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.

EMERGENCY ALARM FUNCTION

1. 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 radios 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.
- Press pre-programmed [Emergency Off] shortcut key to exit the 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.

2. Emergency Type

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

Emergency Type	Description
Disable	Turn off alarm function (alarm disabled),
Only whistle	The terminal emits a sharp alarm tone and the control center does not receive an alarm signal.
Conventional	When alarms, the radio gives an audible and visual prompt.
Alarm whistle	After sending an emergency alert signal to the control center, a local alarm tone is sounded. In the alarm state, there are indications of sound and visualization.
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.

3. Alarm Mode

Except the alarm type "Disable,Only whistle, alarm whistle", 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.

4. 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 preprogrammed [Emergency On] key.
- 2) The screen displays "Alarm Sending" alternating with radios 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 briefly shows "Send Success".
 - Or if the radios do not receive any emergency alert confirmation and a beep sounds after all retries are exhausted, the screen displays No ACK.
- 4) The radios exit the emergency alert mode and returns to the home screen. If your radios are set to "Silent," it will not show any voice or visual cues in emergency call mode.

5. Receive Emergency Alert

- 1) When an emergency alert is received, the screen displays "Alarm Rcvd", which alternates with the sender's alias or ID.
- 2) A beep sounds and the LED flashes orange.
- 3) If enabled, your transceiver will automatically acknowledge the emergency alert. When the radios receive an emergency alert, the screen displays "Alarm Rcvd", 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: When an alarm sounds, the LED indicator flashes orange and any key can be pressed to stop the alarm tone. The current emergency mode is released by switching channels or turning off the radio.

6. Send an Emergency Alert With Voice Follow

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

- 1) Press preprogrammed [Emergency On] key.
 - 2) The screen displays "Alarm Sending", the LED is lit red and the emergency call icon is displayed.
 - 3) When the alarm confirmation of another intercom is received, the message "Send Success" is displayed, the LED indicator lights up in red, the radio of the intercom automatically activates and emits a signal, and speaks clearly to the microphone until the end of the Hot Mic.
- If the emergency alert request fails (such as the target radio that received the alert is not turned on or is not on the

pre-programmed alert jump channel), the screen briefly displays "No ACK" and the radios will continue to send emergency calls.

4) The Hot Mic duration ends and stops transmitting. The screen displays "Emergency Call" and the contact and intercom ID alternate. The LED indicator lights up in orange and is accompanied by a local alarm tone until the end of the reception duration.

5) After the number of emergency calls of the radios is completed, it will automatically stay on the emergency call alarm interface.

Note: Press pre-programmed [Emergency Off] key, the screen displays "Cancel Alarm" and exits the emergency mode. Or cancel the current emergency mode by switching channels.

7. Receive an Alert Call

The radios that receive the emergency call must be selected to the pre-programmed alarm-jump channel and the jump channel must be a group call.

- 1) Upon receiving an urgent alert request, the screen displays "Alarm Rcvd" and is displayed alternately with the sender's alias or ID.
- 2) An alarm tone sounds and the LED indicator flashes orange.
- 3) The alarm tone stops, the LED indicator lights up in green, enters the receiving state, and listens to the other party's speech until the end of the hot microphone.

4) When an alarm tone sounds, the LED indicator flashes orange. Hold the intercom in a vertical position and keep it 1 to 2 inches (2.5 to 5.0 cm) from the mouth.

5) Press [PTT] key to initiate the call, the LED indicator lights up in red, and the talk group icon appears on the screen.

6) Release the [PTT] key to answer.

Note: When an alarm sounds, the LED indicator flashes orange and any key can be pressed to stop the alarm tone.

The current emergency mode is released by switching channels or turning off the intercom.

8. Initiate an Emergency Call

After the alarm is activated, the alarm code is not required to be sent for an impolite number and politeness, and the host immediately initiates an emergency call. Once confirmed, your radios microphone is automatically activated, allowing you to communicate with other radios on the pre-programmed alarm jump channel without pressing the [PTT] key. This activated microphone state is called a "Hot Mic". During the pre-programmed Hot Mic duration, in addition to pressing the pre-programmed [Emergency Off] key to cancel the alarm, pressing any other key will remain in emergency mode. Until the end of the Hot Mic duration.

1) Press pre-programmed [Emergency On] key.

2) The LED indicator lights up in red and the emergency call icon appear on the main screen.

3) The radio of the radios automatically activates and emits a signal, speaking clearly to the microphone until the end of the Hot Mic.

4) The Hot Mic duration ends and stops transmitting signals. The screen displays "Alarm Sending" and the contact and intercom ID alternate, and the LED indicator lights up in orange until the end of the reception duration.

5) During the duration of the reception, you can answer the other party's call.

Note: Press pre-programmed [Emergency Off] key, the screen displays "Cancel Alarm" and exits the emergency mode.

9. Receiving an Emergency Call

The radios that receive the emergency call must be selected to the pre-programmed alarm-jump channel and the jump channel must be a group call.

1) Upon receiving an emergency alert, the screen displays the talk group icon and the sender's alias or ID alternately displayed.

2) The LED indicator lights up in green and listens to the other party until the transmitter's Hot Mic duration ends.

3) With the LED off, hold the intercom away from the vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm).

4) Press [PTT] key to initiate the call, the LED indicator lights up in red, and the talk group icon appears on the screen.

10. 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 preprogrammed [Emergency On] key in the emergency call start/transmit state. This way the radios will exit the status and restart the emergency call.

11. 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 [Emergency Off] , or
- Press [PTT] key.

Note: If the radio is turned off, it will exist the emergency mode. When turned on again, the radio will not restart emergency mode

12. Lone Worker

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 programming software, this function is turned on when the radio is started.

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 key 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 programming software.

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.

MENU OPERATION

Press [MENU] key in digital mode or digital channel to enter the digital main menu; press [MENU] key in analog modem or analog channel to enter the analog main menu. The menu structure is shown as below, including all the menu items of the product. You can configure whether to display each menu item through the dealer. You need to first press [MENU] key to enter the main menu, then use [▲] / [▼] key to navigate the desired submenu or option and press [MENU] key to confirm and complete the setting .

1. Input Method

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

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

2. English Input Method

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

3. Simplified Chinese Pinyin Input Method

- 1) Press [#] to switch to Pinyin input method (LCD shows PY).
- 2) Press number keys 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 [MENU] key to move the highlight to the Chinese character zone, and press [▲] / [▼] to select the desired Chinese character.
- 5) Press [MENU] key to enter the selected Chinese character. Repeat the above steps to complete the input.

4. Number Input Method

- 1) Press [#] to switch to number input method (LCD shows 123).
- 2) Press number keys 0~9 to enter the corresponding number.

5. Input Special Characters

Press number key [1] to enter commonly used punctuation and special characters. To enter a space, Press [0] key. Note: In the input text display area, press [▲] / [▼] to move the cursor left/right.

6.How to Use The Menu

- 1) Press[MENU] key to enter the main menu., then press [▲] / [▼] on left or right to access the menu function;

2) Press [MENU] key to select a function or enter a sub-menu;

3) Press [BACK] key to return to last menu.

Note: The transceiver will automatically exit the menu and return to the main screen after a period of inactivity (the hang time is set by the programming software)

MAIN MENU FUNCTIONS

1. CONTACTS

Contacts list provides "Address Book" for radios. 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, Private Call, and All Call. Your radios supports digital contacts.

The entry in the contact list shows the following information:

- Call name
- Call property
- Call ID

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

1.1 Contacts Initiated by a Group Call

1) Press [MENU] key to enter the main menu.

2) Press [▲] / [▼] key to Contacts, then press [MENU] key to select, the items will be arranged in alphabetical order.

3) Press [▲] / [▼] key to Digital Contacts, then press [MENU] key to select, the items will be arranged in alphabetical order.

4) Press [▲] / [▼] key to the desired group name or ID.

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

6) 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.

7) 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.

8) 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 call key (PTT) to answer. If there is no voice activity during the preprogrammed group call hang-up time, the call is terminated.

1.2 Contacts Initiated by a Private Call

1) Press [MENU] key to enter the main menu.

2) Press [▲] / [▼] key to Contacts, then press [MENU] key to select, the items are arranged in alphabetical order.

3) Press [▲] / [▼] key to Digital Contacts, then press [MENU] key to select, the items will be arranged in alphabetical order.

4) Press [▲] / [▼] key to the desired user alias or ID.

•Or press [▲] / [▼] key to Manual Dial, 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 Manual Dial, then press [MENU] key to select, use keyboard to input a new ID.
- 5) Hold the radios in its upright position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
 - 6) 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 Private Call icons.
 - 7) 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.
 - 8) 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 call key [PTT] to answer. If there is no voice activity during the preprogrammed Private Call hang-up time, the call is terminated.
 - 9) You will hear a short tone; the screen shows the termination of the call.

Note: If you release the [PTT] key while the radios is setting up a call, it exits without any hint and returns to the previous screen. radios can be preprogrammed to perform radios presence detection prior to setting up a Private Call. If the target radios does not answer, you will hear a short beep, and the other party does not answer on the screen. The radios returns to the menu before starting the radios presence test.

1.3 Contacts Application Functions

Digital contacts on the digital channel can initiate corresponding application functions:

- For All Call contact, you can initiate a full call and send a text message.
- For Group Call contacts, you can initiate a group call and send a text message.
- Private Call contact, you can initiate a private call, edit contacts, delete contacts, send text messages, launch applications. Application features include: detection intercom, call alerting, remote monitoring, intercom activation, and radio desired.

1.3.1 Radio Check

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.

- 1) Press [MENU] key to enter the main menu.
 - 2) Press [▲] / [▼] key to Contacts, then press [MENU] key to select.
 - 3) Press [▲] / [▼] key to Digital Contacts, then press [MENU] key to select.
 - 4) Press [▲] / [▼] key to the desired user alias or ID, then press [MENU] key to select.
 - 5) Press [▲] / [▼] key to Application, then press [MENU] key to select.
- Or press [▲] / [▼] key to Manual Dial, then press [MENU] key to select, flashing cursor appears, input the user ID you want to call, then press [MENU] key.

- 6) Press [▲] / [▼] key to "Radio Check", then press [MENU] key, the screen will display "Radio check..."
- 7) When the detection command transmitted intercom, LED indicator light is red.
- 8) If the received acknowledgment detection intercom, LED indicator lights green tone sounds, and displays "Target Available"
- Or if a radios detection confirmation is not received, a beep sounds and the screen displays "Target Not Available".
- After the radios is successfully detected, press and hold the [PTT] button to call the other party

1.3.2 Call Alert

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

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Contacts, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Digital Contacts, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to the desired user alias or ID, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to Application, then press [MENU] key to select.
- Or press [▲] / [▼] key to Manual Dial, then press [MENU] key to select, flashing cursor appears, input the user ID you want to call, then press [MENU] key.

- 6) Press [▲] / [▼] key to "Call Alert", then press [MENU] key, the screen will display "Call Alert..."
- 7) When the radio sends a call prompt, the LED indicator light is red.
- 8) If you receive a call confirmation, LED indicator lights green tone sounds, and displays "Call Alert OK"
- Or if no call alert confirmation is received, a beep sounds and the screen displays "Call Alert Fail".
- Receive Call Alert

When you receive a call alert, the screen displays a call alert, alternating with the alias or ID of the calling radios. Press [BACK] key to exit.

1.3.3 Remote monitor

In digital mode, you can remotely activate a contact's microphone and secretly listen to each other's voice and background sound information.

1.3.3.1 Initiate remote monitor

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Contacts, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Digital Contacts, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to the desired user alias or ID, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to Application, then press [MENU] key to select.

- Or press [▲] / [▼] key to Manual Dial, then press [MENU] key to select, flashing cursor appears, input the user ID you want to call, then press [MENU] key.
- 6) Press [▲] / [▼] key to "Remote Mon.", then press [MENU] key, the screen will display "Remote Mon..."
- 7) When the radios send remote monitor, the LED indicator light is red.
- 8) The screen displays "Wait RX" and the LED indicator lights up in green. If you receive a prompt to confirm the remote monitor, tones sounds, and display the "Wiretapping"
- Or did not receive a remote monitor prompt confirmation, a beep sounds, and the screen displays "Remote Mon. Fail"

1.3.3.2 Receive Remote Monitor

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

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

1.3.4 Radio Remote Disable

In digital mode, you can send a disable command to a contact to make the radios unusable.

1.3.4.1 Initiate Remote Disable

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Contacts, then press [MENU] key to select.

- 3) Press [▲] / [▼] key to Digital Contacts, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to the desired user alias or ID, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to Application, then press [MENU] key to select.
- 6) Press [▲] / [▼] key to Radio Disable, then press [MENU] key to select, the screen displays "Radio Disable..."
- 7) When the radio sends a remote disable command, the LED indicator lights up as a red light.
- 8) If you receive the confirmation of the remote disable, the prompt tone will be issued and the screen displays "Remote Disable OK"
- Or if you do not receive the confirmation of the remote disable, a prompt is issued, and the screen displays "Remote Disable Fail"

1.3.4.2 Receive Remote Disable

After receiving the command of the remote disable, the LCD screen is displayed as a white screen, and shows "Remote Disable". When the radio is remote disable, it will not be effective by pressing any key, and the radio will still be dead after turn on again.

This function works only if the function is set and turned on by programming software.

1.3.5 Radio Activation

In digital mode, you can send an activation command to a contact to resume normal use of the radios.

1.3.5.1 Initiate Radio Enable

- 1) Press [MENU] key to enter the main menu.
 - 2) Press [▲] / [▼] key to Contacts, then press [MENU] key to select.
 - 3) Press [▲] / [▼] key to Digital Contacts, then press [MENU] key to select.
 - 4) Press [▲] / [▼] key to the desired user alias or ID, then press [MENU] key to select.
 - 5) Press [▲] / [▼] key to Application, then press [MENU] key to select.
 - 6) Press [▲] / [▼] key to Radio Enable, then press [MENU] key to select, the screen displays "Radio Active..."
 - 7) When the radio sends a remote activation command, the LED indicator lights up as a red light.
 - 8) If you receive the confirmation of the remote activation, the prompt tone will be issued and the screen displays "Radio Active OK"
- Or if you do not receive the confirmation of the remote activation, a prompt is issued, and the screen displays "Radio Active Fail"

1.3.5.2 Receive Radio Enable

After receiving the command of the remote enable, activate the prompt tone and turn off and turn on the radio again.

Note: The remote disable radio can also be activated by programming software. This function only can work by setting up and opening the function by programming software.

2. SCAN


Scanning means that when radio scanned on a channel and has activities, it will stay on the channel for listening, so as to understand the current activities of the relevant group members.

The scanning list is a list of channels for radio scanning. Your radio can support 32 scanning lists at most, and each list has a maximum of 16 channels. Each scanning list supports the mixing of analog and digital channels. You can edit can lists to add/remove channels or set priorities for channels.

2.1 Start and Stop Scanning

Press preset [Scan] key or enter the scan menu function.

The menu operation is as follows:


- 1) Select a pre programmed scan list channel by pressing [▲] / [▼] key.
 - 2) Press [MENU] key to enter the main menu.
 - 3) Press [▲] / [▼] key to Scan, then press [MENU] key to select.
 - 4) Press [▲] / [▼] key to Scan Switch, then press [MENU] key to select.
 - 5) The screen displays the "ON" and "OFF" options, press [▲] / [▼] key to ON, and then press [MENU] key to confirm and activate scan. The LED indicator slowly flashes to orange and displays the scan icon  ;
- If you press [▲] / [▼] key to OFF, then press [MENU] to confirm and off scan. When the scan is turned off the LED indicator lights off and the scan icon is not displayed.

2.2 View and Add a Scan List

- 1) Select a pre programmed scan list channel by pressing [▲] / [▼] .
- 2) Press [MENU] key to enter the main menu.
- 3) Press [▲] / [▼] key to Scan, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to Scan List, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to select the operated scan list, and press [MENU] key to select.
 - If you select “NONE”, no scanning list is added.
- 6) Press [▲] / [▼] key to enter “Edit/View” menu, then press [MENU] key to select.
- 7) Press [▲] / [▼] key to view the channel in the scan list and press [MENU] key to set or delete the priority channel in the scan list.
 - Or select the “ADD Channel” in the current scan list, then add a new channel by pressing [MENU] key.
- 8) Select a channel in the current scan list:
 - If do not need to scan, you can choose to “Delete” to delete a channel in the current scan list, but you cannot delete the first channel in the scan list.
 - If need to listen the activities of a channel first, you can choose the “PRI Setting” as the priority channel 1 or the priority channel 2.

Note: If priority is set, the priority icon **PI** or **PZ** displayed on the left side of the channel /member alias, which indicates that the channel/member is priority channel 1 or priority channel 2. If priority is not set, priority icon is not displayed. In a scan list, there should not be multiple priority 1 or priority 2 channels.


2.3. Scanning Instructions and Methods

When the scan is started, your radio checks the current channel for voice activity by means of a circular pre programmed scan list. The LED indicator slowly flashes to orange and the scanning icon  appears on the screen. During a digital and analog hybrid scan, if you are on a digital channel and you radio locks an analog channel, it will automatically switch from digital mode to analog mode during the entire duration of the call.

There are two kinds of scanning methods:

- Manual scanning: start scanning according to pre programming for scan open /close key or menu function, the radio will detect all channels / call groups in the presupposed scan list.
- Automatic scanning: when you select a channel/conversation group that has activated automatic scanning, the radio starts scanning from the channel that is activated automatically.

2.4. Scanning Reply

The radio detects the active channel/call group when scanning, the radio stays at the channel/call group for listening (this is called the "scan hanging time" preprogramming time limit), and the LED indicator light is bright green. The scan stays on the non-priority channel, and the display icon is . If it stays in priority channel 1 or 2, the displays icon is **P1** or **P2**.

Scanning reply process:











- 1) Hold the radio and put it in a vertical position and maintain a distance of 1 to 2 inches (2.5 to 5 centimeters) with the mouth. If the "channel available hint" is enabled, when the transmitter is released [PTT] key, you will hear a short note, which indicating that the channel is available and waits for your answer.
- 2) Press [PTT] key during the hanging time, and the LED indicator is red.
- 3) Release [PTT] key to listen.
- 4) If you do not respond within the hanging time, the radio will continue to scan.

3. MESSAGE FUNCTION

The radio supports DMR data function, and can send and receive messages. It can store up to 100 incoming messages and 100 sent messages. The maximum length of each message is 220 characters, and the number of SMS lines cannot exceed 50 lines.

3.1 Edit and Send Messages

User menu function:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [] / [] key to Messages, then press [MENU] key to select
- 3) Press [] / [] key to Write, then press [MENU] key to select
- 4) There is a scintillation cursor, input SMS with the keyboard, move one bit to the left by pressing [], move one to the right by [], delete any useless character when the editing area has content, or return to the previous menu when the editing area has no content.
- 5) After writing the text message, press [MENU] key to return to the previous menu quickly and find contacts, then press [MENU] key to select.
- 6) Press [] / [] key to the desired user alias or ID, then press [MENU] key to select.
•Or press [] / [] key to enter the manual dialing and input the target radio ID, then press [MENU] key to select.
- 7) Screen display "Sending..." make sure that a message is being sent.
- 8) If the message is sent successfully, a prompt will be issued, and the screen will display "Message Sent".
• Or if the message is not sent successfully, a high pitched tone will be issued, and the screen will display "Msg Send Failed"..

3.2 Send Quick Text

The radio supports at most 20 fast text messages programmed by agents. When you predefine SMS, you can edit it before sending every message.

User menu function :

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Message, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Quick Text, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to the needed quick text, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to display text content with a scintillation cursor, input SMS with the keyboard, move one bit to the left by pressing [▲] , move one to the right by [▼] , delete any useless character when the editing area has content, or return to the previous menu when the editing area has no content.
- 6) After writing the text message, press [MENU] key to confirm the contents and select send and save.
- 7) After sending message, press [▲] / [▼] key to enter contacts, and press [▲] / [▼] key to the desired user alias or ID, then press [MENU] key to select.
 - Or press [▲] / [▼] key to enter the manual dialing and input the target radio ID, then press [MENU] key to select.
- 8) Screen display "Sending..." make sure that a message is being sent.

9) If the message is sent successfully, a prompt will be issued, and the screen will display "Message Sent".

- Or if the message is not sent successfully, a high pitched tone will be issued, and the screen will display "Msg Send Failed".

3.3 Using One Touch Call to Send Quick Text

- 1) Press preset [One Touch Call] shortcut key to send a quick text to a predefined alias or ID.
- 2) Screen display "Sending..." make sure that a message is being sent.
- 3) If the message is sent successfully, a prompt will be issued, and the screen will display "Message Sent".
 - Or if the message is not sent successfully, a high pitched tone will be issued, and the screen will display "Msg Send Failed".

3.4 Manage Unsuccessfully Sending Short Messages

In the resend selection screen, you can choose the following options :

• Resend • Forward • Edit • Delete

3.4.1 Resend Messages

- 1) Press [MENU] key to send the same message to the same user/call group alias or ID.
- 2) If the message is sent successfully, a prompt will be issued, and the screen will display "Message Sent".

- Or if the message is not sent successfully, a high pitched tone will be issued, and the screen will display "Msg Send Failed".

3.4.2 Forward Messages

Select forward to send the text message to another user/talk group alias or ID.

- 1) Press [▲] / [▼] key to Reply, then press [MENU] key to select and find contacts.
- 2) Press [▲] / [▼] key to the desired user alias or ID, then press [MENU] key to select.
- Or press [▲] / [▼] key to enter the manual dialing and input the target radio ID, then press [MENU] key to select.
- 3) Screen display "Sending..." make sure that a message is being sent.
- 4) If the message is sent successfully, a prompt will be issued, and the screen will display "Message sent".
- Or if the message is not sent successfully, a high pitched tone will be issued, and the screen will display "Msg Send Failed".

3.5 Manage Sent Messages

Once the message is sent to another radio, it will be saved in the "Outbox". The latest sent SMS is always added to the top of the "Outbox" list. The Outbox folder can store up to 100 recently sent messages. When the folder is full, the next message will automatically change the old message in the folder.

Note: At any time, press [BACK] key to return to the previous screen.

3.5.1 View the Sent Messages

User menu function:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Message, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Outbox, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to browse the SMS list of the Outbox.
- 5) Press [MENU] key to select and read the current message, then press [MENU] key to Resend, Forward, Edit or Delete the message.

3.5.2 Resend the Sent Messages

When you view the sent text messages, you can choose the following options:

- Resend
- Forward
- Edit
- Delete

- 1) When you look at a short message, press [MENU] key again
- 2) Press [▲] / [▼] key to Resend, then press [MENU] key to select
- 3) Screen display "Sending..." confirm send the same message to the same target radio.
- 4) If the message is sent successfully, a prompt will be issued, and the screen will display "Message sent".

• Or if the message is not sent successfully, a high pitched tone will be issued, and the screen will display "Msg Send Failed"..

5) Press [MENU] to resend SMS to the same user/call group alias or ID.

Note: In addition to pressing [MENU] and [BACK] key, if you change the volume and press any other key, you will return to this message. When you press [PTT] to initiate a Private Call or group call, or to respond to a group call, the radio will exit the resend selection screen. If you receive SMS or remote sensing information, emergency call or alarm, or receive a call prompt, the radio will also exit the resend screen. If you respond to a Private Call by [PTT] key(except when radio is showing the uncalled screen), or at the end of the full call, the screen display will return to the resend selection. Press [▲] / [▼] key enter to reply, edit, or delete the selection screen.

- Select Reply, send the selected SMS to other call groups/user aliases or ID.
- Select Edit, edit the selected SMS before sending it.
- Select Delete, delete selected SMS.

3.5.3 Delete all the Sent Messages in the "Outbox"

User menu function:

1) Press [MENU] key to enter the main menu.

2) Press [▲] / [▼] key to Message, then press [MENU] key to select

3) Press [▲] / [▼] key to Delete, then press [MENU] key to select

4) Press [▲] / [▼] key to Outbox, then press [MENU] key to select

5) Press [MENU] key when prompted "Delete Outbox?", and the screen display" Msg is Deleted ".

• When you select the "Outbox" but there is no SMS, the screen will display "Empty Outbox".

3.6 Receive the Messages

When your radio receives short messages, the screen displays "Meg Received"

Note: If the promo screen is displayed on radio and press [ptt] key, radio will exit the SMS prompt screen and create a Private Call or Group Call.

3.6.1 View the Messages

1) Radio send short message alert when receive short message, the screen display "Meg Received ".

2) Read short messages by pressing [MENU] key to confirm.

3) Press [MENU] key to return to the inbox

• Or press [MENU] key to Reply, Forward, Edit and Delete message.

3.6.2 Manage Incoming Messages

Use the inbox to manage SMS. The inbox can store up to 100 messages.



The radio supports the following short message options:

- Reply
- Forward
- Edit
- Delete

Store the text messages in the inbox according to the order of recent reception.

Note: At any time, press [BACK] key to return to the previous screen.

3.7 View Inbox Messages

- 1) Press [MENU] key to enter the main menu.
 - 2) Press [▲] / [▼] key to Message, then press [MENU] key to select.
 - 3) Press [▲] / [▼] key to Inbox, then press [MENU] key to select.
 - 4) Press [▲] / [▼] key to browse the SMS list of the inbox. If text messages come from e-mail program, a topic line will appear.
 - 5) Press [MENU] to select and read the current message, then Press [MENU] key to Reply, Forward, Edit or Delete the message.
- Unread message with a sign , read message with a sign .

3.8 Reply Short Message in the Inbox

User menu function:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Messages, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Inbox, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to the required message, press [MENU] key to select and browse the current SMS. If text messages come from e-mail programs, then a topic line will appear.

5) Press [MENU] key again to enter the submenu. Press [▲] / [▼] key to enter the Reply, then press [MENU] key with the flashing cursor, enter the SMS editing state, and edit the short message with the keyboard.

- Or press [MENU] key and [▲] / [▼] key to insert Quick Text, and press [MENU] key and [▲] / [▼] key to select the required quick text, and then press [MENU] key with flickering cursor, if need, edit your message with the keyboard.

6) After writing SMS, press [MENU] key and [▲] / [▼] key to send, screen display "Sending..." make sure that a message is being sent.

7) If the message is sent successfully, a prompt will be issued, and the screen will display "Message Sent".

- Or if cannot send SMS, the screen will display "Message failure". If the message fails, the radio will return to the resend selection screen.

3.9 Delete Messages from the Inbox

User menu function:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Messages, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Inbox, then press [MENU] key to select.

4) Press [▲] / [▼] key to the required message, and press [MENU] key to select and browse the current SMS. If text messages come from e-mail programs, then a topic line will appear.

5) Press [MENU] key again to enter the submenu.

6) Press [▲] / [▼] key enter to Delete, then press [MENU] key to select.

7) When display "Delete Inbox?" press [MENU] key and the screen display "Msg is Deleted".

8) The screen returns to the inbox.

3.10 Delete All Message in the Inbox

User menu function:

1) Press [MENU] key to enter the main menu.

2) Press [▲] / [▼] key to Messages, then press [MENU] key to select.

3) Press [▲] / [▼] key to Delete, then press [MENU] key to select.

4) Press [▲] / [▼] key to Inbox, then press [MENU] key to select.

5) When screen display "Delete Inbox?" press [MENU] key and the screen display "Msg is Deleted".

• When you select "Inbox" but there is no SMS, the screen displays "Empty Inbox".

CALL RECORDING FUNCTION

The radios can record all recent incoming, answered and unanswered calls. Use the call record function to view and manage recent calls.

1. Check the Latest Call Number

Select "Call Log" in the main menu, enter the Missed / Answered / Outgoing list, and select contacts, then press [PTT] key to initiate a Private Call.

1) Press [MENU] key to enter the main menu.

2) Press [▲] / [▼] key to Call Log, then press [MENU] key to select

3) The screen displays the " Missed/Answered/Outgoing list/delete " option, press [▲] / [▼] key to enter the required call list, then press [MENU] key to select.

4) The screen displays the most recent entries at the top of the list

5) Press [▲] / [▼] key to view the list, then Press [PTT] key to start the Private Call for the currently selected alias or ID.

2. Unanswered Call Screen

Whenever a call is missed, the radio screen displays the number of unanswered calls and unanswered callers, press [MENU] key to check or [BACK] key check later.

If you press [PTT] key when looking at the unanswered call number, the radio leaves the unanswered call screen and creates a Private Call.

- 1) The screen displays "Missed Calls" and the number of missed calls.
- 2) Press [MENU] key to enter the missed call list. The latest missed call entries are displayed at the top of the screen.
- 3) Press [MENU] to select to view, send information, or delete the entry.

3. Delete Call Log

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Call Log, then press [MENU] key to select
- 3) Press [▲] / [▼] key to Delete, then press [MENU] key to select
- 4) The screen displays the " Missed/Answered/Outgoing " option, press [▲] / [▼] key to enter the deleted record.
 - Select Missed and press the [MENU] key to delete all missed calls.
 - Select the Answered and press the [MENU] key to delete all received calls.
 - Select the Outgoing and press the [MENU] key to delete all outgoing calls.
- 6) The screen displays "Del All Log" and returns to the previous level menu.

ENCRYPTION

Encryption means encrypt the voice or data of the end-to-end, which provides reliable security for voice or data, and can effectively prevent eavesdropping or stolen.

1.Basic Encryption

Radio only can allocate one of the above encryption types. To decrypt the encrypted call or transmission data, the pre programmed radio must have the same "encrypted key" with transmitted radio (suitable for basic encryption).

If your radio receives an encrypted call from a different encryption key or a different key value and a key ID, you will hear the sound of a messy transmission (basic type encryption).

Press preset [Encryption] key to turn on or off the encryption function..

Note: In conventional mode, open encryption is the encryption of the current channel. When the channel is switched, the terminal will automatically turn on encryption.

MENU SETTINGS

The setting menu includes the following:

- Radio Settings
- Radio Info
- Program Radio

1. Radio Settings

You can set the following settings for your machine according to your preferences and actual needs so that it can maximize its effectiveness.

Setting method: Press [MENU] key to enter the "Settings -> Radio Settings" menu, select the appropriate setting items.

1.1 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 [Talk Around] shortcut key to switch to the direct mode, further to achieve directly communication between two terminals. Press pre-programmed [Talk Around] shortcut key to open the offline function; press this key again to turn off this function:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.

4) Press [▲] / [▼] key to Talk Around, then Press [MENU] key to select.

5) The radios are currently in the repeater mode. Select "On", press [MENU] key to confirm, the screen icon lights up, indicating that the talk around function is turned on.
• Or select "Off" and press [MENU] key to confirm. The screen displays the positive frequency difference icon or the negative frequency difference icon, indicating that the off-network function is not enabled.

Note: Talk Around function must be used in the repeater mode, and the "Talk Around" function needs to be checked by the frequency writing software.

1.2 Tones/Alerts

Contains the following options:

- Silence
- Keypad Tone
- Low power tone
- SMS alert tone
- Private Call tone
- Group Call tone
- Channel Notify

1.2.1 Silence

If needed, you can enable or disable the mute of the radio (except for the emergency warning).

The menu function operates as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.

4) Press [▲] / [▼] key to Tones/Alerts, then press [MENU] to select.

5) Press [▲] / [▼] key to Silence, then press [MENU] to select.

6) Press [MENU] key to “On”, the mute function will be enabled, the screen displays “Succeed”.

• or Press [MENU] key to “Off”, the mute function will be off, the screen displays “Succeed”.

Note: After Radio silence turn on, the first line of the screen will show , all key tones and channel announcements will be turned off.

1.2.2 Keypad Tone

If desired, you can activate and deactivate keystrokes on the keyboard. The menu function operates as follows:

1) Press [MENU] key to enter the main menu.

2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.

3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.

4) Press [▲] / [▼] key to Tones/Alerts, then press [MENU] to select.

5) Press [▲] / [▼] key to Keypad Tone, then press [MENU] to select.

6) Press [MENU] key to “KeyTone On”, then Press [MENU] key to confirm that the key Beep is enabled. The display shows “KeyTone is set”.

• or Press [MENU] key to “KeyTone Off”, then Press [MENU] key to confirm turning off the keyboard sound. The screen displays “KeyTone is set”.

1.2.3 Channel Notify

If needed, you can activate and deactivate the channel Notify feature.

The menu function operates as follows:

1) Press [MENU] key to enter the main menu.

2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.

3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.

4) Press [▲] / [▼] key to Tones/Alerts, then press [MENU] to select.

5) Press [▲] / [▼] key to Channel Notify, then press [MENU] to select.

6) Press [MENU] key to “On”, then Press [MENU] key to confirm that the Channel Notify is enabled. The display shows “Setting is OK”.

• or Press [MENU] to “Off”, then Press [MENU] key to confirm turning off Channel Notify. The screen indicates “Setting is OK”.

Note: After the channel Notify is turned on, when the radios is switched on or the channel is switched, the current channel number will be broadcasted.

1.3 TX Power

This function can achieve quick switch of high/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 radios away from distance, and then please choose high power. According to the preprogrammed [Adjust Power Level] shortcut keys, switch transmitting power of the current channel between high/low. You can set the transmitting power level of each channel to be high or low. The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to TX Power , then press [MENU] key to select.
- 5) Follow the screen prompt to change the current Settings.
- 6) Press [MENU] key to select new power level.

•Return to the previous menu. Press [BACK] key return to the home screen, and screen displays the power level icon.

Note: An “H” above the screen indicates the current high power; “L” indicates the current low power.

1.4 Backlight

You can turn on or off the screen backlight of the radios 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.

1.4.1. Backlight Switch Setting

The menu functions as follows: :

- 1) Press [MENU] key to enter the main menu.
 - 2) Press [▲] / [▼] key to Settings, then press [MENU] to select.
 - 3) Press [▲] / [▼] key to Radio settings, then press [MENU] to select.
 - 4) Press [▲] / [▼] key to Backlight, then press [MENU] to select.
 - 5) The screen displays "Always" and "Timer" option. Press [▲] / [▼] key to select " Always ", then press [MENU] to select.
 - 6) If you select “Always”, press the [MENU] key to enable the backlight normally open function, then the screen backlight will be always on and always lit
- If select “Timer”, Press [MENU] key to confirm the auto lock keypad function.

1.4.2 . Backlight Delay Time Setting

The backlight delay time setting applies only to the backlight timing mode. The menu function operates as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then press [MENU] to select.
- 3) Press [▲] / [▼] key to Radio settings, then press [MENU] to select.
- 4) Press [▲] / [▼] key to Backlight, then press [MENU] to select.
- 5) The screen displays “Backlight” and “BLT Time Delay” options. Press [▲] / [▼] key to select “BLT Time Delay” and Press [MENU] key to select.
- 6) The screen shows “Backlight Delay XX(s)”, press [▲] / [▼] to select more appropriate delay time (05 to 15 seconds optional), then press [MENU] to confirm backlight delay setting, and back to the upper menu.

Note: If the backlight is set to time off, if you select 5S to 15S, the screen will turn off the screen backlight after the corresponding time without any user operation.

1.5 Squelch

You can adjust the squelch level of radios, 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.

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.

- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to Squelch, then press [MENU] key to select.
- 5) Choose “Tight” or “Normal”, then press [MENU] key to select. Press [BACK] key return to the home screen.

1.6 Intro Screen

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

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to Intro Screen, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to select “Char String” or “Picture”, then press [MENU] key to enable the corresponding boot screen.

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

1.7 Keypad Lock

You can lock the radio keypad to prevent accidental keystrokes.

1.7.1 Keypad Lock Switch

Methods include manual keypad locking and automatic keyboard locking; among them the automatic keypad locking includes 5S, 10S, and 15S three time options.

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to the Keypad Lock, then press [MENU] key to select.
- 5) The screen displays "KeyPad Lock Switch" and "KeyPad Delay Time" option. Press [▲] / [▼] key to select "KeyPad Lock Switch", then press [MENU] to select.
- 6) If select "Manual", Press [MENU] key to confirm the function of the manual lock keypad.
 - If select "Auto", Press [MENU] key to confirm the auto lock keypad function.

1.7.2 Keypad Lock Delay Time

Keypad lock delay time setting applies only to the automatic lock keyboard. The menu function operates as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.

4) Press [▲] / [▼] key to the Keypad Lock, then press [MENU] key to select.

5) The screen displays "KeyPad Lock Switch" and "KeyPad Delay Time" option. Press [▲] / [▼] to select "Keypad Delay Time", then press [MENU] key to select.

6) The screen displays "Keypad Delay XX(s)", press [▲] / [▼] key to select the appropriate delay time (5 to 15 seconds optional), then press [MENU] key to confirm the lock delay time Settings, the screen shows "Setting is OK" and back to the upper menu.

Note: If set to manual lock keyboard, lock or unlock the keyboard by pressing the pre-programmed [Keypad Lock] shortcut key. If set to automatically lock the keypad, the keypad will automatically lock when the user has no keypad operation within the corresponding time. Unlock the keypad by pressing the pre-programmed [Keypad Lock] shortcut key.

1.8 Language

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

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to Language, then press [MENU] key to select.

5) Press [▲] / [▼] key to select the corresponding language, then press [MENU] key to select. The screen shows the language selected and returns to the main screen.

Note: When select Chinese, if channel notify is turned on, the channel number will be notify to Chinese. When select English, if channel notify is turned on, the channel number will be notify to English.

1.9 LED Indicator

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

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to LED Indicator, then press [MENU] key to select.
- 5) The screen displays "On", press [MENU] key to enable the LED indicator light, and the screen displays "All Leds ON".

- Or the screen shows "Off" and press [MENU] key to turn off the LED indicator light, the screen displays "All Leds OFF".

Note: If the LED indicator is turned off, The transmitting and receiving indicators will be turned off.

1.10 VOX Settings

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 [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 [▲] / [▼] Key
- Perform the following procedure

Note: Enabling or disabling this function that is limited to radio of activating these functions.

1.10.1 VOX Function Switch

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to VOX, then press [MENU] key to select.
- 5) The screen displays "VOX SW" and "Gain Level" option. Press [▲] / [▼] key to select "VOX SW", then press [MENU] key to select.
- 6) If you select "On", Press [MENU] key to enable the VOX function.

- If you select "Off", Press [MENU] key to cancel the VOX function.

1.10.2 Gain Level

The higher the gain level, the higher the voice level, and the lower the sensitivity. The louder the voice volume is, the higher the voice control level is. The menu function operates as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to VOX, then press [MENU] key to select.
- 5) The screen displays "VOX SW" and "Gain Level" option. Press [▲] / [▼] key to select "Gain Level", then press [MENU] key to select.
- 6) Press [▲] / [▼] key to select the appropriate gain level value, and then press [MENU] key to select. The screen displays "Setting is OK".

Note:Please adjust the voice control gain level correctly according to the current environment, the user's normal speech volume, etc., so as to avoid frequent accidental triggering of voice control (high sensitivity) or difficulty in triggering voice control (low sensitivity).

- The voice-activated transmit gain level can be modified by the write frequency software, level 1 is the highest sensitivity level, and level 9 is the lowest sensitivity level.

1.11 Clock Settings

The real-time clock is used by the terminal to display local time in real time, view time details and set time format. The clock settings are divided into:

- time
- date

Note:The radios clock setting can also be automatically calibrated by the RTC function of the write frequency software.

1.11.1 Time Settings

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to Clock, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to Time, then press [MENU] key to select, which indicates the current time.
- 6) Press [MENU] key to enter time setting mode.
- 7) Press [▲] / [▼] key to move and choose the number that needs to be changed, the selected number will be displayed in reverse, then type the corresponding number to change time through numeric keypad.
- 8) Press [MENU] key to save, screen display time saved.

1.11.2 Date Settings

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to Clock, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to Date, then press [MENU] to select, which indicates the current date.
- 6) Press [MENU] key to enter date setting mode.
- 7) Press [▲] / [▼] to move and choose the number that needs to be changed, the selected number will be displayed in reverse, then type the corresponding number to change date through numeric keypad.
- 8) Press [MENU] to save, screen display date saved.

1.12 Private Call Match

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to PrivateCall Match, then press [MENU] key to select.

5) The LCD indicate "ON/OFF" options, press [▲] / [▼] key to select ,then press [MENU] key to save, and select the matched type.

- Select"ON" to start the match of Private Call.
- Select"OFF"to over the match of Private Call. After turn off the Private Call match function, it will not need to match all the Private Call ID and can communicate directly.

1.13 Match group call

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
 - 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
 - 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
 - 4) Press [▲] / [▼] key to GroupCall Match, then press [MENU] key to select.
 - 5) The LCD screen indicate "ON/OFF" options, press [▲] / [▼] key to select ,then press [MENU] key to save, and select the matched type.
- Select"ON" to start the match of group call.
 - Select"OFF"to over the match of group call. After turn off the group call match function, it will not need to match all the Group Call ID and can communicate directly.

1.14 Recorder (optional)

NOTE: The recording function of this unit is optional and depends on the firmware version. The lower version may not support the recording function. The recording of this unit only supports recording in digital channel or digital mode. The recording function will effectively record the entire process of the call and save the call to the terminal. This unit can record up to 5 hours. If you need a larger capacity recording, please contact your dealer.

1.14.1 Turn ON-OFF the Recording

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
 - 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
 - 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
 - 4) Press [▲] / [▼] key to Record, then press [MENU] key to select.
 - 5) Press [▲] / [▼] key to Setting, then press [MENU] key to select.
 - 6) Press [▲] / [▼] key to enter into option of "ON/OFF", then press [MENU] key to select.
- After start the voice recorder function, the radio will record for every call, and save into the record menu.
 - If necessary, can ask dealer to pre-programmed the [Record] key to turn on or turn off the function.

1.14.2 Recording Selection

The voice recorder for this radio can be select to receive record, or transmit record, or receive and transmit record.

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
 - 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
 - 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
 - 4) Press [▲] / [▼] key to Record, then press [MENU] key to select.
 - 5) Press [▲] / [▼] key to Setting, then press [MENU] key to select.
 - 6) Press [▲] / [▼] key to enter into the Record Sel, then press [MENU] key to select.
 - 7) The LCD screen will indicate choice of "Rx Record、Tx Record、Rx/Tx Record", press [▲] / [▼] key to select, and then press [MENU] to confirm.
- If select "Rx Record", only record the incoming call during the communication;
 - If select "Tx Record", only record the outgoing call during the communication;
 - If select "Rx/Tx Record", record both incoming call and outgoing call during the communication.

1.14.3 Recording List Check and Playback

Voice recording list management including record playback, record deletion, record properties view.

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to Record, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to enter into List, then press [MENU] key to select.
- 6) The LCD screen will indicate the catalog of recorders, press [▲] / [▼] key to select the record file, and then press [MENU] key to select.
 - If select “Play”, the LCD screen will indicate the record play and playback the select record;
 - If select “Delete”, the record will be deleted;
 - If select “Detail”, you can check the ID, call in/call out, date, time, record duration etc.

1.14.4 Voice recorder Deletion

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to Record, then press [MENU] key to select.

5) Press [▲] / [▼] to enter into Delete All, then press [MENU] to select.

6) The LCD screen will indicate “Are you sure?”, and then press [MENU] key to select, all the recorded files will be deleted.

1.15 GPS Positioning Function (Optional with installed GPS)

The GPS function of this radio is optional. If your radio has GPS function, please refer to the following instructions to set the GPS programming software. The GPS function of this radio supports US GPS system.

Note: After turning on the GPS function, the power consumption of the whole radio will increase by about 30mA. Please turn on this function according to actual needs.

GPS positioning function operation path:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Settings, then Press [MENU] key to select.
- 4) Press [▲] / [▼] key to GPS, then press [MENU] key to select.

1.15.1 Switch GPS positioning function

Operate the menu function as follows:

- 1) Press [▲] / [▼] key to GPS On/Off, then press [MENU] key to select.

2) Press [▲] / [▼] key to select ON, then press the [MENU] key to confirm the GPS function is turned on, and the icon will be displayed on the first line of the screen.

•Or select OFF, and then press the [MENU] key to confirm the GPS function is turned off.

Note: The GPS positioning function of this radio is optional and depends on the firmware version. When the GPS function is turned on, the icon will be displayed on the first line of the screen.

1.15.2 View GPS location

After the GPS positioning function is turned on and the GPS positioning information is received, the icon will be displayed on the first line of the screen. You can view the location information, including the location of longitude, latitude, speed, altitude and other information.

Operate the menu function as follows:

1) Press [▲] / [▼] key to Position, and then press [MENU] to select.

2) The screen displays the longitude and latitude of the current location.

Note: The accuracy of positioning information may be affected by weather, cloud and other environments. The first positioning may take 30-60 seconds, and the positioning is limited to outdoor.

2. Radio Information

Search the radio information, including: radio number (the name of the owner and serial number for the radio) and the radio version (firmware version, CPS version) etc.

Press [BACK] to return to the previous screen at anytime.

2.1 Check the Radio ID

The menu functions as follows:

1) Press [MENU] key to enter the main menu.

2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.

3) Press [▲] / [▼] key to Radio Info, then press [MENU] key to select.

4) Press [▲] / [▼] key to enter into My Number, then press [MENU] key to select.

5) The LCD screen will indicate the owner's name and radio ID.

2.2 Check the Radio Version

Check and indicate the radio is firmware version and CPS version information.

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then Press [MENU] key to select.
- 3) Press [▲] / [▼] key to Radio Info, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to enter into VerSions, then press [MENU] key to select.
- 5) The LCD screen will indicate the current firmware version and CPS version.

3. Radio Configuration

The radio configuration is mainly to edit the channel content.

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

3.1 Receiving Frequency

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Program Radio, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to Rx Frequency, then press [MENU] key to select.
- 5) The LCD screen will indicate the receiving frequency of current channel, then press [MENU] key to select.

6) Press [BACK] key to delete the previous number bit by bit, and input the corresponding receive frequency by pressing the number keys.

7) After the change is completed, Press [MENU] key and the LCD screen indicate the "Setting is OK".

Note: When the frequency editing is changed, the frequency is changed according to the frequency range set on the program software. If it is less than or less than the frequency range set on the program software, it will remind "out of range".

3.2 Transmitting Frequency

The menu functions as follows:

- 1) Press [▲] / [▼] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Program Radio, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to Tx Frequency, then press [MENU] key to select.
- 5) The LCD screen will indicate the transmitting frequency of current channel, then press [MENU] key to select.
- 6) Press [BACK] key to delete the previous number bit by bit, and input the corresponding transmitting frequency by pressing the number keys.
- 7) After the change is completed, Press [MENU] key and the LCD screen indicate the "Setting is OK".

Note: When the frequency editing is changed, the frequency is changed according to the frequency range set on the program software. If it is less than or less than the frequency range set on the program software, it will remind "out of range".

3.3 Transmit Time-Out Timer

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

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Program Radio, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to Time Out Timer, then press [MENU] key to select.
- 5) The LCD screen indicates "TOT(s):XXX", press [▲] / [▼] key to the corresponding option(additive increase in the range of 5S), then press [MENU] key to select.

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

3.4 Transmitting Contacts

Transmitting contactor only can be modified under the digital channels.

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then press [MENU] to select.
- 3) Press [▲] / [▼] key to Program Radio, then press [MENU] to select.
- 4) Press [▲] / [▼] key to Tx Contact, then press [MENU] to select.
- 5) Press [▲] / [▼] key to select the transmitting contacts in the list, then press [MENU] key to select. The LCD screen will indicate "Setting is OK" and return to the previous menu.

3.5 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. The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Program Radio, then press [MENU] key to select.

4) Press [▲] / [▼] key to Color Code, then press [MENU] key to select.

5) Press [▲] / [▼] key to select a color code values (0~15) to be set, then press [MENU] key to select. The LCD screen will indicate "Setting is OK" and return to the previous menu.

3.6 Time Slot

The time slot is a time slot for selecting a voice call and data transmission, and the set time slot value is time slot1 or time slot2. The dual time slot function can only be set under the digital channel.

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Program Radio, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to Time Slot, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to select the time slot, then press [MENU] key to select. The LCD screen will indicate "bs time slot has been set" and return to the previous menu.

Note: Use the dual-capacity direct mode, the host digital channel can be configured to be on or off. This mode supports parallel direct mode transmission of two radios, and the two transmissions are within the channel bandwidth

of 12.5 kHz. The radios in the same distribution group must use the same time slot, and the group using time slot 1 will not interfere with the group using time slot 2.

3.7 CTCSS/DCS

CTCSS/DCS can be set only under the analog channel, including:

- CTCSS/DCS encode
- CTCSS/DCS decode

3.7.1 Transmitting CTCSS/DCS

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Program Radio, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to CTC/DCS, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to Tx CTC/DCS, then press [MENU] key to select.
- 6) The LCD screen indicates options of "None/CTCSS/DCS_N/DCS_I", press [▲] / [▼] key to None, and press [MENU] key to select, then will be no CTCSS transmitting, the LCD indicates "Setting is OK";
 - Or press [▲] / [▼] key to CTCSS, and press [MENU] key to select CTCSS, press [▲] / [▼] key to select the corresponding data, and press [MENU] key to confirm the setting, the LCD indicates "Setting is OK";

- Or press [▲] / [▼] key to DCS_N , and press [MENU] key to select positive DCS, press [▲] / [▼] key to select the corresponding data, and press [MENU] to confirm the setting, the LCD indicates“Setting is OK”;
- Or press [▲] / [▼] key to DCS_I , and press [MENU] key to select reverse DCS, press [▲] / [▼] key to select the corresponding data, and press [MENU] key to confirm the setting, the LCD indicates“Setting is OK”.

3.7.2 Receiving CTCSS/DCS

The menu functions as follows:

- 1) Press [MENU] key to enter the main menu.
- 2) Press [▲] / [▼] key to Settings, then press [MENU] key to select.
- 3) Press [▲] / [▼] key to Program Radio, then press [MENU] key to select.
- 4) Press [▲] / [▼] key to CTC/DCS, then press [MENU] key to select.
- 5) Press [▲] / [▼] key to Rx CTC/DCS, then press [MENU] key to select.
- 6) The LCD screen indicates options of “None/CTCSS/CD-C_N/DCS_I”, press [▲] / [▼] key to None, and press [MENU] key to select, then will be no CTCSS receiving, the LCD indicates“Setting is OK”;
- Or press [▲] / [▼] key to CTCSS , and press [MENU] key to select CTCSS, press [▲] / [▼] key to select the corresponding data, and press [MENU] key to confirm the setting, the LCD indicates“Setting is OK”;

- Or press [▲] / [▼] key to DCS_N , and press [MENU] key to select positive DCS, press [▲] / [▼] key to select the corresponding data, and press [MENU] to confirm the setting, the LCD indicates“Setting is OK”;
- Or press [▲] / [▼] key to DCS_I , and press [MENU] key to select reverse DCS, press [▲] / [▼] key to select the corresponding data, and press [MENU] key to confirm the setting, the LCD indicates“Setting is OK”.

MAIN TECHNOLOGICAL SPECIFICATION

General	
Frequency Range	136-174MHz (V) , 400-470MHz (U)
Channel Capacity	1024 channels
Channel Spacing	25KHz(Wide Band), 12.5KHz(Narrow Band)
Phase-locked Step	5KHz, 6.25KHz
Frequency Stability	±2.5ppm
Operating Temperature	-30℃ ~ +60℃
Operating Voltage	7.4V DC±20%/(2200mAh)
Demission (H×W×D)	133×62×36mm (no including the antenna)
Weight	About 274g (Include in battery and antenna)
Transmission	
Output power	High:5W Low:1W
Output Consumption	Analog≤1.6A Digital≤0.9A
Consumption	≤0.18A
FM modulation (wide/narrow)	16KφF3E@25KHz 141KφF3E@20KHz 11KφF3E@12.5KHz
4FSK digital modulation	12.5KHz for data:7K60FXD 12.5KHz for data and voice :7K60FXE
Modulation Distortion	<5%
Signal-to-noise(wide/narrow)	≥45dB@25KHz ≥40dB@12.5KHz
Adjacent Channel power	≤-65dB ≤-60dB
Audio Response	+1 ~ -3dB
Antenna Port Spurious	9KHz-1GHz: ≤-36dBm 1GHz-12.75GHz: ≤-30dBm
Digital Protocol	ETSI-TS102 361-1,-2,-3
Vocoder Type	AMBE+2™

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

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.

Programming guide

The programming software and codeplug programming guide are available for download from BAOFENG website:
<https://www.baofengradio.com>

When programming this radio for the first time, it is recommended you first READ the radio with the software and then save this file for future reference as it contains the default programming and settings. In addition, after you READ this radio with software, first make you programming and frequency changes, and then write the edited file to your radio.

You will need the programming cable to connect your radio to your computer for programming.

To perform firmware upgrade, press the # key and turn on the power and volume switches to enter firmware upgrade mode.

Multiple Radio ID's

This DMR radios will allow multiple DMR Radio ID numbers to be used with radio. This feature will allow one radio to be used for example as a Commercial Radio with its own DMR ID, and at the same time also be used as an Amateur radio with another DMR ID.

In PC software, Digital/ Radio ID List, you can enter your Department Unit Number or Amateur Radio callsign.

Amateur DMR-MARC

For the best Amateur DMR experience obtain a subscriber

ID from one of many available Amateur Radio sources. A U.S. Amateur can obtain a DMR ID From:

<https://www.radioid.net/cgi-bin/trbo-database/register.cgi>

For DMR repeaters in your area please see: www.repeaterbook.com

World DMR repeater network map:

<https://www.repeaterbook.com/index.php/repeater-database>

World DMR repeater network with verified Talk-groups by activity:

<https://brandmeister.network/?page=1h>

Worldwide Amateur Contact Database

This DMR radios contain a separate database memory for importing and displaying Amateur DMR individual IDs, call sign and user name in comma-delimited format (.csv) Please reference in the programming guide for import and export database operations detailed.

User List Contact Database: <https://ham-digital.org/status/>

Worldwide Amateur Contact Database

This DMR radios contain a separate database memory for importing and displaying Amateur DMR individual IDs, call sign and user name in comma-delimited format (.csv) Please reference in the programming guide for import and export database operations detailed.

User List Contact Database: <https://ham-digital.org/status/>

Disposal of your Electronic and Electric Equipment

Products with the symbol (crossed-out wheeled bin) cannot be disposed as household waste. Electronic and Electric Equipment should be recycled at a facility capable of handling these items and their waste by products. In EU countries, please contact your local equipment supplier representative or service center for information about the waste collection system in your country.

Disclaimer

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