Preface

Thanks for your favor in our product. To derive optimum performance from the product, please read this manual and the supplied Safety Information Booklet carefully before use.

This manual is applicable to the following model:

PD79X Ex (X may indicate 2, 5, 6 or 8)

Instructional Icons

The following icons are available through this manual:

Alert Icons

Caution: indicates situations that could cause damage to your product.

Note: indicates tips that can help you make better use of your product.

Function Icons

: indicates functions that are available on digital channel only.

: indicates functions that are available on analog channel only.

Functions marked with no function icons are available on both analog and digital channels.

Term Explanation

Key Operation

- Short press: to press a key and release it quickly.
- Long press: to press a key and remain holding it down for a predefined period (2 seconds by default).
- Hold down: to press a key and remain holding it down.

Private Call

Private Call is a call initiated by a single user to another user.

Group Call

Group Call is a call initiated by a single user to a group.

All Call

All Call is a call initiated by a single user to all the other users on a channel.

Squelch

This technology can remove excessive background noises, improving your communication quality.

PTT ID

PTT ID, namely radio identity, allows a radio with display or the control center to identify the calling party.

Copyright Information

Hytera is the trademark or registered trademark of Hytera Communications Co., Ltd. (the Company) in PRC and/or other countries or areas. The Company retains the ownership of its trademarks and product names. All other trademarks and/or product names that may be used in this manual are properties of their respective owners.

The product described in this manual may include the Company's computer programs stored in memory or other media. Laws in PRC and/or other countries or areas protect the exclusive rights of the Company with respect to its computer programs. The purchase of this product shall not be deemed to grant, either directly or by implication, any rights to the purchaser regarding the Company's computer programs. Any of the Company's computer programs may not be copied, modified, distributed, decompiled, or reverse-engineered in any manner without the prior written consent of the Company.

The AMBE+2^{TM} voice coding technology embodied in this product is protected by intellectual property rights including patent rights, copyrights and trade secrets of Digital Voice Systems, Inc. This voice coding technology is licensed solely for use within this product. The user of this technology is explicitly prohibited from attempting to decompile, reverse engineer, or disassemble the Object Code or in any other way convert the Object Code into a human readable form.

U.S. Patent Nos. #6,912,495 B2, #6,199,037 B1, #5,870,405, #5,826,222, #5,754,974, #5,701,390, #5,715,365, #5,649,050, #5,630,011, #5,581,656, #5,517,511, #5,491,772, #5,247,579, #5,226,084 and #5,195,166.

Disclaimer

The Company endeavors to achieve the accuracy and completeness of this manual, but no warranty of accuracy or reliability is given. All the specifications and designs are subject to change without notice due to continuous technology development. No part of this manual may be copied, modified, translated, or distributed in any manner without the express written permission of us.

If you have any suggestions or would like to learn more details, please visit our website at: http://www.hytera.com.

RF ENERGY EXPOSURE AWARENESS AND CONTROL INFORMATION, AND OPERATIONAL INSTRUCTIONS FOR FCC OCCUPATIONAL USE REQUIREMENTS

BEFORE USING YOUR PORTABLE 2-WAY RADIO, READ THIS IMPORTANT RF ENERGY AWARENESS AND CONTROL INFORMATION AND OPERATIONAL INSTRUCTIONS TO ENSURE COMPLIANCE WITH THE FCC'S RF EXPOSURE GUIDELINES

NOTICE: This radio is intended for use in occupational/controlled conditions, where users have full knowledge of their exposure and can exercise control over their exposure to meet FCC limits.   This radio device is NOT authorized for general population, consumer, or any other use.

This 2-way radio uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance.   It uses radio frequency (RF) energy or radio waves to send and receive calls.   RF energy is one form of electromagnetic energy. Other forms include, but are not limited to, electric power, sunlight and x-rays. RF energy, however, should not be confused with these other forms of electromagnetic energy, which when used improperly can cause biological damage.   Very high levels of x-rays, for example, can damage tissues and genetic material.

Experts in science, engineering, medicine, health and industry work with organizations to develop standards for exposure to RF energy. These standards provide recommended levels of RF exposure for both workers and the general public. These recommended RF exposure levels include substantial margins of protection. All 2-way radios marketed in North America are designed, manufactured and tested to ensure they meet government established RF exposure levels. In addition, manufacturers also recommend specific operating instructions to users of 2-way radios. These instructions are important because they inform users about RF energy exposure and provide simple procedures on how to control it.   Please refer to the following websites for more information on what RF energy exposure is and how to control your exposure to assure compliance with established RF exposure limits.

http://www.fcc.gov/oet/rfsafety/rf-faqs.html
http://www.osha.gov/SLTC/radiofrequencyradiation/index.html

Federal Communications Commission Regulations

The FCC rules require manufacturers to comply with the FCC RF energy exposure limits for portable 2-way radios before they can be marketed in the U.S. When 2-way radios are used as a consequence of employment, the FCC requires users to be fully aware of and able to control their exposure to meet occupational requirements.   Exposure awareness can be facilitated by the use of

a product label directing users to specific user awareness information. Hytera's 2-way radio has a RF exposure product label. Also, Hytera's user manual, or product manual, or separate safety booklet includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Compliance with RF Exposure Standards

Hytera's 2-way radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) for human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% transmitting and is authorized by the FCC for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode. Note: The approved batteries supplied with this radio are rated for a 5-5-90 duty factor (5% talk-5% listen - 90% standby), even though this radio complies with the FCC occupational RF exposure limits and may operate at duty factors of up to 50 % talk.

Hytera's 2-way radio complies with the following RF energy exposure standards and guidelines:
• United States Federal Communications Commission, Code of Federal Regulations; 47 CFR §§ 1.1307, 1.1310, 2.1091 and 2.1093
• 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 Edition

RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits always adhere to the following procedures.

Guidelines:
• Do not remove the RF Exposure Label from the device.
• User awareness instructions should accompany device when transferred to other users.
• Do not use this device if the operational requirements described herein are not met.

Operating Instructions:

• Transmit no more than the rated duty factor of 50 % of the time. To transmit (talk), push the Push-To-Talk (PTT) button. To receive calls, release the PTT button. Transmitting 50 % of the time, or less, is important because this radio generates measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance).

• Hold the radio in a vertical position in front of face with the microphone (and the other parts of the radio, including the antenna) at least one inch (2.5 cm) away from the nose. Keeping the radio at the proper distance is important because RF exposures decrease with distance from the antenna. Antenna should be kept away from eyes.

• When worn on the body, always place the radio in a Hytera's approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of Hytera's or other manufacturer's non-approved accessories may result in exposure levels, which exceed the FCC's occupational/controlled environment RF exposure limits.

• If you are not using a body-worn accessory and are not using the radio in the intended use position in front of the face, then ensure the antenna and the radio are kept at least 2.5 cm (one inch) from the body when transmitting. Keeping the radio at the proper distance is important because RF exposures decrease with increasing distance from the antenna.

• Use only manufacturer's name approved supplied or replacement antennas, batteries, and accessories. Use of non-manufacturer-name approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.

• For a list of Hytera's approved accessories (see the user manual), or (visit the following website which lists approved accessories: www.hytera.cn

IC satatement

Operation is subject to the following two conditions: 1. This device may not cause harmful interference, and 2. This device must accept any interference received, including interference that may cause undesired operation.

Note: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

RF Radiation Information

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;

FCC Regulations

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

Operational Instructions and Training Guidelines

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

(1) Your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.

(2) Keep the radio at least 2.5 centimeters away from your body during transmission.

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.

CE 1313 ①

Safety Instructions

To protect you against any property loss, bodily injury or even death,

be sure to observe the following safety instructions:

- Use only the Ex-battery BL1807-Ex specified by the Company. The use of other batteries may result in Ex-protection failure.
- Charge the battery in a non-hazardous area only with the designated charger.
- Use the accessories specified by the Company only.
- Do not carry any standby battery into a hazardous area.
- Do not use a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn may result.
- Do not expose the radio to direct sunlight for a long time, nor place it close to a heating source.
- Hold the radio upright and keep its microphone 2.5 to 5 centimeters away from your mouth during use.
- If you wear a radio on your body, ensure its antenna is at least 2.5 centimeters away from your body during transmission.
- Do not carry the radio into Division 0.
- Do not disassemble the radio or replace the accessories in a hazardous area.
- Do not modify the intrinsically safe radio in any way . Unauthorized modification of the radio may result in termination of Ex-protection.

Contents

Checking Items in the Package

Please unpack carefully and check that all items listed below are received. If any item is missing or damaged, please contact your dealer.
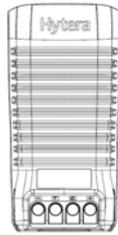
Radio Unit	Battery	Charger
Power Adapter	Antenna	Belt Clip
Strap	Manuals	
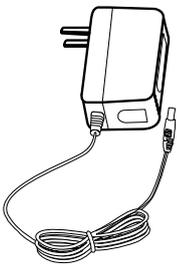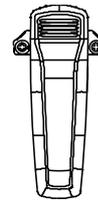
Note: The antenna may vary with different frequency bands. And the frequency band is marked on the label of antenna; if not, please refer to the label on the terminal for frequency band information.

Product Overview

Product Controls
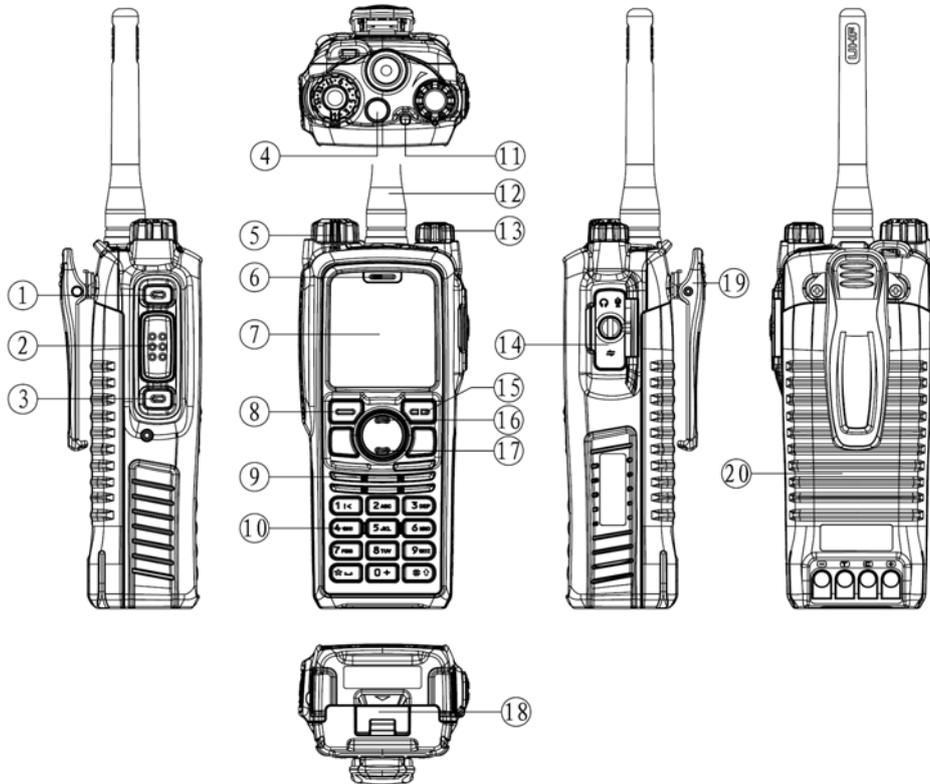
No.	Part Name	No.	Part Name
①	SK1 (Side Key 1)	⑪	LED Indicator
②	PTT Key	⑫	Antenna
③	SK2 (Side Key 2)	⑬	Radio On-Off/Volume Control Knob
④	TK (Top Key)	⑭	Accessory Jack
⑤	Channel Selector Knob	⑮	Back Key
⑥	Microphone	⑯	Up Key
⑦	LCD Display	⑰	Down Key
⑧	OK/Menu Key	⑱	Battery Latch

⑨	Speaker	⑲	Belt Clip
⑩	Numeric Keypad	⑳	Battery

Programmable Keys

For enhanced convenience, you may request your dealer to program the keys **SK1**, **SK2**, **TK**, and

as shortcuts to the functions listed below:

No.	Shortcut Key	Function
1	Zone Up	To select a desired zone quickly
2	Zone Down	
3	Keypad Lock	To lock or unlock the keypad quickly
4	Contact List	To access the menu "Contact List" quickly
5	Message	To access the menu "Message" quickly
6	Call Log	To access the menu "Call Logs" quickly
7	Adjust Power Level	To adjust power level quickly
8	Talk Around	To directly communicate with other radios
9	Monitor	To adjust the condition for incoming signal match
10	Monitor Momentary	
11	Squelch Off	To always unmute speaker no matter whether carrier is present or not
12	Squelch Off Momentary	
13	Home Screen	To quickly return to the previous menu or home screen
14	Scan	To receive signals on other channels
15	Nuisance Temporary Delete	To temporarily ignore unwanted channel activity
16	Emergency	To summon help in emergent situations
17	Adjust Squelch Level	To temporarily adjust the squelch threshold required for the radio to unmute
18	Battery Strength Indicator	To indicate the battery strength
19	Man Down	To activate Emergency in the case that the radio is positioned aslant for a preset time period due to an unexpected situation

| 20	Scrambler /Encrypt	Scrambler: To encrypt your voice so as to guarantee privacy of your communication Encrypt: To encrypt your voice and message so as to guarantee privacy of your communication
21	Lone Worker	To protect the operators from accidents
22	One Touch Call 1-5	To make appropriate services quickly
23	Status	To access the menu "Status List" quickly (for 5-Tone)
24	Telemetry	To supervise remote devices
25	DTMF Keypad	To enter or exit the DTMF keypad mode (In the DTMF Keypad mode, you can enter a number via the keypad to make a phone call.)
26	Phone List	To access the menu "Phone List" quickly
27	Roam	To communicate between sites in the IP Multi-site Connect system.

Note:

● Long and short press of a key can be assigned with different functions by your dealer.

● The **TK** is programmed as the **Emergency** key by default, and is programmable by your dealer.

Before Use

Charging the Battery

Use only the charger and battery specified by us. Charger LED can indicate the charging process.

Charging Diagram
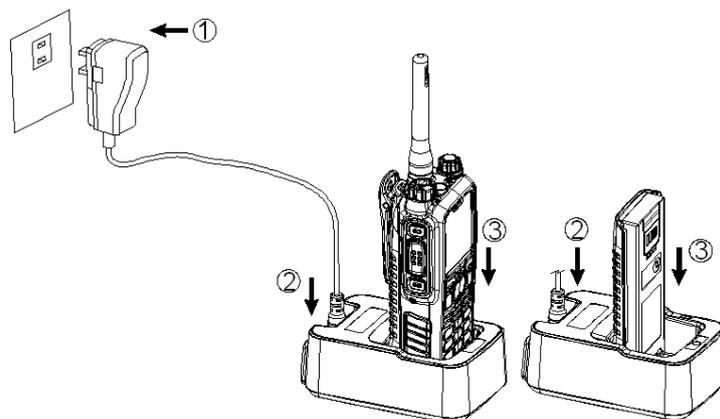
Procedures

1. Connect the power adapter to AC socket. See arrow ①.

2. Plug the power adapter into the rear jack of the charger. See arrow ②.

3. Place the radio with the battery attached, or the battery alone, into the charger.

4. The charging process begins when the charger LED glows red. When charging is complete, the charger LED glows green.

Note: To achieve optimal battery performance, please charge the battery for 5 hours before initial use.

LED Indicator

LED Indicator	Charger Status
Red LED flashes slowly.	Standby (no load)
Red LED glows.	Charging
Orange LED glows.	90% charged
Green LED glows.	Fully charged
Red LED flashes rapidly.	Failure

Caution: Be sure to read the Safety Information Booklet, to get necessary safety information.

Assembling Accessories

Assembling the Antenna

Turn the antenna clockwise to fasten it.
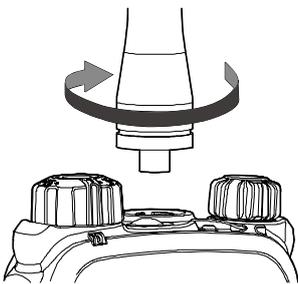
To remove the antenna, rotate it counter-clockwise.

Assembling the Battery

1. Align the battery with the guide rails on the radio, and slide it in the direction as indicated by ②.
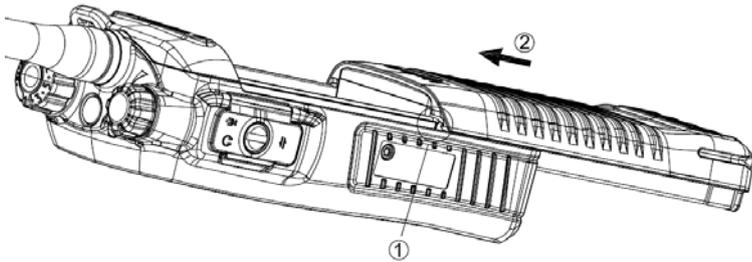
2. Open the battery latch and hold it down until the metal lock goes into the battery housing completely.
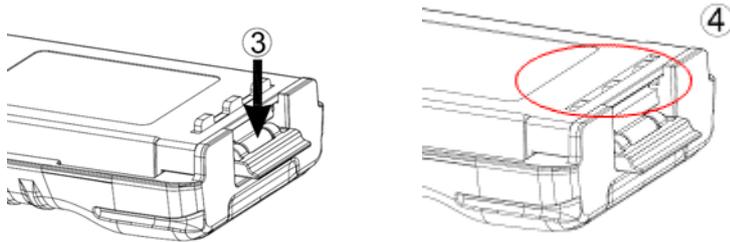
3. Push the battery until it is fully fitted into the slot, and then release the battery latch.

To remove the battery, please power off the radio first. Then open the battery latch, and slide the battery out while holding down the battery latch.

Assembling the Belt Clip

1. Remove the screws.

2. Align the screw holes on the belt clip with those on the radio's body, and then tighten the screws.
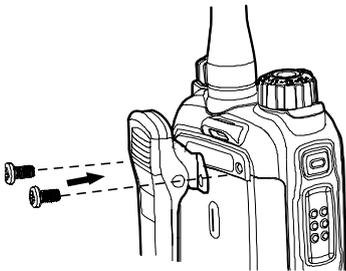
To remove the belt clip, loosen the screws.

Assembling the Audio Accessory/Programming Cable

1. Open the accessory jack cover as the arrow shown.

2. Align the plug with the accessory jack.

3. Tighten the screw on the plug.
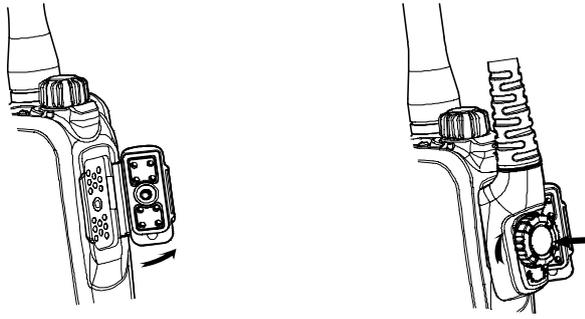
To remove accessories, loosen the screw.

⚠️ **Caution:** Please attach the accessory properly; otherwise, waterproof performance of the radio may get affected.

Status Indication

LCD Icon

♦ Status Icon

Icon Name	Icon	Radio Status
RSSI		No signal
		More bars indicate better signal strength
Message Icon		New message/unread message
		InBox is full
Scan Icon		Scanning is in progress
		Scanning pauses on a non-priority channel
	P₁	Scanning pauses on Priority Channel 1
	P₂	Scanning pauses on Priority Channel 2
TX Power Icon	L	Low TX power for the current channel
	H	High TX power for the current channel
Battery Strength Icons		More bars indicate more battery power
Monitor Icon		The Monitor feature is active
Speaker Icon		The speaker is unmuted
Emergency Icon		The Emergency mode (other than secret emergency) is active or an emergency message is received
Accessory Icon		An accessory is connected
GPS Icon		The GPS feature is active, and valid GPS data is received
		The GPS feature is active, but no valid GPS data is received
Scrambler/Encrypt Icon		The Scrambler/Encrypt feature is active

Missed Call Icon	📞	A call is missed
DTMF Keypad Icon	⊞	The DTMF keypad is enabled
Roam Icon		Roaming is in progress

✧ **Operation Mode Icons**

Icon Name	Icon	Operation Mode
Operation Mode Icons	DM	Direct Mode: Under this mode, radios communicate with each other directly
	RM	Repeater Mode: Under this mode, radios communicate with each other via a repeater

LED Indicator

The top LED indicator will help you easily identify the current radio status.

LED Indication	Radio Status
LED flashes green.	Powering on
LED glows red.	Transmitting
LED glows green.	Receiving
LED flashes orange slowly.	Scanning
LED flashes orange rapidly.	Emergency
LED glows orange.	Call ended

Basic Operations

Turning the Radio On/Off

Rotate the **Radio On-Off/Volume Control** knob clockwise/counter-clockwise until a click is heard to turn the radio on/off .

Adjusting the Volume

After turning the radio on, rotate the **Radio On-Off/Volume Control** knob clockwise to increase the call volume, or counter-clockwise to decrease it.

Selecting a Zone

A zone is a group of channels exhibiting the same property, and is programmed by your dealer. The radio supports up to 64 zones, each with a maximum of 16 channels. You may select a zone through any of the following methods:

1. Through menu selection

Go to the menu "Zone", and use the **Up/Down** key to select your desired zone.

2. Through the function keys

You may quickly toggle to your desired zone by pressing the programmed **Zone Up** or **Zone Down** key.

Selecting a Channel

After turning the radio on, rotate the **Channel Selector** knob to select a desired channel. If you enable the Channel Notify feature via "Menu -> Settings -> Radio Set -> Tone ->Channel Notify", your radio will broadcast the channel number. The channel notifying language (only Chinese and English are available currently) is preset by your dealer.

Switching the Channel Mode

Each channel can be programmed as either analog channel or digital channel. If the current zone includes both analog and digital channels, you may quickly switch between digital and analog through the **Channel Selector** knob.

Locking/Unlocking the Keypad

When the keypad is not in use, you can lock the keypad to prevent accidental keypad operation. The following methods are available for you to lock or unlock the keypad:

1. Through key combination

Use "**OK**+ $\boxed{* \:\llcorner}$ " to lock or unlock the keypad.

2. Through the function key

Press the programmed **Keypad Lock** key to lock or unlock the keypad.

3. Through menu selection

Go to "Settings -> Radio Set -> Keypad Lock", and then select "Enable" or "Disable".

Enable: The keypad will be locked automatically if no operation is made within the preset time period.

Disable: The keypad will not be locked automatically. However, you can lock or unlock the keypad via the key combination or **Keypad Lock** key mentioned above.

Note: When the Keypad Auto Lock feature is enabled, the keypad will be locked automatically if no operation is made within the preset time period. You can use the "Disable" option in the menu "Keypad Lock" to deactivate the Keypad Auto Lock feature.

Call

To ensure an optimal volume of the receiving radio, hold the radio approximately 2.5 to 5 centimeters away from your mouth.

Private Call

Transmitting a Private Call

You may transmit a Private Call through any of the following methods. When transmitting a Private Call, the icon will appear.

- Transmitting a call to the preset contact

In the home screen, hold down the **PTT** key to transmit a Private Call to the Private Call contact preset for the current channel.

 Note: Your dealer may preset a contact for each digital channel. The preset contact could be a Private Call contact, a Group Call contact or an All Call contact.

- Transmitting a call through Contact List or Call Logs

1) Go to "Contact -> Contact List", or go to "Call Logs" and access the Outgoing/Incoming/Missed list.

2) Use the **Up/Down** key to select the Private Call contact you want to call.

3) Hold down the **PTT** key to transmit the Private Call.

- Through manual input

1) Go to "Contact -> Manual Dial".

2) Input a Private Call contact you want to call.

3) Hold down the **PTT** key to transmit the Private Call.

 Note:

- If your radio supports Private Call Manual Dial and Group Call Manual Dial, you can switch between them by pressing . The LCD will display appropriate ID.

- If the Default Numeric Key Selection feature is enabled by your dealer, you can enter a Private Call number in the home screen, and then hold down the **PTT** key to transmit the Private Call. However, if the DTMF keypad is enabled, the number entered in the home screen is a phone number. You can dial the Private Call number through the menu "Manual Dial" only.

Receiving and Responding to a Private Call

When a Private Call is received, your radio will display the icon .

You may hold down the **PTT** key within the preset time period to call back. If you do not respond to a received Private Call, your radio will provide appropriate indications.

 Note:

- If the Display Missed Call feature is enabled by your dealer, your radio will display the missed call icons and .

- If the Display Missed Call feature is not enabled by your dealer, your radio will display the missed call icon only.

Group Call

Transmitting a Group Call

You may transmit a Group Call through any of the following methods. When transmitting a Group Call, the icon will appear.

- Transmitting a call to the preset contact

In the home screen, hold down the **PTT** key to transmit a Group Call to the Group Call contact preset for the current channel.

- Transmitting a call through Contact List

（1） Go to "Contact -> Contact List".

（2） Use the **Up/Down** key to select the Group Call contact you want to call.

（3） Hold down the **PTT** key to transmit the Group Call.

- Through manual input

1) Go to "Contact -> Manual Dial".

2) Input a Group Call contact you want to call.

3) Hold down the **PTT** key to transmit the Group Call.

 Note:

- If your radio supports both Private Call Manual Dial and Group Call Manual Dial, you can switch between them by pressing . The LCD will display appropriate ID.

- If the Default Numeric Key Selection feature is enabled by your dealer, you can enter a Group

Call number in the home screen, and then hold down the **PTT** key to transmit the Group Call. However, if the DTMF keypad is enabled, the number entered in the home screen is a phone number. You can dial the Group Call number through the menu "Manual Dial" only.

Receiving and Responding to a Group Call

When a Group Call is received, your radio will display the icon .

You may hold down the **PTT** key within the preset time period to call back.

All Call

Transmitting an All Call

Two methods are available for transmitting an All Call: transmitting a call to the preset contact; transmitting a call through Contact List. They are the same as those in *Transmitting a Group Call*. When transmitting an All Call, the icon will appear.

 Note: You can transmit an All Call only when it is enabled by your dealer.

Receiving an All Call

When an All Call is received, your radio will display the icon .

 Note: You cannot respond to an All Call.

Calls on Analog Channels

To transmit a call, press and hold down the **PTT** key, and speak into the microphone. To receive, release the **PTT** key.

Phone

If the repeater is connected with a PSTN gateway (such as Zetron M30), the radio can communicate with the phone via it.

Operation:

● **Transmitting a phone call:**

1. Enter the DTMF keypad mode. The following methods are available to enter this mode.
   ● Go to "Menu -> Phone – Manual Dial" to enter the DTMF keypad mode.

- Press the programmed **DTMF Keypad** key.
- Go to "Menu -> Phone -> DTMF Keypad", and then select "Enable". The number entered via the keypad in the home screen is the DTMF code.

2. Access the phone system. When the phone system is accessed successfully, the radio goes to the DTMF keypad mode again.

   The following methods are available to access the phone system.
   - Live Dial: Hold down the **PTT** key and enter the access code via the keypad. Then release the **PTT** key, and the radio beeps.
   - Buffer Dial: Enter the access code via the keypad, and hold down the **PTT** key. The radio beeps and displays the dialing information.

3. Enter the phone number to be called.
   - Live Dial: Hold down the **PTT** key and enter the phone number via the keypad. Release the **PTT** key after the complete number is entered.
   - Buffer Dial: Enter the phone number via the keypad and then hold down the **PTT** key.
   - Select "Back". Then go to "Menu -> Phone ->Phone List" to select a desired contact, and hold down the **PTT** key.

4. After the call is established, you can hold down the **PTT** key to talk, and release it to listen.

5. To end the call, you can send the de-access code to exit the phone system.

   If the phone is hung up, the call will be ended and the phone system will be exited too.

- **Receiving a phone call:**

When the radio receives a phone call, the icon will appear.

You may hold down the **PTT** key within the preset time period to call back. If you do not respond to it, your radio will provide appropriate indications.

 Note:

- If the Display Missed Call feature is enabled by your dealer, your radio will display the missed call icons and .

- If the Display Missed Call feature is not enabled by your dealer, your radio will display the missed call icon only.

Menu Navigation
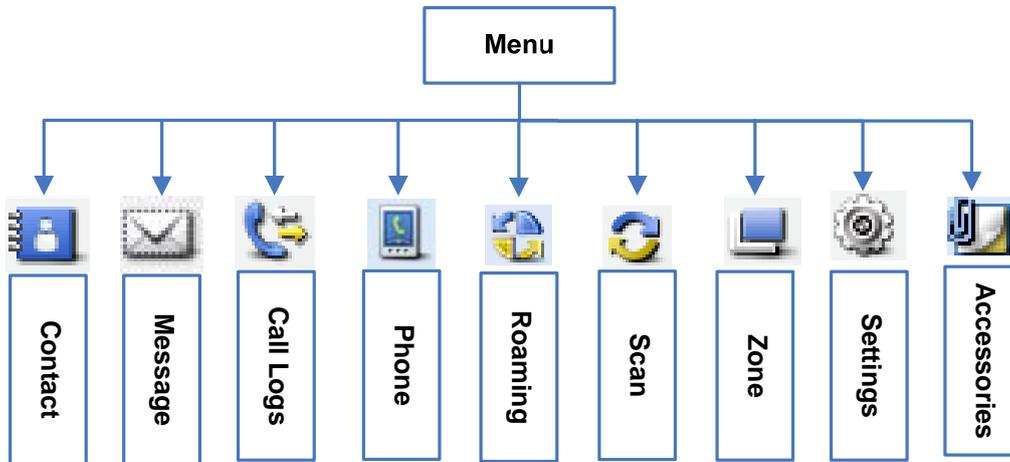
This radio supports menu reset function, that is, if you do not operate the menu for a predefined time period, the radio will automatically return to the home screen.

Contact

To access this item, press the **Menu** key in the home screen and then select "Contact".

✧ **Contact List**

You can save up to 512 entries in the list. To access this item, select "Contact -> Contact List" or press the shortcut key for Contact List.

Ctrl Services

You can send to a Private Call contact the following commands: alert call, radio check, remote monitor, radio enable or radio disable. See the Manual Dial below for details.

Editing a Contact

You can edit the number and alias of each Private Call contact.

Viewing a Contact

You can view details of each contact.

Deleting a Contact

You can delete a Private Call contact. However, please note that you can not delete the contact when there is only one entry left in the list. In addition, the Private Call contact preset on the currently used channel cannot be deleted.

✧ **New Contact**

You can add a Private Call contact to the contact list. 。The number and alias of each contact must be unique, and the available number range is 1-16776415.

✧ **Manual Dial**

You can manually input the required number for calling. On a digital channel, if your radio supports both Private Call Manual Dial and Group Call Manual Dial, you can switch between them by pressing

[# ↑] . The LCD will display appropriate ID.

For a Private Call number, you can select any of the following options:

Alert Call

You can send an alert call to a Private Call contact. The called party will see the alert and can call you back.

Radio Check

You can send a Radio Check command to a Private Call contact, so as to confirm whether it is powered on or running on the current channel without disturbing it.

Remote Monitor

You can enable the microphone of a Private Call contact, and monitor its activities or background voice remotely.

Radio Enable

You can enable the radio of a Private Call contact remotely and allow it to be used normally.

Radio Disable

You can disable the radio of a Private Call contact remotely and disallow it to be used normally.

Message

To access this item, press the **Menu** key in the home screen and then select "Message", or press the shortcut key for Message directly.

◇ **New Msg**

You can create your desired text message (256 characters at most) and send it to an individual user or to a talk group.

◇ **Quick Text**

Under this option there are some text messages (25 entries at most) preset by your dealer. You can choose to edit and send any entry.

◇ **InBox**

The InBox can save up to 20 received messages. When the InBox is full, the icon will appear, and the earliest message will be overwritten by the latest one automatically.

For each message, you can choose to perform any of these operations: Reply, Forward, View Details and Delete.

To delete all messages in the InBox, select "Message -> InBox -> Delete All".

◇ **OutBox**

The OutBox can save up to 20 sent messages. When the OutBox is full, the earliest message will be overwritten by the latest one automatically.

For each message, you can choose to perform any of these operations: Resend, Forward, View Details and Delete.

To delete all messages in the OutBox, select "Message -> OutBox -> Delete All".

◇ **Drafts**

The Drafts can save up to 20 draft messages. When the Drafts is full, the earliest message will be overwritten by the latest one automatically.

For each message, you can choose to perform any of these operations: Send, Save and Delete.

To delete all messages in the Drafts, select "Message -> Drafts -> Delete All".

Call Logs

To access this item, press the **Menu** key in the home screen and then select "Call Logs", or press the shortcut key for Call Logs directly.

This radio can save up to 10 private call entries in the Outgoing/Incoming/Missed list respectively. When the Outgoing/Incoming/Missed list is full, the oldest entry will be overwritten by latest one automatically.

After accessing a list and selecting an entry, you can perform any of these operations: hold down the **PTT** key to initiate a call; add it to Contact List; or delete it.

To delete all entries in the Outgoing/Incoming/Missed list at a time, select "Call Logs -> Outgoing/Incoming/Missed -> Delete All".

Phone

To access this item, press the **Menu** key in the home screen and then select "Phone".

◇ **Phone List**

To store phone contacts.

◇ **Manual Dial**

You can manually input a phone number to make a phone call. For details, please refer to *Functions and Operations -> Phone* in the manual.

◇ **DTMF Keypad**

To enable or disable the DTMF keypad. If enabled, the number entered via the keypad in the home screen is the DTMF code.
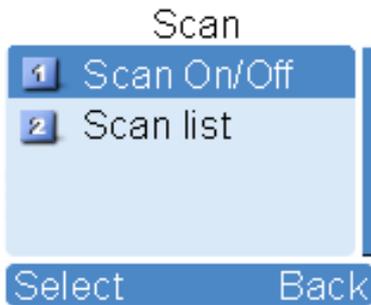
Roaming

To enable or disable the Roam feature.

Scan

To access this item, press the **Menu** key in the home screen and then select "Scan".

◇ **Scan On/Off**

The Scan feature allows you to listen to communication activities on other channels so that you can keep a close track of your team members. This option is used to enable or disable the function.

◇ **Scan List**

You can request your dealer to create a scan list for each channel. Each list may contain 32 channels at most (either digital channel or analog channel is OK). After accessing the list, you can perform any of the following operations:

Adding a Channel

To include a new channel into the active scan list.

Editing Priority Channel

To set the selected channel as a non-priority or as a priority channel. If you are interested in activities on a channel, you can set it as a priority channel, which will be scanned more frequently than a non-priority channel.

Each scan list may contain two priority channels at most. P1 indicates priority channel 1, and P2 indicates priority channel 2.

Deleting a Channel

To remove a channel from the active scan list. However, the first channel in the list can not be deleted.

Zone

To access this item, press the **Menu** key in the home screen and then select "Zone".
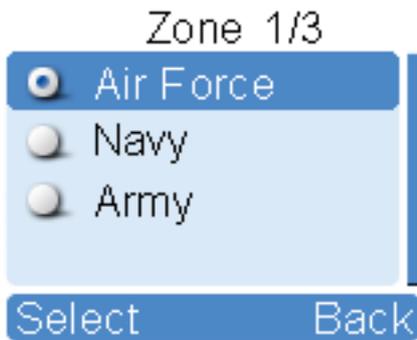
This radio supports up to 64 zones. You can use this menu to select your desired zone.

Settings

To access this item, press the **Menu** key in the home screen and then select "Settings".

◇ **Radio Set**

You can optimize your radio performance by customizing related parameters according to actual needs and your preferences.

Power Level

This option allows you to set TX power level. Alternatively, you can change the power level by pressing the shortcut key for Adjust Power Level in the home screen.

There are two levels available: High (indicated by [H]) and Low (indicated by [L]). High power level enables you to communicate with farther team members.

Note: Power level should be set for each channel individually.

Squelch

This option allows you to select an appropriate squelch level. Alternatively, you can change the squelch level by pressing the shortcut key for Adjust Squelch Level in the home screen. There are three levels available: Tight, Normal and Open. The default squelch level is "Normal", and is often

used in low noise environment.

And generally, "Tight" is used in high noise environment. It requires stronger signal for the radio to unmute. If the squelch level is set to Open, the speaker will keep unmuted irrespective of the satisfaction of decoding conditions.

Scrambler

To set whether to enable the Scrambler feature.

Encrypt

To set the Encrypt feature.

On/Off

To set whether to enable the Encrypt feature.

Key List

To select your desired encrypt key. The radio supports 30 keys in all.

New Key

To create a new key.

Key ID

You can create a new key ID, which consists of numbers only, in the range of 1-255.

Key Alias

You can create an alias for this new key. The alias can contain 16 characters at most, composed of Chinese characters, English letters, numbers and symbols.

Note: The key alias cannot be the same with the key ID.

Key Length

You can edit the length of this new key.

Key Value

You can edit the key value, which can consist of numbers and letters A-F (within the predefined key length).

Save

You can save and add the new key to the key list.

Note: If you need to delete a key, please request your dealer for help.

Language

To set the language in which all interface information is displayed.

Backlight

To set the backlight parameters. There are three options available: On, Off and Timer. The timer is programmed by your dealer. Available range: 5-60 seconds.

Brightness

This option allows you to set the display brightness. You can raise or lower it using the **Up/Down** key.

Keypad Lock

This option allows you to set whether to enable this function. When "Enable" is selected, you can use the **Up/Down** key to set the time range after which the keypad will be locked. Available range: 5-60 seconds.

LED

To set whether to enable LED indication.

Tone

To set alert tones for your radio. You can set the following tones:

Radio Silent: to set whether the radio will give tone indication. If Silent On is selected, all tone indication will be cancelled.

Keypad: to set whether the radio will give tone indication when you are making keypad operations.

TextMsg: to set whether the radio will give tone indication when the radio receives a message.

Private Call: to set whether the radio will give tone indication when the radio receives a Private Call.

Group Call: to set whether the radio will give tone indication when the radio receives a Group Call.

Talk Permit: to set whether the radio will give tone indication for transmission. The following options are available: Disable (no tone indication for transmission), Digital Only (tone indication for transmission on digital channels only), Analog Only (tone indication for transmission on analog channels only), and Enable (tone indication for transmission on both analog and digital channels).

Call End: to set whether the radio will give tone indication when a call is completed.

Voice End: to set whether the radio will give tone indication after completion of voice receiving.

Low Battery: to set whether the radio will give tone indication when the radio works at low battery.

Channel Notify: to set whether the radio will broadcast the channel number upon channel switching. The radio broadcasts the channel number only if the channel is switched via the

Channel Selector knob. Currently, the available channel notifying languages are Chinese (for Chinese menu only) and English (for menus in languages other than Chinese).

Signaling Side: To set whether the radio will sound continuous tone during signaling transmission. It is available for call in HDC1200/5-Tone/2-Tone system.

Man Down (optional)

To set whether to enable the Man Down feature.

Lone Worker

To set whether to enable the Lone Worker feature.

◇ **Device Info**

With this option, you can view basic information of your radio, including serial number, radio model, frequency range, firmware version and etc.

Accessories

To access this item, press the **Menu** key in the home screen and then select "Accessories".

◇ **GPS**

GPS Switch

To set whether to enable the GPS feature.

Note: Enabling the GPS feature will shorten the operating time of the battery.

Position

With this option, you can view longitude, latitude, time, date, speed, altitude and SA (satellite) information of your radio.

GPS Text Message

If the GPS feature is enabled, you can send the GPS text message to your desired contact.

Operation:

1. Select "GPS Msg", and press the **OK** key to access the menu "Contact List".

2. Use the **Up/Down** key to select a desired contact.

3. Press the **OK** key to send the GPS message to the selected contact.

Time Zone

You can choose your time zone to correct the received GPS time. We recommend you to set the time zone before your initial use of this feature.

You can select a desired time zone via the User Define method as per your actual needs. The available time zone options are the same as those for the PC. For example, if the time at your location is 5.45 hours earlier than GMT, then you can select "GMT+5.45" as your time zone.

Functions and Operations

Home Screen

The feature allows you to quickly return to the previous menu or the home screen.

Operation:

In the editing screen, press the programmed **Home Screen** key, and the radio exits the screen and returns to the previous menu immediately; in other screens, press the key, and the radio returns to the home screen immediately.

Scan

The Scan feature allows you to listen to communication activities on other channels so that you can keep a close track of your team members.

Operation:

1. To enable the feature, you can select "On" from the menu "Scan"; or

    Press the programmed **Scan** key in the home screen; or

    Switch to a channel for which the Auto Scan feature is enabled via the programming software.

2. After the feature is enabled, your radio will scan according to the scan list set for the channel on which scanning starts. The scanning process is as follows:

    ● During scanning, the LCD displays the icon   , and the LED flashes orange slowly.

    ● When activities are detected on a channel, the radio will stay on the channel to receive current activities.　If your radio stays on a non-priority channel, the LCD will display the icon ; if on Priority Channel 1 or Priority Channel 2, the LCD will display the icon P₁ or P₂ respectively.

- If you don't want to hear activities on the channel, press the programmed **Nuisance Temporary Delete** key to remove the channel from the scan list temporarily.

- If you want to continue staying on the channel, press the programmed **Monitor** or **Squelch Off** key during scan stay.

3. To exit the scanning process, you can select "Off" from the menu "Scan", or press the programmed **Scan** key again.

Talk Around

You can continue to communicate in DM mode by pressing the programmed **Talk Around** key, when your repeater malfunctions, or when your terminal is out of the repeater's range but within talking range of other terminals.

Operation:

Press the programmed **Talk Around** key to switch between DM mode and RM mode.

Monitor

To adjust match conditions for signal receiving, you can enable the Monitor feature.

Operation:

- ✧ Press the programmed **Monitor** key to enable the feature, and the radio displays icon   . To disable the feature, press this key again.

- ✧ Hold down the programmed **Monitor Momentary** key to enable the feature, and the mobile radio displays icon   . To disable the feature, release this key.

Squelch Off

If the Squelch Off feature is enabled, your radio's speaker will keep unmuted no matter whether carrier is present.

Operation:

- ✧ Press the programmed **Squelch Off** key to enable the feature. Then the radio displays the icon   and sounds background noise.   To disable the feature, press this key again.

35

✧ Hold down the programmed **Squelch Off Momentary** key to enable the feature. Then the radio displays the icon ◁)) and sounds background noise. To disable the feature, release this key.

Roam

This feature allows the radio to communicate between sites in the IP Multi-site Connect system. If enabled, the radio can communicate via any site in the IP Multi-site Connect system, thus ensuring seamless communication in the system.

Operation:

Go to "Menu -> Settings -> Radio Set-> Roam", and select "Enable" or "Disable".

Press the programmed **Roam** key to enable or disable the feature.

One Touch Call

You can request your dealer to set the **One Touch Call** key. By pressing such programmed key, you can make corresponding services detailed as below:

● Services on the analog channel: to send calls to the 5-Tone or 2-Tone contact.

● Services on the digital channel:

■ To send group calls or messages to the Group Call contact.

■ To send private calls, messages or make control services to the Private Call contact.

The control services contain: Alert Call, Radio Check, Remote Monitor, Radio Enable or Radio Disable. For details on control services, please refer to *Menu Navigation -> Contact -> Manual Dial* in the manual.

Operation:

Service	Operation
To send private calls/group calls on the digital channel.	Press the **One Touch Call** key and then hold down the **PTT** key.
● To send calls on the analog channel. ● To send messages. ● To make control services on the digital channel.	Press the **One Touch Call** key.

Telemetry

This feature allows you to remotely supervise the device connected with a radio. With this feature, you can control the device and view its status in the case that you are away from the device.

The method for supervising the device is programmable by your dealer. The available methods are:

● To supervise the device via the radio

If a device is connected with a radio, you can use another radio to supervise the device. All the radios involved should be configured with the Telemetry feature. For example, the dealer enables the Telemetry feature for both Radio A and Radio B, and assign the Telemetry feature to the **SK1** key on Radio A. To supervise the device C, connect it with Radio B, and press the **SK1** key on Radio A.

● To supervise the device via a third-party software

If the Telemetry feature is enabled for the radio by your dealer, you can supervise the device connected with the radio via a third-party software.

Emergency

In case of an emergency, you can use the feature to ask for help from your companion or control center.

The Emergency process has the highest priority. You can make emergency operation even when your radio is transmitting or receiving.

To enable the feature on a channel, an emergency system must be assigned to the channel via the programming software. In addition, the Emergency type, Emergency ID type and Emergency mode are settable via the programming software.

Emergency Type

For each Emergency mode, there are four Emergency types available. You can select one of them via your dealer:

Emergency Type	Description
Siren Only	In Emergency mode, the radio will sound shrill alarm tone and display the icon .
Regular	In Emergency mode, the radio will give audible and visible indication.
Silent	In Emergency mode, the radio won't give any audible or visible indication.
Silent with Voice	In Emergency mode, the radio won't give any audible or visible indication, but will receive voice ACK from the companion or control center automatically.

Emergency ID Type

Your radio supports two Emergency ID types. You can select one of them via your dealer:

Emergency ID Type	Description
None	No signaling is used when the radio sends alarm information.
HDC1200	HDC1200 signaling is used when the radio sends alarm information.

Emergency Mode

Your radio supports three Emergency modes. You can select one of them via your dealer (Note: For the following operation methods, we take the "Regular" type as an example).

Emergency Mode	Description
Alarm	In this mode, you can send alarm information to your companion or control center by pressing the programmed **Emergency** key, but you cannot talk with them.
Alarm with Call	In this mode, you can send alarm information by pressing the programmed **Emergency** key. When the icon (analog channel) or (digital channel) appears, you can speak into the microphone, allowing your voice and background noise to be transmitted automatically (you do not need to hold down the **PTT** key).
Call Only	In this mode, press the programmed **Emergency** key to go to the Revert Channel. When the icon (digital channel) or (analog channel) appears, you can speak into the microphone, allowing your voice and background noise to be transmitted automatically (you do not need to hold down the **PTT** key).

Operation Methods for Analog Emergency

■ **Alarm (None & HDC1200)**

Operation: Press the programmed **Emergency** key to send alarm information. The radio displays the

icon and text information "Sending Alarm", with red LED glowing. (None: If "Local Emergency Alarm" is enabled via the programming software, an alarm tone will sound.)

Three methods are available for you to exit the Emergency mode:

1. Once the Alarm Cycles expire, the radio will exit the Emergency mode automatically.

2. Long press the programmed **Emergency** key.

3. Hold down the **PTT** key. The radio will transmit on the channel on which the radio operates before entering the Emergency mode. (HDC1200)

■ **Alarm with Call (None & HDC1200)**

Operation:

1. Press the programmed **Emergency** key to send alarm information. The radio displays the icon and text information "Sending Alarm", with red LED glowing. (None: If "Local Emergency Alarm" is enabled via the programming software, an alarm tone will sound.)

2. When the icon appears, you can speak into the microphone to make an emergency call.

3. When the icon appears, you can receive. And when a call is received, the icon appears.

4. If the preset Voice Cycles expire, you can hold down the **PTT** key to make the emergency call again (the radio displays the icon , with red LED glowing). After the emergency call is transmitted, release the **PTT** key to receive (the radio displays the icon , with LED flashing orange rapidly). And when a call is received, the icon appears. (HDC1200 only)

Two methods are available for you to exit the Emergency mode:

1. After the preset Alarm Cycles and Voice Cycles expire, the radio will exit the Emergency mode automatically. (None)

2. Long press the programmed **Emergency** key.

■ **Call Only (HDC1200)**

Operation:

1. Press the programmed **Emergency** key to go to the Revert Channel, and the radio displays the icon .

2. If the Alarm with Call to Follow feature is enabled, you can speak into the microphone to make an emergency call when the radio displays the icon .

3. When the icon appears, you can receive. And when a call is received, the icon

appears.

4. If the preset Voice Cycles expire, you can hold down the **PTT** key to make the emergency call again (the radio displays the icon , with red LED glowing). After the emergency call is transmitted, release the **PTT** key to receive (the radio displays the icon , with LED flashing orange rapidly). And when a call is received, the icon appears.

To exit the Emergency mode, long press the programmed **Emergency** key.

 Note: Your dealer may set the number of alarm cycles and alarm duration (None), number of polite retries and impolite retries (HDC1200), number of voice cycles, duration of each transmission and TX interval.

Operation Method for Digital Emergency

■ **Alarm**

Operation: Press the programmed **Emergency** key to send alarm information. The radio displays icon and text information "Sending Alarm", with red LED glowing.

Two methods are available for you to exit the Emergency mode:

1. Once the Alarm Cycles expire, the radio will exit the Emergency mode automatically.

2. Long press the programmed **Emergency** key.

■ **Alarm with Call**

Operation:

1. Press the programmed **Emergency** key to send alarm information. The radio displays icon and text information "Sending Alarm", with red LED glowing.

2. When the icon appears, you can speak into the microphone to make an emergency call.

3. When the icon appears, you can receive. And when a call is received, the icon appears.

4. If the preset Voice Cycles expire, you can hold down the **PTT** key to make the emergency call again (the radio displays the icon , with red LED glowing). After the emergency call is transmitted, release the **PTT** key to receive (the radio displays the icon , with LED flashing orange rapidly).

And when a call is received, the icon appears.

To exit the Emergency mode, long press the programmed **Emergency** key.

■   **Call Only**

Operation:

1. Press the programmed **Emergency** key to go to the Revert Channel, and the radio displays the icon .

2. If the Alarm with Call to Follow feature is enabled, you can speak into the microphone to make an emergency call when the radio displays the icon .

3. When the icon appears, you can receive. And when a call is received, the icon appears.

4. If the preset Voice Cycles expire, you can hold down the **PTT** key to make the emergency call again (the radio displays the icon , with red LED glowing). After the emergency call is transmitted, release the **PTT** key to receive (the radio displays the icon , with LED flashing orange rapidly). And when a call is received, the icon appears.

To exit the Emergency mode, long press the programmed **Emergency** key.

 Note: Your dealer may set the number of polite retries and impolite retries, number of voice cycles, duration of each transmission and TX interval.

Lone Worker

This feature is ideal for persons who work lonely. If you encounter an incident and cannot operate your radio within the preset time period, your radio will alarm automatically to summon help from your companion.

Operation:

1. To enable the feature,

Go to "Menu -> Settings -> Radio Set-> Lone Worker" and select "Enable"; or

Press the programmed **Lone Worker** key (a high-pitched tone sounds); or

Turn on the radio if the feature is enabled via the programming software.If you cannot operate your radio within a preset response period, your radio will give alerts before this period expires (dependent on the settings by your dealer). At this time, you can terminate such alerts by rotating a knob or pressing a key. When the response period expires, your radio will trigger the current emergency system automatically.

3. To disable the feature,

Go to "Menu -> Settings -> Radio Set-> Lone Worker" and select "Disable"; or

Press the programmed **Lone Worker** key (a low-pitched tone sounds).

Note: If the Lone Worker feature is not disabled before your radio is powered off, it will remain enabled when powered on again.

Man Down (optional)

With this feature, your radio will alarm automatically to summon help from your companion if it is positioned aslant for a certain time period.

Operation:

1. To enable the feature,

● Go to "Menu -> Settings -> Radio Set-> Man Down" and select "Enable"; or

● Press the programmed **Man Down** key (a high-pitched tone sounds); or

● Turn on the radio if the feature is enabled via the programming software.

2. Your radio will sound a pre-alert tone if it is positioned aslant for a preset time period, and will enter the Emergency mode if you do not place it vertically within such time period. To exit the Emergency mode, please place it upright.

3. To disable the feature,

● Go to "Menu -> Settings -> Radio Set-> Man Down" and select "Disable"; or

Press the programmed **Man Down** key (a low-pitched tone sounds).

Battery Strength Indicator

This feature allows you to know the current battery strength.

Operation:

Hold down the programmed **Battery Strength Indicator** key, and the radio will give a specific indication

to represent the current battery strength. Release this key to exit.

Indication	Battery Strength Icon	Battery Strength
Green LED glows.		High
Orange LED glows.		Medium
Red LED glows.		Low
Red LED glows and the low battery alert sounds.		Insufficient

Scrambler /Encrypt

The Scrambler/Encrypt feature can encrypt your audio signals to prevent eavesdropping. Thus privacy of your communication is guaranteed.

This Encrypt feature can encrypt your audio signals and messages to prevent eavesdropping. Thus privacy of your communication is guaranteed.

Operation:

● On an analog channel, go to "Menu -> Settings -> Radio Set -> Scrambler" and select "Enable" or "Disable; on a digital channel, go to "Menu -> Settings -> Radio Set -> Encrypt" and select "Enable" or "Disable.Press the programmed **Scrambler/Encrypt** key to enable Scrambler or Encrypt on the current channel (a high-pitched tone sounds); press the key again to disable the feature (a low-pitched tone sounds).

● If the Scrambler/Encrypt feature is enabled for a channel via the programming software, switch to the channel to enable the feature, or exit the channel to disable the feature.

Busy Channel Lockout

If enabled via the programming software, this feature can prevent your radio interfering with other transmitting terminals on the same channel. If you hold down the **PTT** key while the channel is in use, your radio will keep beeping and display text information "Channel Busy", alerting you to transmission prohibition. To stop beeping, please release the **PTT** key. When the channel is free, you can press and hold down the **PTT** key to transmit.

Time-out Timer (TOT)

The purpose of TOT is to prevent any user from occupying a channel for an extended period. If the preset time expires, the radio will automatically terminate transmission and keep beeping. To stop beeping, please release the **PTT** key. You must wait for a certain time period (preset by your dealer) to initiate another transmission.

If the pre-alert function is set by your dealer, your radio will alert you to the TOT expiration in advance.

Note: This feature is null in Emergency mode.

Pseudo Trunking

This feature can be enabled via the programming software. If your radio operates on a channel with this feature enabled and one time slot is already occupied, it can transmit and receive on the other free time slot, allowing you to communicate timely under emergent situations.

MIC AGC

If enabled via the programming software, your radio will process the audio signals during transmission, providing improved audio for the receiving radio.

Radio Registration Service

If enabled via the programming software, your radio will automatically register in the system within a certain period after power-on. Then it can acquire online information of other radios via accessing specific servers within the valid registration period.

GPS Revert

If enabled via the programming software, your registered radio will transfer its positioning information to the system when the system requires such information.

Signaling Introduction

The radio supports the following signaling. You can ask your dealer to make appropriate settings on your radio. For detailed information, please consult your dealer.

HDC1200

The HDC1200 signaling is compatible with the MDC1200 signaling, and realizes functions such as PTT ID (Encoding & Decoding), Emergency (Encoding & Decoding) and Selective Call (Encoding & Decoding).

Encoding:

1. Hold down the **PTT** key during normal voice communication to send PTT ID.

2. Go to the menu "Contact List" and select a required contact. Then hold down the **PTT** key to send a selective call (Private Call/Group Call/All Call).

For encoding, the radio will provide the following indications:

■ PTT ID/Selective Call: Your dealer can program whether the radio sounds side tone during encoding or sounds beeps after encoding.

■ Selective Call: During encoding, the LED glows red, and the LCD displays the appropriate call icon (Private Call: ; Group Call: ; All Call:). After encoding, the LED glows orange.

Decoding:

For decoding, the radio provides the following indications:

■ PTT ID: After decoding, the LCD displays the icon and ID or alias of the transmitting party.

■ Selective Call: After decoding, the radio provides the following indications:

Alert: The radio will sound default alert.

LED: The LED glows green.

LCD: If your dealer enables the Display Decode ID feature, the radio will display the appropriate call icon (Private Call: ; Group Call: ; All Call:) and alias of the transmitting party (ID of the transmitting party will be displayed if it is not in the contact list). If your dealer does not enable the Display Decode ID feature, the radio will display the appropriate call icon only.

5-Tone

This radio can realize various types of calls through 5-Tone signaling.

Encoding:

1. Request your dealer to configure the correct format and type for the encoding contents.

2. When the format consists of fields for variable information, you need to fill in such fields by manual entry or menu operation.

   When the format consists of fixed codes only, you do not have to edit such fields or save such data.

3. Press **PTT** key or the programmed **One Touch Call 1**-**One Touch Call 5** keys to send the 5-Tone signaling.

During encoding, the radio sounds a side tone, the LED glows red, and the LCD displays the contact information (or "Five Tone Call") and an appropriate call icon (Private Call: ; Group Call:). If Auto Reset is enabled (by your dealer), your radio will enter the Auto Reset mode after successful encoding, with LED glowing orange, until the Auto Reset Time expires.

Decoding:

Your radio can automatically decode the 5-Tone signaling when receiving any matched one.

During decoding, the LED glows green. After successful decoding, the LCD displays the contact information (or "Five Tone Call"), an appropriate call icon (Private Call: ; Group Call:), and the decoded status message. If Auto Reset is enabled (by your dealer), your radio will enter the Auto Reset mode, with LED glowing orange, until the Auto Reset Time expires.

2-Tone

With this signaling, the radio can transmit and receive 2-Tone calls.

Encoding:

1. Request your dealer to configure the correct format and type for the encoding contents.

2. Press **PTT** key or the programmed **One Touch Call 1**-**One Touch Call 5** keys to send the 5-Tone signaling.

During encoding, the radio sounds a side tone, the LED glows red, and the LCD displays the call icon with contact information above it. If Auto Reset is enabled (by your dealer), your radio will enter the Auto Reset mode after successful encoding, with LED glowing orange, until the Auto Reset Time

expires.

Decoding:

Your radio can automatically decode the 2-Tone signaling when receiving any matched one.

During decoding, the LED glows green. After successful decoding, the LCD displays the call icon

 and the call type (selective call, alert call w/voice, alert call) below the icon according the decoding type.

If Auto Reset is enabled (by your dealer), your radio will enter the Auto Reset mode, with LED glowing orange, until the Auto Reset Time expires. The radio cannot enter the Auto Reset mode if it is an alert call.

Troubleshooting

Phenomena	Analysis	Solution
The product can not be powered on.	The battery may be improperly installed.	Remove the battery and attach it again.
	The battery may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirtied or damaged battery contacts.	Clean the battery contacts. If the problem can not be solved, contact your dealer or authorized service center for inspection and repair.
During receiving signals, the voice is weak, discontinuous or totally inactive.	The battery strength may be too low.	Recharge or replace the battery.
	The volume may be set to a low level.	Increase the volume.
	The antenna may get loose or may be improperly installed.	Power off the product, and re-install the antenna.
	The speaker may be blocked or damaged.	Clean surface of the speaker. If the problem can not be solved, contact your dealer or authorized service center for inspection and repair.
You can not communicate with other members.	The frequency or signaling may be inconsistent with that of other members.	Set your TX/RX frequency and signaling to the same as that of other members.
	The channel type (digital/analog) may be set inconsistently.	Make sure all members are on the same digital/analog channel.
	You may be too far away from the group members.	Move towards other members.

Irrelevant communication or noise is heard on the channel.	You may be interrupted by products using the same frequency.	Change the frequency, or adjust the squelch level.
	The product may be set with no signaling.	Set signaling for all member products to avoid interference at the same frequency.
The noise is too loud.	You may be too far away from other members.	Move towards other members.
	You may be at an unfavorable position. For example, your communication may be blocked by high buildings or frustrated in the underground areas.	Move to an open and flat area, and restart the product.
	You may suffer from external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
The GPS cannot locate your position.	No GPS signal is received.	Move to an open and flat area, and restart the product.

If the above solutions can not fix your problems, or you may have some other queries, please contact us or your local dealer for more technical support.

Care and Cleaning

To guarantee optimal performance as well as a long service life of the product, please follow the tips below.

Product Care

- Do not pierce or scrape the product.

- Keep the product far away from substances that can corrode the circuit.

- Do not hold the product by its antenna or earpiece cable directly.

- Attach the accessory jack cover when the product is not in use.

Product Cleaning

- Do not clean the product in a hazardous area.

- Clean up the dust and fine particles on the product surface and charging piece with a clean and dry lint-free cloth or a brush regularly.

- Use neutral cleanser and a non-woven fabric to clean the keys, control knobs and front case after long-time use. Do not use chemical preparations such as stain removers, alcohol, sprays or oil

preparations, so as to avoid surface case damage. Make sure the product is completely dry before use.

⚠️ **Caution:** Power off and remove the battery before cleaning.

Specifications

Frequency Range	FCC: 136-174MHz IC:138-174MHz
Channel Capacity	1024 (64 zones, each with a maximum of 16 channels)
Operating Voltage	DC 7.4V
Channel Spacing	25/12.5KHz
Ex-protection Degree	Ex ib IIC T4 Gb Ex ib D21 T4
Weight (with standard antenna & battery)	About 498g
Sensitivity	0.3μV
RF Power Output	1W
Rated Audio Power Output	0.5W
Audio Distortion	3%
Ambient Temperature	-20℃～+50℃
Storage Temperature	-30℃～+60℃
Charging Temperature	0℃～+40℃
Battery	Ex-battery BL1807-Ex (1800mAh)
Battery Life	About 14 hours (5-5-90 duty cycle)
Charging Time	About 4 hours
Max. Charging Voltage	DC 12V

Appendix

Input Method

You can enter aliases, numbers or messages using the keypad. The radio supports the following input methods: Chinese Pinyin (simplified) English and Number.

✧ **Chinese Pinyin (Simplified)**

Operation:

1. Press ⬜ # ↑ to switch to Chinese Pinyin mode.

2. Enter the pinyin through alphanumeric keys; then a list of possible combinations and corresponding characters will appear.

3. Use the **Up/Down** key to choose the right pinyin.

4. Press the **OK** key to highlight the characters, and choose the right character using the **Up/Down** key.

5. Press the **OK** key to enter the selected character.

You can repeat the above steps to continue.

✧ **English**

Operation:

1. Press ⬜ # ↑ to switch to uppercase English or lowercase English mode.

2. Press the key which bear your desired letter repeatedly until the letter appears.

You can repeat the above steps to continue.

✧ **Number**

Operation:

1. Press ⬜ # ↑ to switch to Number mode.

2. Enter the numbers through alphanumeric keys ⬜ 0 + to ⬜ 9 WXYZ .

✧ **Special Character**

To enter common punctuations and special characters, press ⬜ 1 !< .

To input a space, press ⬜ * ⎵ .

Note: You can use the **Up/Down** key to move the cursor leftward/rightward in the entered text.