



DIGITAL PORTABLE RADIO

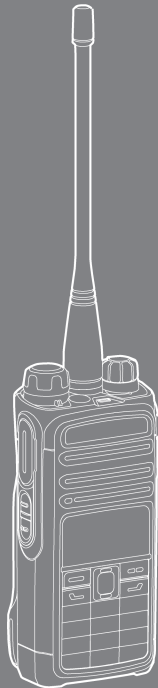
PD48X USER MANUAL

Welcome to the world of Hytera and thank you for purchasing this product. This manual includes a description of the functions and step-by-step procedures for use. It also includes a troubleshooting guide. To avoid bodily injury or property loss caused by incorrect operation, please carefully read the *Safety Information Booklet* before use.

This manual is applicable to the following product:

PD48X Digital Portable Radio (X may represent 2, 5, 6 or 8)

DIGITAL PORTABLE RADIO



Copyright Information

Hytera is the trademark or registered trademark of Hytera Communications Corporation Limited (the Company) in the People's Republic of China (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. 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.

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 technological development. No part of this manual may be

copied, modified, translated, or distributed in any manner without the prior written consent of the Company.

We do not guarantee, for any particular purpose, the accuracy, validity, timeliness, legitimacy or completeness of the third-party products and contents involved in this manual.

If you have any suggestions or would like to receive more information, please visit our website at: <http://www.hytera.com>.

FCC Statement

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

- Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a different circuit to that of the receiver's outlet.
- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- 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.

Compliance with RF Exposure Standards

The 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 and 2.1093
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005; Canada RSS102 Issue 5 March 2015
- Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005 Edition

RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational/controlled environmental 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), press the **Push-to-Talk (PTT)** key. To receive calls, release the **PTT** key. Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy only when transmitting (in terms of measuring for standards compliance).
- Keep the radio unit at least 2.5 cm away from the face. Keeping the radio at the proper distance is important as RF exposure decreases with distance from the antenna. The antenna should be kept away from the face and eyes.

- When worn on the body, always place the radio in an approved holder, holster, case, or body harness or by use of the correct clip for this product. Use of non-approved accessories may result in exposure levels which exceed the FCC's occupational/controlled environmental RF exposure limits.
- Use of non-approved antennas, batteries, and accessories causes the radio to exceed the FCC RF exposure guidelines.
- Contact your local dealer for the product's optional accessories.

IC Statement

The device has been tested and complies with SAR limits, users can obtain Canadian information on RF exposure and compliance.

Après examen de ce matériel aux conformité aux limites DAS et/ou aux limites d'intensité de champ RF, les utilisateurs peuvent sur l'exposition aux radiofréquences et la conformité et compliance d'acquérir les informations correspondantes

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada licence-exempt RSS standard (s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux normes RSS exemptes de licence d'Innovation, Sciences et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, on si le brouillage est susceptible d'en compromettre le fonctionnement.

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

Toute modification ou modification non expressément approuvée par la partie responsable de la conformité pourrait annuler le pouvoir de l'utilisateur d'exploiter l'équipement.

SAR tests are conducted using standard operating positions accepted by the FCC/ISED with the device transmitting at its highest certified power level in all tested frequency bands, although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value.

Before a new model device is available for sale to the public, it must be tested and certified to the FCC/ISED that it does not exceed the exposure limit established by the FCC/ISED. Tests for each device are performed in positions and locations (worn on the body) as required by the FCC/ISED.

For face-up, 25mm was used for test, this equipment should be installed and operated with minimum distance 25mm.

For body worn operation, this device has been tested and meets the FCC/ISED RF exposure guidelines when used with an accessory designated for this product or when used with an accessory that contains no metal.

Non-compliance with the above restrictions may result in violation of RF exposure guidelines.

Les essais SAR sont effectués à l'aide de positions d'exploitation normalisées acceptées par la FCC/ISED avec l'appareil transmettant à son niveau de puissance certifié le plus élevé dans toutes les bandes de fréquences testées, bien que le SAR soit déterminé au niveau de puissance certifié le plus élevé, le niveau réel de R-S de l'appareil pendant son fonctionnement peut être bien inférieur à la valeur maximale.

Avant qu'un nouveau dispositif de modèle ne soit disponible à la vente au public, il doit être testé et certifié à la FCC/ISED qu'il ne dépasse pas la limite d'exposition établie par la FCC/ISED, les tests pour chaque appareil sont effectués dans des positions et des emplacements (portés sur le corps) comme l'exige la FCC/ISED.

Pour le face-vers le haut, 25mm a été utilisé pour l'essai, cet équipement doit être installé et actionné avec une distance minimale de 25mm.

Pour un fonctionnement porté sur le corps, cet appareil a été testé et répond aux directives d'exposition RF FCC/ISED lorsqu'il est utilisé avec un accessoire conçu pour ce produit ou lorsqu'il est utilisé avec un accessoire qui ne contient pas de métal.

Le non-respect des restrictions ci-dessus peut entraîner une violation des lignes directrices sur l'exposition aux RF.

EU Regulatory Conformance

As certified by the qualified laboratory, the product is in compliance with the essential requirements and other relevant provisions of 2014/53/EU.

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

Packing List

Please unpack carefully and check that you have received the following items. If any item is missing or damaged, please contact your dealer.

Item	Quantity (PCS)	Item	Quantity (PCS)
Radio	1	Antenna	1
Battery	1	Belt Clip	1
Charger	1	Strap	1
Power Adapter	1	Documentation Kit	1

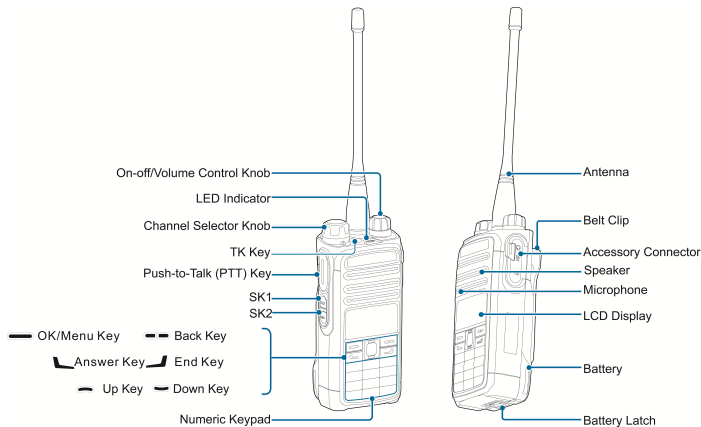


Note

The pictures in this manual are for reference only.

Check whether the frequency band on the antenna label matches that on the radio label. If not, please contact your dealer.

Product Controls



Note

You can request your dealer to program the following keys as shortcuts to radio features: **TK** key, **SK1** key, and **SK2** key. Please consult your dealer for assignable radio features.

Before Use

Charging the Battery

Caution

- Use the approved charger to charge the battery.
- Read the *Safety Information Booklet* before charging.
- The remaining lithium-ion battery power is limited to 30% pursuant to the new lithium battery shipment regulation approved by International Air Transport Association (IATA)

Before initial use, fully charge the battery to ensure optimum performance.

To charge the battery, do as follows:

1. Insert the output connector of the power adapter into the port on the back of the charger.
2. Plug the power adapter into a power outlet.
3. Place the battery into the charger, and then switch the power outlet on.

To determine the charging status, check the light-emitting diode (LED) indicator on the charger according to the following table:

LED Indicator	Charging Status
Flashes red slowly	The battery fails to make proper contact with the charger.
Glows red	The battery is charging.

LED Indicator	Charging Status
Glows orange	The battery is charged to 90% or above.
Glows green	The battery is fully charged.
Flashes red rapidly	The battery fails to be charged.

Note

You can also charge the radio with battery attached. It is recommended that your radio remain turned off during charging.

Attaching the Battery



Note

To remove the battery, make sure that the radio is turned off, and then slide the battery latch upwards.

Attaching the Antenna

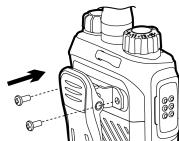


Caution

Do not hold the radio by the antenna, because it may reduce the radio performance and life span of the antenna.

Attaching the Belt Clip

1. Use a Phillips screwdriver to turn the screws counter-clockwise on the back of the radio and remove them.
2. Align the screw holes on the belt clip with those on the back of the radio.
3. Put the screws back in place as shown below, and use the Phillips screwdriver to turn them clockwise until hand tight.



Attaching the Audio Accessory

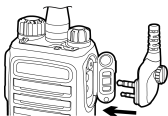
Caution

For optimal waterproof and dustproof performance, close the accessory connector cover and fasten the screw when no accessory is attached.

1. Open the accessory connector cover.



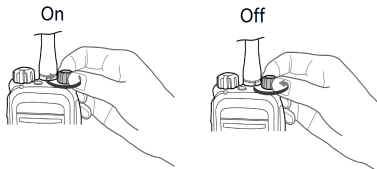
2. Plug the accessory into the accessory connector.



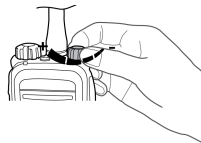
3. Rotate the screw on the accessory plug clockwise until hand tight.

Basic Operations

Turning On or Off the Radio



Adjusting the Volume



Locking or Unlocking Keypad

When the keypad is not in use, it is recommended that you lock it to avoid accidental operations.

To lock or unlock the keypad manually, do one of the following from the home screen:

- Press the preprogrammed **Keypad Lock** key.
- Press the **OK/Menu** key and then press .

To allow the keypad to be locked automatically, enable the Keypad Lock feature as follows:

1. Go to **Menu > Settings > Radio Set > Keypad Lock**.
2. Select **Enable**, and set **Delay Time** by pressing the **Up** or **Down** key.

To disable this feature, select **Disable** under the **Keypad Lock** menu.



Note

In addition, you can go to **Menu > Settings > Radio Set > Optional Key** to set whether the corresponding keys and knobs still work when the keypad is locked.

Inputting via Keypad

You can input alias, contact numbers or messages via the keypad of the radio. Here are some useful tips:

- To switch the input method between alphabetic mode and numeric mode, press
- To enter special characters, press in alphabetic mode or in numeric mode.
- To enter a space, press in alphabetic mode.

Selecting a Zone

A zone is a group of channels with the same property. The radio supports up to 16 zones, with a maximum of 16 channels per zone. To select a zone, do one of the following:

- Go to **Menu > Zone**, press **Up** or **Down** key to select a zone, and then press **OK/Menu** key to switch to the selected zone.
- Press the preprogrammed **Zone Up** or **Zone Down** key to switch to the selected zone.

Selecting a Channel

Data and voices are received and transmitted on a channel. You can rotate the **Channel Selector** knob to select the channel.

Status Indications

LCD Icons

Icon	Radio Status
DM	Direct Mode: The radio transmits and receives directly.
RM	Repeater Mode: The radio transmits and receives through a repeater.
	The number of bars indicates the charge left in the battery.
	There is no signal.
	The number of bars indicates the signal strength.
	The radio is set at low power.

Icon	Radio Status
	The radio is set at high power.
	An accessory is connected.
	The radio is roaming.
	The radio is scanning.
	The radio stays on a non-priority channel.
	The radio stays on priority channel 1.
	The radio stays on priority channel 2.
	The Monitor feature is enabled.
	The speaker is turned on.
	There is/are missed call(s).
	There is/are unread short message(s).
	The InBox is full.
	A private call is in progress or a private contact is on the contact list.
	A group call is in progress or a group contact is on the contact list.
	An all call is in progress or an all call contact is on the

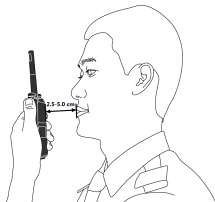
Icon	Radio Status
	contact list.
	GPS is turned on, and the radio can receive the valid GPS data.
	GPS is turned on, but the radio cannot receive the valid GPS data.
	The BT is turned on.
	The BT device is connected..
	The radio is initiating an emergency alarm.

LED Indications

LED Indicator	Radio Status
Flashes green	Being turned on.
Glowes green	Receiving.
Glowes red	Transmitting.
Flashes orange slowly	Scanning or roaming.
Glowes orange	Call hang time: No voice is being transmitted or received on the channel during a call. Within such a period, you can press and hold the PTT key and speak.

Call Services

When you are speaking during a call, keep the microphone about 2.5 to 5 cm away from your mouth. This ensures optimal voice quality on the receiving radio.



Call on Digital Channel

You can initiate or receive the following types of calls on a digital channel:

- Private call: a call from an individual user to another individual user.
- Group call: a call from an individual user in a group to all the other members in the group.
- All call: a call from an individual user to all the other users on the current channel.

You can request your dealer to enable all call feature.

Making a Call

You can make a call in any of the following ways:

- Preset Contact
 1. Rotate the **Channel Selector** knob to select the required channel.
 2. Press and hold the **PTT** key to call the private contact, group contact, or all call contact preset for the selected channel.
- Contact List or Call Log
 1. Press the **OK/Menu** key.
 2. Go to **Contact > Contact List / Favorite Contact** or **Call Logs > Outgoing/Incoming/Missed > Outgoing List/Incoming List/Missed List**.
 3. Press the **Up** or **Down** key to select the required contact.
 4. Press and hold the **PTT** key to call the selected contact.
- Manual Dial
 1. Go to **Menu > Contact > Manual Dial**.
 2. Press **↔** to switch the display between the private contact or the group contact.
 3. Input a contact number and press and hold the **PTT** key to make a call.
- One Touch Call
 1. Press the preprogrammed **One Touch Call Key**.
 2. Press and hold the **PTT** key to call the contact.

The radio displays , , and  for an outgoing private call, group call, and all call respectively.

Receiving and Responding to a Call

When receiving a call, you can listen to it without any operation.

The radio displays , , and  for an incoming private call, group call, and all call respectively.

You can press and hold the **PTT** key and speak within call hang time.

Ending a Call

A private/group call will be ended automatically when the call hang time expires.

An all call will be ended when the caller releases the PTT key.

Call on Analog Channel

You can initiate or receive a call on an analog channel with or without signaling.

Call Without Signaling

A call without signaling is a call made to all the other users on an analog channel without signaling.

To initiate a call without signaling, do as follows:

1. Rotate the **Channel Selector** knob to select the required channel.
2. Press and hold the **PTT** key, and speak into the microphone.

Call With Signaling

On an analog channel with signaling, you can make a call to a specific contact on the channel. Do as follows:

1. Rotate the **Channel Selector** knob to select the required channel.
2. Press the **OK/Menu** key, and go to **Contact > Contact List**.
3. Select the target contact.
4. Press and hold the **PTT** key, and speak into the microphone.

Message Services

The Message feature allows you to view, send, and delete messages.

Viewing a Message

To view received messages or sent messages, do as follows:

1. Press the **OK/Menu** key, and then go to **Message > InBox/OutBox > InBox List/Outbox List**.
2. Select the required message.

Sending a Message

You can send a message or a quick text message, forward a message from the InBox or OutBox, and resend a message from the OutBox.

Sending a New Message

1. Go to **Menu > Message > New Msg**, and then type the text using the keypad.
2. Press the **OK/Menu** key, and then select **Send**.
3. Select the target contact, and then press the **OK/Menu** key.

Sending a Quick Text Message

A quick text message is a frequently used message predefined by your dealer. To send a quick text message, do as follows:

1. Press the **OK/Menu** key, and then go to **Message > Quick Text**.
2. Select the required quick text, and then press the **OK/Menu** key.
3. Select **Send**, and then select the target contact.
4. Press the **OK/Menu** key.

Deleting a Message

To delete a message from the InBox or OutBox, do as follows:

1. Go to **Menu > Message > InBox/OutBox > Inbox List/Outbox List**.
2. Select the required message, and then press the **OK/Menu** key.
3. Select **Delete**, and then press the **OK/Menu** key.

To delete all messages from the InBox or OutBox, do as follows:

1. Go to **Menu > Message > InBox/OutBox**.
2. Select **Delete All**, and then press the **OK/Menu** key.

Supplementary Features

Basic Settings

You can press the **OK/Menu** key, go to **Settings > Radio Set**, and then perform the following operations:

If you want to...	Then...
Switch to or from direct mode	Select Talk Around , and then select Enable or Disable .
Adjust the power level	Select Power Level , and then select one of the following as required: ● Hight Power: Enables communication with distant radios but consumes more battery power. ● Low Power: Enables communication with close radios and saves battery power.
Set the backlight	Select Backlight , and select one of the following as required: ● Off: The backlight remains off. ● On: The backlight remains on. ● Timed: The backlight automatically goes out if no operation or activity is performed within the

If you want to...	Then...
	preset period.
Turn on or off the LED indication	Select LED , and then select Enable or Disable .
Turn on or off a specific tone	1. Select Tone, and then select the required tone. 2. Select On/Off, and then select Enable or Disable.
Turn off all visible and audible indications	Select Covert Mode , and then select On .

Contact Management

You can manage the Favorites list and Contact List.

Adding a Contact

To add a contact to the Contact List, do as follows:

1. Go to **Menu > Contact > New Contact > Input ID/Edit ID**.
2. Enter the ID using the keypad, and then press the **OK/Menu** key.
3. Select **Input Alias/Edit Alias**, and enter the alias using the keypad.
4. Press the **OK/Menu** key, and then select **Save**.

To add a frequently used contact to the Favorites list, do as follows:

1. Go to **Menu > Contact > Favorites > Add Contact**.
2. Select the required contact, and press the **OK/Menu** Key.



Note

The ID and alias of a new contact must be unique.

Deleting a Contact

To delete a contact from one of the above lists, do as follows:

1. Select the required contact from the corresponding list.
2. Select **Delete Contact**, and then press the **OK/Menu** key.

Scan

The Scan feature allows you to listen to activities on a channel, keeping track of your team members. With this feature enabled, the radio searches the scan list preset for the current channel and stays on a channel with activities.

Turning On or Off the Scan Feature

To turn on or off the Scan feature, go to **Menu > Scan > Scan On/Off**, and then select **On** or **Off**.

With the Scan feature enabled, the radio displays , and the LED indicator slowly flashes orange. When detecting activities on a channel, the radio stays on it, and the LED indicator glows green. When the radio stays

on a non-priority channel, it displays . When the radio stays on a priority channel 1 or 2, it displays  or .

Selecting a Scan List

To select a scan list, do as follows:

1. Go to **Menu > Scan > Scan List**.
2. Select the required scan list, and then press the **OK/Menu** key.

Time-out Timer

The Time-out Timer (ToT) feature allows the radio to stop transmission automatically and keep beeping when the period preset by your dealer expires. To stop beeping, release the **PTT** key. You need to wait for a certain period (also preset by your dealer) to start transmission again.

This feature aims to prevent a radio user from occupying a channel for an extended period and to avoid radio damage due to overheating.

Busy Channel Lockout

The Busy Channel Lockout feature allows the radio to keep beeping when you press and hold **PPT** key when the current channel is occupied by other radios. When the current channel is idle, you can transmit by pressing and holding **PPT** key.

The Busy Channel Lockout feature aims to prevent interference from other radio on the same channel during transmission.

Real-time Clock

Real-time Clock allows you to view and set time on the radio. With Real-time Clock enabled, the home screen displays time in the format of HH:MM; with Real-time Clock disabled, it displays --:--.

- To enable or disable time display, go to **Date and Time > Time Display**;
- To view time, date, and week, go to **Date and Time > Time View**;
- To set time and date, go to **Date and Time > Time Settings**;
- To change time format, go to **Date and Time > Time Format**;
- To change time zone, go to **Date and Time > Time Zone**.

Voice Operated Transmit

The Voice Operated Transmit (VOX) feature allows you to transmit voice without pressing and holding the **PTT** key. The radio automatically transmits voice when the volume reaches the preset level. A higher gain level indicates lower sensitivity, which requires higher volume for triggering transmission.

To turn on or off this feature, press the **OK/Menu** key, go to **Settings > Radio Set > VOX > On/Off**, and then select **On** or **Off**.

To set the sensitivity of the external or internal microphone, press the **OK/Menu** key, go to **Settings > Radio Set > VOX**, and then select the appropriate level.

Digital Services

One Touch Call

The One Touch Call feature allows you to press the preprogrammed **One Touch Call** key to quickly access a service assigned by your dealer. The available services are as follows:

Service Type	Description
Voice Service	To initiate a group or private call.
Data Service	To send a quick text message.

Roam

The Roam feature allows you to enjoy seamless communication across sites or networks.

To turn on or off this feature, press the **OK/Menu** key, go to **Roam > Roam On/Off**, and then select **On** or **Off**.

To select a roam list, press the **OK/Menu** key, go to **Roam > Roam List**, and then select the required list.

Analog Services

Setting the Squelch Level

The squelch level refers to the squelch threshold required for the radio's speaker to be turned on.

Generally, a higher squelch level requires higher signal strength. The squelch level includes Low, Normal and Tight.

To set the squelch level, do one of the following:

- Press the **OK/Menu** key, go to **Settings > Radio Set > Squelch**, and then select **Low**, **Normal**, or **Tight** as required.
- Press the programmed **Setting the Squelch Level** Key.

Turning On or Off the Monitor Feature

The Monitor feature allows the radio to receive weak signals.

To turn on or off this feature, press the preprogrammed **Monitor** key.

Setting the CTCSS/CDCSS Feature

The Continuous Tone-Coded Squelch System (CTCSS)/Continuous Digital-Coded Squelch System (CDCSS) feature allows the radio to filter out unwanted voice on the current channel.

You can request your dealer to enable this feature.

Personal Security

Emergency Alarm

The Emergency Alarm feature allows you to seek help from your companion or the control center in case of emergency. You can initiate an emergency alarm with the highest priority even when your radio is transmitting or receiving.

The emergency alarm is initiated at high power by default. The emergency alarm type is set by the dealer according to actual conditions.

Emergency Alarm Type	Description
Siren Only	The radio will sound shrill alarm tone and display the icons  and  on the screen, and the control center will not receive the emergency.
Regular	The radio will give audible and visible indications.
Silent	The radio will not give any audible or visible indication.
Silent w/ Voice	The radio will give audible indication only when a call is received.
Alarm w/ Siren	The radio will report the emergency to the control center, sound shrill alarm tone, and then display the icons  and  on the screen.

The emergency alarm types correspond to different emergency alarm modes, as shown in the table below.

Emergency Alarm Mode	Description	Remarks
Call Only	You can press the PTT key to talk.	

Emergency Alarm Mode	Description	Remarks
Alarm w/ Call	You can send an alarm, and then press the PTT key to talk.	If the emergency alarm type is set to Siren Only or Alarm w/ Siren , you do not need to set the emergency alarm mode
Alarm Only	You can send an alarm, but cannot talk.	

Initiating an Emergency Call or Alarm w/ Call

Press the programmed **Emergency On** key to initiate an emergency call or alarm w/ call to the preset contact.



Note

If the Alarm w/ Call To Follow feature is enabled by your dealer, you can speak into the microphone directly without pressing the **PTT** key.

If the preset Voice Cycles expires, you can press the **PTT** key to initiate the emergency call again.

Answering an Emergency Call or Alarm w/ Call

You can answer the call without any operation.

Ending or Exiting an Emergency Call or Alarm w/ Call

- The caller can end the call by pressing the programmed **Emergency Off** key or turning off the radio.
- The callee can exit the call by switching the channel or turning off the radio.

Man Down

Description

The Man Down feature allows the radio to automatically enter the emergency mode in either of the following scenarios:

- The radio is inclined by an angle greater than the preset angle.
- The radio keeps motionless (including moving at a constant speed) longer than the preset time.

You can place the radio upright or move it to exit the emergency mode.

Operation

To enable the feature, do one of the following:

- Go to **Menu > Settings > Radio Set > Man Down > Allow**.
- Press the programmed **Man Down** key.

Positioning



Caution

The positioning feature is used outdoors or near windows.

With the GNSS, the Positioning feature allows you to collect the position information of the radio through satellites and view the radio's position.



Note

The Positioning feature is applicable only to radios with positioning modules.

Enabling the Positioning Feature

Description

When the radio receives the query request, the Positioning feature will be forcibly turned on. When the radio receives no request within 10 minutes, the Positioning feature will be automatically turned off.

Operation

Press the programmed **GNSS On/Off** key, or go to **Menu > Accessories > GNSS >**

GNSS On/ Off to enable the Positioning feature.

Selecting the Positioning Mode

Description

The radio supports GPS, GLONASS, GPS+GLONASS, and GPS+BDS. GPS+GLONASS is used by default.

Operation

Go to **Menu > Accessories > GNSS > Mode** to select the positioning mode.

Viewing the Position

Description

After the Positioning feature is enabled, you can view the position of the radio and private contact.

Operation

- Viewing the position of the radio

Go to **Menu > Accessories > GNSS > Position** to view the longitude, latitude, time, date, and satellite information of the radio.

- Viewing the position of the private contact

Go to **Menu > Accessories > GNSS > Contacts** to view the position of the specified private contact including name, direction, and distance.

Backtracking

Description

The Backtracking feature allows you to view the preset position information and return to the preset point through the GNSS. The radio has five preset backtracking points, that is Point 1, Point 2, Point 3, Point 4, and Point 5.

Operation

Hera takes Point 1 as an example.

- Setting the backtracking points
 - a. Turn on the GNSS.
 - b. Go to **Menu > Accessories > GNSS > Backtracking**.
 - c. In the **Backtracking** list, select **Point 1**, and then select **Update** to obtain the current position information.
 - d. (Optional) Select **Point 1**, and then select **Rename** to modify the name.

- Viewing the backtracking points

After the update, select **Point 1**, and then select **Positioning** to view the distance and direction between the Point 1 and current position.

Voice with GPS

Description

During a private call, group call, or emergency call that you initiate, you can upload the positioning information to the dispatch console, so that the dispatcher can know the position of the radio.

Operation

1. Go to **Menu > Accessories > GNSS > Voice with GPS** to enable the Voice with GPS feature.
2. Press the **PTT** key to upload the positioning information once or periodically according to the preset interval.

GNSS Upload

Description

The GNSS Upload feature allows you to manually or the radio to automatically upload the positioning information to the dispatch console, so that the dispatcher can know the position of the radio.

Operation

- Manual upload

Turn on the GNSS, and then press the programmed **GNSS Upload** key.

- Automatic upload

With the configuration of the dealer, the radio can automatically upload the positioning information when the radio is powered on or off, or according to the preset interval of time and distance.

Compass



Caution

- The compass may be affected by magnetic objects or environmental interference.
- The compass is used only for navigation. To determine precise location, proximity, distance, or direction, use other navigation devices.

To use the compass, go to **Menu > Accessories > Compass**.

Calibrating the Compass

Upon initial use, shake the radio along the 8 shape to calibrate the compass. The radio will remind you for later calibration.

Viewing the Orientation

Keep the radio flush with the ground.

The compass pointer will rotate to display the current position coordinates at the lower right corner of the radio screen.



Note

The feature is applicable only to radios that support the Positioning feature.

BT



Caution

- To derive optimal communication quality, it is recommended to use the BT devices specified by the Company.
- Any BT earpiece manufactured by a third party company must be used with the wireless ring PTT supplied by the Company; otherwise, the radio cannot transmit audio signals through the earpiece.

BT is a wireless technology that supports short-distance voice communications and data exchange between devices. You can connect the radio to a BT device through the built-in BT module.



Note

The feature is applicable only to radios with BT.

Turning On the BT

To turn on the BT, do one of the following:

- Press the programmed **BT** key.
- Go to **Menu > Accessories > BT > On**

Connecting the BT Device

1. Turn on the BT device, and then enter the pairing mode.



Note

For detailed operations, refer to the corresponding user manual.

2. Go to **Menu > Accessories > BT > Paired Devices** to search for the BT device.



Note

Both the wireless ring PTT and BT earpiece must be connected to the radio, and the connection operations are the same.

3. In the **Devices** list, select the BT device, and then select **Connect**.

Setting Always On



Caution

If this feature is enabled, the radio will consume more power.

After the BT is turned on, the radio will wait for connection. If no device is connected during a period of time, the radio will enter the dormant state and cannot be searched by other BT devices. This saves power and ensures the connection security. To enable the radio to be always searched by other BT devices when the radio is on, go to **Menu > Accessories > BT > Always On**.

Turning On the Indoor Positioning

Description

The BT Positioning feature allows the radio to obtain the position information after the indoor positioning base station calculates the approximate location of the radio according to its returned signal strength. This feature is applicable to indoor scenarios where the GPS feature cannot be used because the signal is shielded by buildings.

Operation

1. Turn on the BT.
2. Go to **Menu > Accessories > BT > Indoor Positioning**.

Troubleshooting

Phenomena	Analysis	Solution
You cannot turn on the radio.	The battery may be installed improperly.	Remove and reattach the battery.
	The battery power may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirty or damaged battery contacts.	Clean the battery contacts or replace the battery.
During receiving, the voice is weak or intermittent.	The battery voltage may be low.	Recharge or replace the battery.
	The volume level may be low.	Increase the volume.
	The antenna may be loose or may be installed incorrectly.	Turn off the radio, and then remove and reattach the antenna.
	The speaker may be blocked.	Clean the surface of the speaker.
You cannot communicate with other group members.	The frequency or signaling type may be inconsistent with that of other members.	Verify that your TX/RX frequency and signaling type are correct.
	The channel type (digital or analog) may be set incorrectly.	Verify that you are on the correct digital or analog channel.
	You may be too far away from other members.	Move towards other members.
You hear unknown voices or noise.	You may be interrupted by radios using the same frequency.	Change the frequency, or adjust the squelch level.
	The radio in analog mode may be set with no signaling.	Request your dealer to set signaling for the current channel to avoid interference.

Phenomena	Analysis	Solution
You are unable to hear anyone because of too much noise and hiss.	You may be too far away from other members.	Move towards other members.
	You may be in an unfavourable position. For example, your communication may be blocked by high buildings or blocked in an underground area.	Move to an open and flat area, restart the radio, and try again.
	It may be the result of external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
The radio keeps transmitting.	The PPT/VOX key of the earpiece is toggled from PPT to VOX .	Plug earpiece again or switch channel.
The OLED does not display any information.	The OLED may not work temporarily.	Restart the radio.
You cannot use the keys.	The keypad may not work temporarily.	Restart the radio.

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

Care and Cleaning

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

Product Care

- Do not pierce or scrape the product.
- Keep the product far away from substances that can corrode the circuitry.
- Do not hold the product by the antenna or earpiece cable.
- Close the accessory connector cover when no accessory is in use.

Product Cleaning

Note

Turn off the product and remove the battery before cleaning.

- 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, 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.

Optional Accessories

Contact your local dealer for the optional accessories used with the product.

Caution

Use the approved accessories only; otherwise, we will not be liable for any loss or damage arising out of the use of any unauthorised accessories.

Abbreviations

Abbreviation	Full Name
CDCSS	Continuous Digital-Coded Squelch System
CTCSS	Continuous Tone-Coded Squelch System
DM	Direct Mode
LED	Light-emitting Diode
OLED	Organic Light-emitting Diode
PTT	Push-to-Talk
RM	Repeater Mode
SK	Side Key

Abbreviation	Full Name
TK	Top Key
TOT	Time-out Timer
VOX	Voice Operated Transmit



is the trademark or registered trademark of Hytera Communications Corporation Limited.
©2017 Hytera Communications Corporation Limited. All Rights Reserved.

Address: Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road,
Nanshan District, Shenzhen, People's Republic of China
Postcode: 518057
[http:// www.hytera.com](http://www.hytera.com)